ARVO Annual Meeting
April 28 – May 2
Vancouver Convention Centre
Vancouver, B.C.

ARVO 2019

Program Summary

ARVO®
The Association for Research in Vision and Ophthalmology

ARVO.org/AM

Sunday, April 28		
Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Basic Clinical Lecture	East Ballroom B	8–10am
Symposia	See program listing	8–10am
Posters	See program listing	8–9:45am | 1–2:45pm | 3–4:45pm | 5–6pm*
Exhibits	Exhibit Hall	8:30am–5pm
ARVO/Alcon Keynote Session	ARVO Ballroom	10:15–11:45am
Proctor Award Lecture	ARVO Ballroom	12noon–12:45pm
China-ARVO Networking Forum	West 301	1–2:30pm
SIGs/Workshops	See program listing	1–2:30pm
Low Vision Cross-sectional Group	West 223/224	1–2:30pm
Papers	See program listing	3–4:45pm
Sunday Social †	Vancouver Aquarium	7–10pm
Monday, April 29		
Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
NAEVR Defense Briefing	West 109/110	7–8am
Posters	See program listing	8:15–10am | 11:15am–1pm | 4–5:45pm | 6–7pm*
Papers/Minisymposia	See program listing	8:15–10am | 11:15am –1pm | 3:30–5:15pm
Exhibits	Exhibit Hall	8:30am–5pm
Section Business Meetings	See program listing	10:15–11am
Workshops	See program listing	1:15–2:45pm
SIGs	See program lisitng	1:15–2:45pm | 7:30–9pm
Multi-Disciplinary Ophthalmic Imaging Cross-sectional Group	East Ballroom B	1:15–2:45pm
WEAVR Luncheon †	Harbour Ballroom	1:15–2:45pm
Friedenwald Award Lecture	ARVO Ballroom	3–3:45pm
Special Sessions	See program listing	7:30–9pm
Student/Trainee Social	West Ballroom Foyer	7:30–9pm
Tuesday, April 30		
Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Breakfast with the Experts†	Harbour Ballroom	7–8:30am
Exhibits	Exhibit Hall	8:30am–5pm
Posters	See program listing	8:45–10:30am | 11:45–1:30pm | 2:45–4:15pm | 4:30–5:30pm*
Papers/Minisymposia	See program listing	8:45–10:30am | 11:45–1:30pm | 2:45–4:15pm
General Business Meeting	West 211	10:45–11:30am
Weisenfeld Award Lecture	ARVO Ballroom	1:45–2:30pm
MIT Outstanding Poster Award Competition	Exhibit Hall	4:15–6:30pm
ARVO/Champalimaud Award Lecture	ARVO Ballroom	5:45–6:45pm
Wednesday, May 1		
Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Posters	See program listing	8:15–10am | 10:15–12noon | 3–4:45pm | 5–6pm*
Papers/Minisymposia	See program listing	8:15–10am | 10:15–12noon | 3–4:45pm
Exhibits	Exhibit Hall	8:30am–5pm
Genetics Cross-sectional Group	East Ballroom B	12:15–1:45pm
Workshops	See program listing	12:15–1:45pm
SIGs	See program listing	12:15–1:45pm | 6:15–7:45pm
Cogan Award Lecture	ARVO Ballroom	2–2:45pm
Special Sessions	See program listing	6:15–7:45pm
Classical Concert	West 301	8–10pm
Karaoke Night †	Blackbird Public House	9pm–12midnight
Thursday, May 2		
Registration	Main Lobby	7am–4:30pm
ARVO Central	Exhibit Hall	7am–3pm
Symposia	See program listing	8–10am
Posters	See program listing	8–9:45am | 10:15am–12noon | 2–3pm*
Papers	See program listing	10:15am–12noon
SIGs/Workshops	See program listing	12:15–1:45pm
ARVO 2020 Kickoff Reception	Exhibit Hall	2–3pm
Beckman Argyros Award Lecture	ARVO Ballroom	3:15–4:15pm
ARVO/Alcon Keynote Session	ARVO Ballroom	4:30–6pm

* All Poster Session (all first authors must be present at their poster)

† Separate registration required

ARVO 2019

APRIL 28 – MAY 2 | VANCOUVER, B.C.

Important Policies

Use of recording/photography/audiotape/video equipment: Recording by any means (photographing, audiotaping, videotaping) of any presentations or sessions at any ARVO Meeting is prohibited, except by an ARVO-authorized agent for official purposes or by First Authors who want to photograph their own poster presentations. Violators risk confiscation of their equipment and/or dismissal from the Annual Meeting as deemed appropriate by ARVO.

Commercial Relationships Policy: Presenters must state and display all applicable commercial relationships. For more information on this important policy, refer to the Commercial Relationships Index at **arvo.org/program-summary.**

Clinical Trials Registration Policy: All clinical trials that will be reported in ARVO Annual Meeting abstracts must be registered on a publicly available database. The required acknowledgement of the First Author, acting as the authorized agent for all authors, certifies that any research presented in the abstract that reports on a clinical trial is registered, and the registration location and number are included on the abstract, in compliance with the ARVO Statement on Registering Clinical Trials, **arvo.org/About/policies/statement-on-registering-clinical-trials/**. For more information on this policy, refer to the Clinical Trials Registration Index at **arvo.org/program-summary.**

Program Summary

Program Summary: Online at **arvo.org/program-summary.** Abstracts are referred to in the *Program Summary* by program number (not page number) and session number.

Online Planner: Abstracts may be viewed and printed from the online planner at **arvo.org/annual-meeting/program/online-planner/**.

ARVO 2019 Mobile App: Offers complete search functionality for the Annual Meeting Program. Plan your schedule or sync with your schedule in the Online Planner. Download from the App Store, Google Play and elsewhere.

Photography Release

By attending the ARVO Annual Meeting, attendees agree to allow their names, likenesses and images either in audio, photographic or video format recorded onsite to be used by ARVO and the ARVO Foundation for Eye Research for educational and promotional purposes.

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The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting online program materials and print publications aim to promote vision research and scientific discourse for educational purposes. ARVO accepts no responsibility for any products, presentations, opinions, statements or positions expressed; and inclusion of such material within the Meeting, the publications or posted online does not constitute an endorsement by ARVO.

Continuing Medical Education

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ARVO is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

ARVO designates this live activity for a maximum of 23.75 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Please refer to the *Pocket Guide* for the complete CME information.

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See **arvo.org/program-summary** for:

- ARVO Commercial Relationships Policy
- Commercial Relationships Index
- Statement on Registering Clinical Trials
- Clinical Trials Index
- Moderator Index

Children in the Convention Center

Children under 18 years old must be accompanied by a parent or guardian at all times. Parents/guardians who bring children into paper sessions must remove them immediately if they become disruptive. Children are not allowed to accompany parents/guardians in sessions/events where tickets are required or food is provided, except events for which children's tickets are available for purchase. Under no circumstances are children permitted in the exhibit hall during set-up or dismantle times.

How to Use the Program Summary

The *Program Summary* provides a summary of the ARVO 2019 Annual Meeting Scientific Program and information about other Meeting events and activities. Abstracts are not included. Abstracts are available online for viewing and printing. See below for details.

The scientific program is organized chronologically by day, session time and program number. All sessions scheduled within the same time slot are listed together (see thumb index at the side of each page).

A Program Daily Schedule is included for each day to provide a quick view of the scheduled paper and poster sessions, symposia, award lectures, business meetings, workshops and special interest groups (SIGs). These program schedules are located at the beginning of each scientific program day.

Page headers include the day, type of session and the program number range on each page.

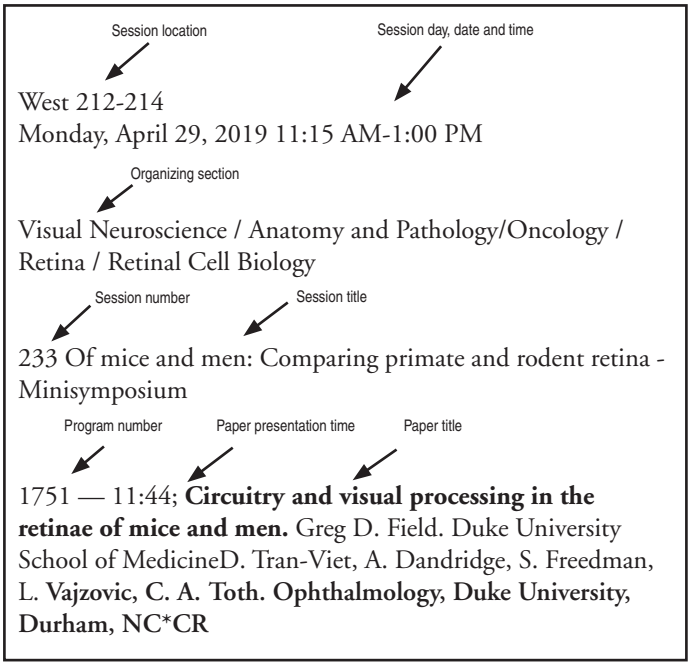
There are four indices to assist you in locating sessions, moderators and presentations.

- **Author Index** — All authors are listed alphabetically by last name. Boldface type is used to indicate the program number and poster board number of the abstract for which the author is First (Presenting) Author. Bold and italic type indicates a symposium presentation. This index is located in the back of this book.
- **Moderator Index** — This is a listing of the session moderators alphabetically by last name. Included are the moderator's name, session day, date, time, location, title and Commercial Relationships Disclosure, if applicable. This index can be found online at **arvo.org/am/program-summary**.
- **Clinical Trial Registration Index** (online only) — This is a listing by program number of the clinical trial registration information for each applicable presentation as indicated at the time of abstract submission. See ARVO Statement on Registering Clinical Trials in this Index. This index can be found online at **arvo.org/am/program-summary**.
- **Commercial Relationships Index** (online only) — This is a listing by program number of the commercial relationships and names of firms with which commercial relationships exist for each First Author and Co-author as indicated. First Authors or Co-authors who indicated "none" for commercial relationship are not included in this index. See Commercial Relationships Policy in the Index. This index can be found online at **arvo.org/program-summary.**

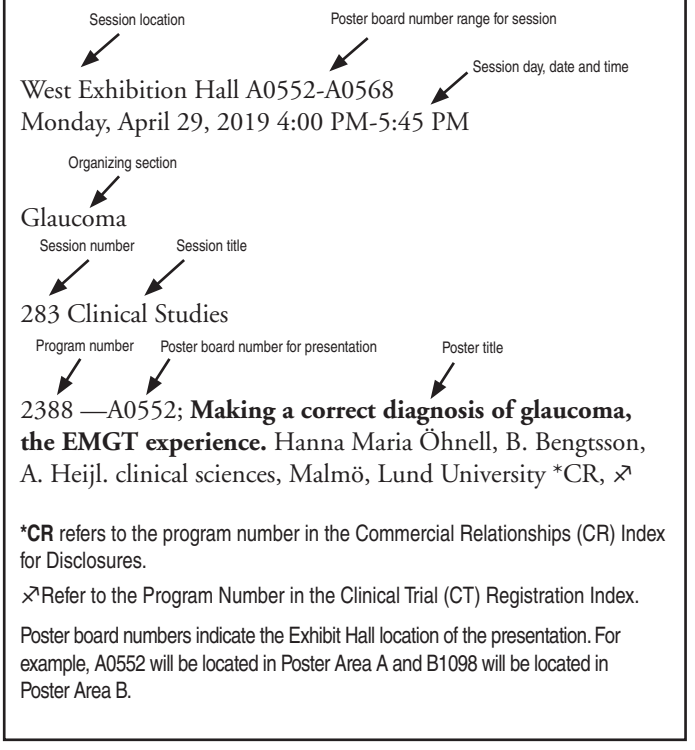
Program information, printing abstracts and other features
For searchable information about the scientific program, authors, printable abstracts and to develop your own personal meeting itinerary, visit **arvo.org/annual-meeting/program/online-planner/.**

Abstracts also will be available at **iovs.arvojournals.org**, the version of record, in summer 2019.

Paper Sessions/Symposia/Minisymposia:



Poster Sessions:

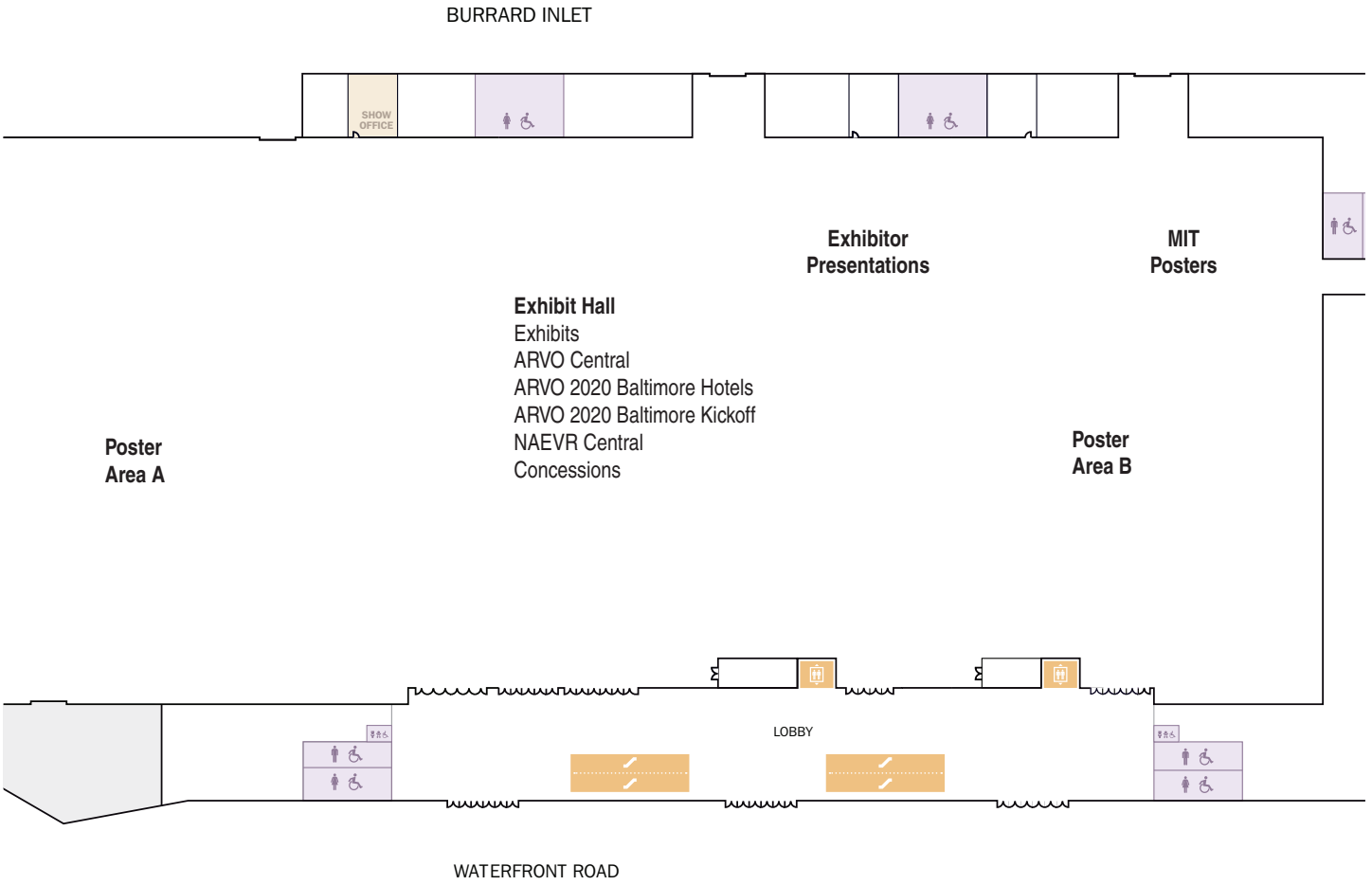


***CR** refers to the program number in the Commercial Relationships (CR) Index for Disclosures.

↗Refer to the Program Number in the Clinical Trial (CT) Registration Index.

Poster board numbers indicate the Exhibit Hall location of the presentation. For example, A0552 will be located in Poster Area A and B1098 will be located in Poster Area B.

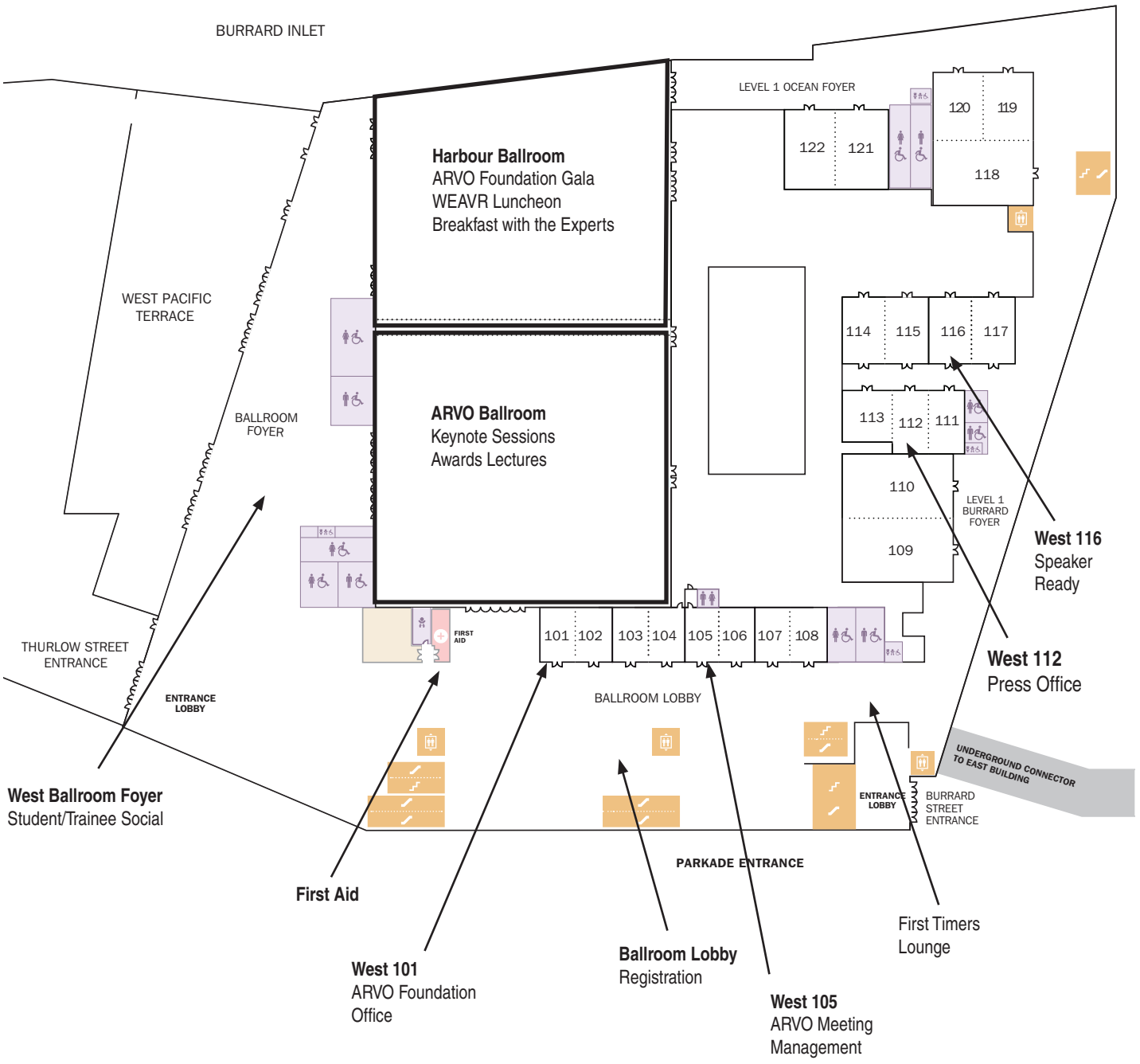
Meeting Rooms/Convention Center



Vancouver Convention Centre

Lower Level — Exhibit Hall

West Building



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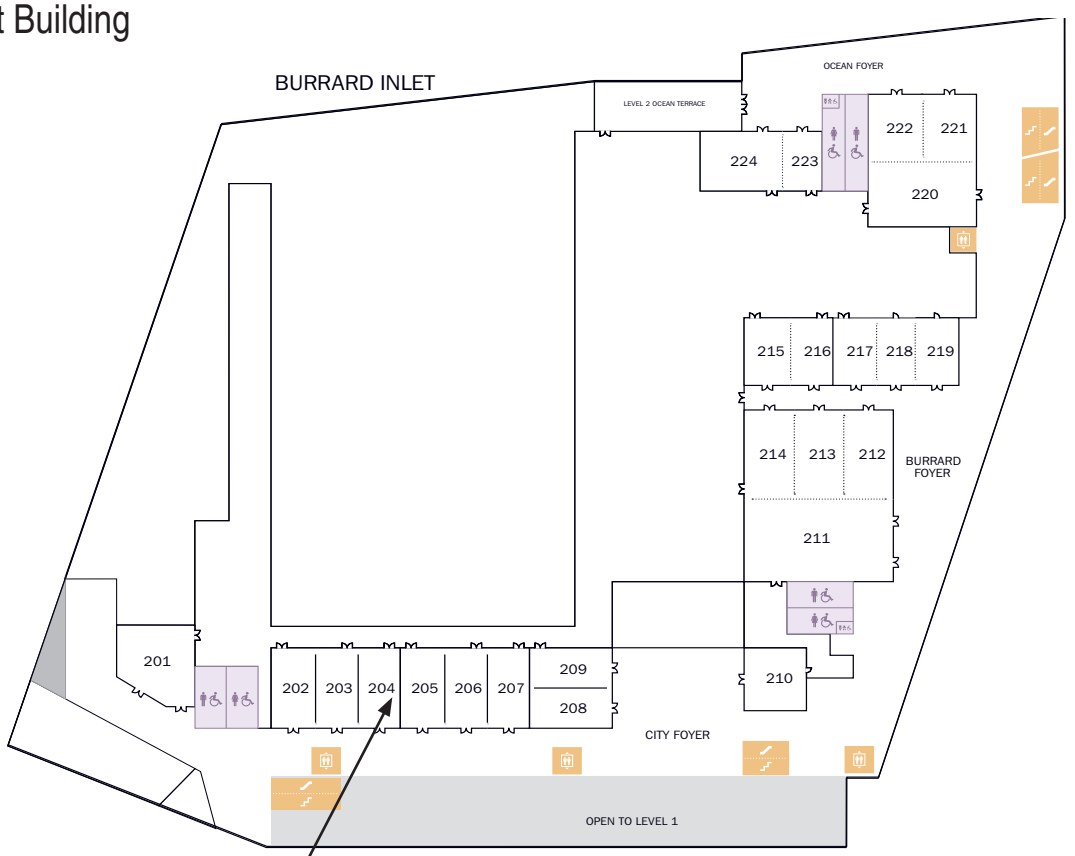
Entry Level — Registration/Offices/Main Ballrooms
West Building

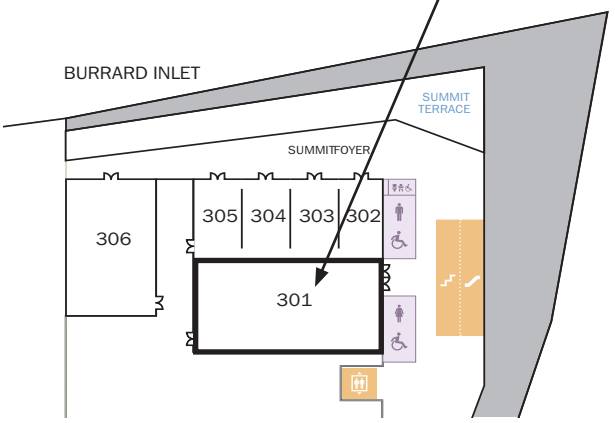
Meeting Rooms/Convention Center

Vancouver Convention Centre
West Level 2
West Building



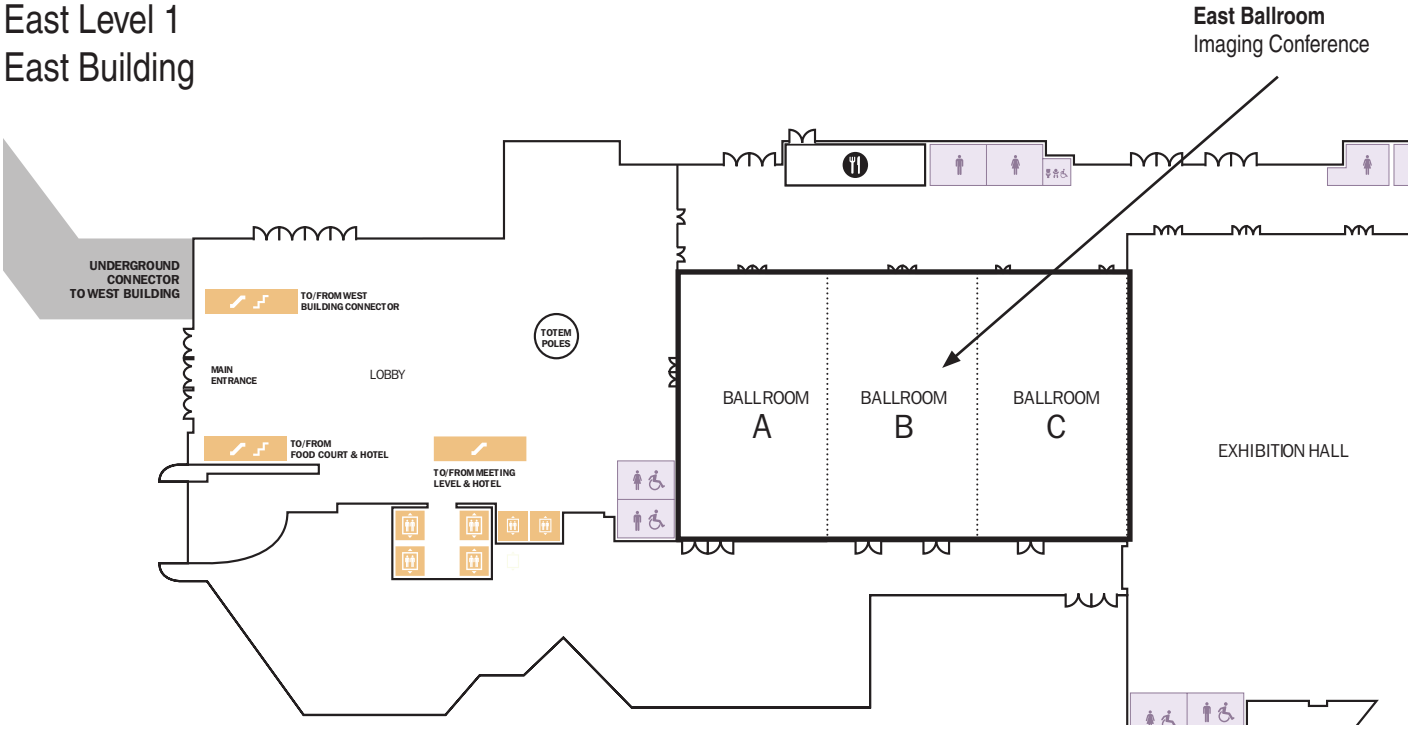
West 204
FARVO Lounge

West 301
Classical Concert



Vancouver Convention Centre
West Level 3
West Building

Vancouver Convention Centre
East Level 1
East Building



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ARVO Office Information

Association for Research in Vision and Ophthalmology

1801 Rockville Pike, Suite 400 | Rockville, MD 20852–5622
Tel: +1.240.221.2900 | Fax: +1.240.221.0370 | **arvo.org**

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1801 Rockville Pike, Suite 400 | Rockville, MD 20852-5622
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Wenzhou, China

Yutao Liu, MD, PhD
Augusta University
Augusta, Ga.

Susanne Roosing, PhD
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Nijmegen, The Netherlands

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Brisbane, QLD, Australia

Nicole Ross, OD, MSc
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In remembrance

ARVO recognizes and honors members who we lost in the last year. We're proud of our members and their contributions to the vision and eye research community. If you know of a member who has passed, please let us know at arvo@arvo.org.

Satish K. Srivastava, PhD
Feb. 12, 2019

Dr. Srivastava passed away from complications of heart failure. He was Professor of Biochemistry & Molecular Biology at the University of Texas Medical Branch in Galveston, and was a long-time member of the LE section of ARVO. For over 50 years, Srivastava published his research on lens metabolism and molecular mechanisms leading to cataract formation. His many trainees now lead research teams worldwide.

Paul Sheehy, PhD
Jan. 22, 2019

Dr. Sheehy most recently served as the NIH/National Eye Institute Director of Extramural Activities. He earned his MS in biophysics from the University of Maryland at Baltimore and completed his PhD at the Uniformed Services University of the Health Sciences. Prior to his position at NEI, Sheehy held positions at NIH/National Institute of General Medical Sciences and NIH/National Institute of Neurological Disorders and Stroke. He was a member of the ARVO AP section.

Oscar Candia, MD, FARVO
Dec. 2018

Born in Argentina and earning his MD from the University of Buenos Aires School of Medical Sciences, Dr. Candia joined the Mount Sinai Departments of Ophthalmology and Physiology in 1968, ultimately serving as Director and Vice Chairman for Research in the Department of Ophthalmology. Candia's work furthered the understanding of the physiological and biophysical features of the cornea, lens, and ciliary body, and appeared in more than 140 peer-reviewed publications. He was an ARVO member from 1980 to 2017, earning his gold Fellow in 2009. He served on the editorial board of IOVS and as a trustee of the Physiology and Pharmacology section from 1995 to 2000.

Jean-Claude Hache
Oct. 12, 2018

Professor Hache was a neuro-ophthalmologist at Lille Regional University Hospital. He was a pioneer of electrophysiology, originally studying "de Beauvais," the correlation between quality of vision and learning to read. With colleague Guy Charlot, Hache started the SILMO Academy, with the theme "Vision and growth, from 0 to 20 years," and he remained their chairman to 2017. Hache was a member of the EY section and an ARVO member from 1992 to 2003.

David R. Pepperberg, PhD, FARVO
Sept. 2, 2018

Dr. Pepperberg has been a vision neuroscientist at the University of Illinois at Chicago since 1983. He was the Searls-Schenk Professor in the Department of Ophthalmology and Visual Science. In a career spanning more than 40 years, Pepperberg made many seminal contributions to ophthalmology, where his work focused on the molecular and cellular mechanisms of light and dark adaptation in retinal photoreceptors. He published over 100 journal articles, most on photo transduction, and has been a long-time ARVO member.

R. Rand Allingham, MD, FARVO
Aug. 27, 2018

Internationally renowned in the field of glaucoma, Dr. Allingham received his MD from the University of Cincinnati, completed his residency at the Eastern Virginia Medical School and completed a glaucoma fellowship at Massachusetts Eye and Ear Infirmary. He was recruited by Duke Eye Center in 1983, and served as chief of the glaucoma service for 22 years. He has made seminal contributions to glaucoma clinical care and to understanding the most basic causes for several types of glaucoma, including a severe form of glaucoma that affects individuals with African ancestry. He was an ARVO member from 1988 until 2017.

Robert H. Webb, PhD
Aug. 23, 2018

Even with a strong academic background — studying physics at Rutgers and Stanford and teaching at Tufts University — Dr. Webb was mainly known for his affiliation with Schepens Eye Research Institute and Wellman Laboratory at Massachusetts General Hospital. While there, he invented diagnostic instrumentation, such as the Scanning laser ophthalmoscope, the pneumotonometer and several applications in confocal microscopy. He was also Associate Professor of Ophthalmology and Dermatology at Harvard Medical School. Webb was a member of the RE section.

Venkat Reddy, PhD, FARVO
June 30, 2018

Dr. Reddy was a recognized expert on the metabolism of the lens and formation of cataracts. He grew up near Hyderabad, India, and emigrated to the U.S. to obtain his MS and PhD degrees at Fordham University. He joined the faculty at Kresge Eye Institute and left there with a colleague to establish the Eye Research Institute (ERI) at Oakland University in Rochester Michigan. In 1998, he retired from ERI and joined the faculty University of Michigan Department of Ophthalmology and Visual Sciences. He returned to Oakland University in 2006 as Distinguished Professor of Biomedical Sciences, Emeritus. Reddy was an long-time ARVO member, received the Friedenwald award in 1979, was a gold and silver Fellow and served as ARVO president in 1986.

Christopher A. Paterson, PhD, DSc, FARVO
March 30, 2018

Dr. Paterson was the Kentucky Lions Research Chair of Ophthalmology at the University of Louisville School of Medicine. Paterson's research focused on the mechanisms of cataract development, ocular inflammation and corneal wound healing. In collaboration with colleagues, he published more than 200 peer-reviewed papers. Paterson was an active ARVO member; he was a gold Fellow, served as 1994–1995 ARVO president and was on the ARVO Foundation Board of Governors. He earned his PhD and DSci from the University of London Institute of Ophthalmology and completed a research fellowship at the Wilmer Eye Institute, Johns Hopkins University Hospital.

Geoffrey Arden, PhD
March 19, 2018

Dr. Arden obtained his PhD in photochemistry and then a medical degree from the Institute of Ophthalmology in London. After continuing to study in Stockholm and San Francisco, he returned to the Institute and concentrated on electrical changes in the eye and developed the electro-oculogram as a clinical test. He was appointed professor and honorary consultant at Moorfields Eye Hospital. His other research interests included the clinical testing of achromatic and color contrast sensitivity, diabetic retinopathy and macular degeneration. He was appointed an honorary fellow of the Royal College of Ophthalmologists in 2008 and in 2010 an honorary research fellow at City University London. Joining the RE section, he was an ARVO member from 2009 to 2012.

Perry Rosenthal, MD
March 3, 2018

Dr. Rosenthal is best known for his work in the development of the first gas-permeable scleral contact lens. Earning degrees from McGill University Medical School and Harvard Medical School, he went into private practice and was a staff surgeon at the Massachusetts Eye and Ear Infirmary. Rosenthal founded the hospital's contact lens clinic, and subsequently became a co-founder of Polymer Technology Inc., which developed Boston Lens products, including a rigid gas-permeable plastic that allowed the corneas to breathe normally through the contact lenses. The firm was subsequently acquired by Bausch & Lomb. In 1986, he developed a practical, gas-permeable scleral contact lens to treat and restore vision of eyes with many corneal diseases. Rosenthal created the non-profit Boston Foundation for Sight to provide visual devices to those in need. He also founded the non-profit Boston EyePain Foundation, in Chestnut Hill, Massachusetts. Rosenthal was an ARVO member from 1999 to 2001 and again in 2009 to 2018.

Harvey Lincoff, MD
Nov. 25, 2017

Dr. Lincoff, a longtime faculty member at the New York Presbyterian Hospital-Weill Cornell Medical Center, has been considered the founder of modern retinal detachment surgery. His advances— such as the use of cryopexy and a method for locating retinal holes — remain gold standards. He authored more than 200 papers and book chapters, and received numerous international awards and honors, including the American Academy of Ophthalmology's inaugural Schepens Lecture and Medal in 2008. He earned his undergraduate degree from Harvard University, served with the US Navy during WWII, and continued his medical education at the University of Pittsburgh Medical School. Lincoff was an member of the RE section.

ARVO Social Events: Everyone is Welcome!

Sunday Social*
Sun., April 28, 7–10pm

An evening at the Vancouver Aquarium
845 Avision Way
Adults: $30 USD; 18 and under: $20 USD.
Shuttles will be available.

This year's Sunday Social features exhibits, animals, a dolphin and sea lion show and a 4-D movie experience. Ticket includes admission and two drinks.

Student/Trainee Social
Mon., April 29, 7:30–9pm

Vancouver Convention Centre
West Ballroom Foyer

All trainees attending the Meeting are invited to join us in honoring the 2019 Travel Grant Recipients. Come and mingle with your colleagues, make new acquaintances, and meet members of the ARVO Board of Trustees.

ARVO Classical Concert
Wed., May 1, 8–10pm

Vancouver Convention Centre
West 301

The popular ARVO Classical Concert is performed by multi-talented ARVO members. Relax and enjoy the music.

ARVO Karaoke*
Wed., May 1, 9pm–12midnight

Blackbird Public House
905 Dunsumir St.
Adults: $20 USD.

Show your vocal talents or cheer on your favorite performer at the ARVO karaoke night! Admission includes one drink. Cash bar and light snacks will also be available. You must be 21 years or older to attend this event.

Visit Baltimore Welcomes ARVO 2020 Kick-Off Reception
Thurs., May 2, 2–3pm

Vancouver Convention Centre
Exhibit Hall

Join ARVO and Visit Baltimore as we look forward to the ARVO 2020 Annual Meeting, May 3–7.

*Tickets required. Tickets may be purchased at the Gift Shop in ARVO Central.

NAEVR
National Alliance For
Eye And Vision Research

Visit NAEVR Central in the Exhibit Hall

Hours: Sun. – Wed.: 8:30am – 5pm

Hosted by NAEVR's James Jorkasky and David Epstein

- Contact Congress to support vision research funding increases
- Learn about research funding resources, such as multiple Department of Defense (DoD) funding opportunities to meet critical vision research gaps

NAEVR's Defense-Related Vision Research Opportunities Session

Monday, April 29, 7 – 8am, West 109

NAEVR has invited DoD representatives to speak about funding opportunities and past DoD awardees to offer insights into how researchers can be most responsive to the funding Program Announcement.

Future ARVO Annual Meetings

May 3 – 7, 2020
Baltimore, Md.

May 2 – 6, 2021
San Francisco, Calif.

May 1 – 5, 2022
Denver, Colo.

April 23 – 27, 2023
New Orleans, La.

May 5 – 9, 2024
Seattle, Wash.

May 4 – 8, 2025
Austin, Texas

Connect with ARVO on your favorite social networking site for the most up-to-date Annual Meeting information:

twitter.com/ARVOinfo or search for #ARVO2019

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ARVO Connect **arvoconnect.arvo.org**

Sunday

April 28, 2019

ARVO Annual Meeting
Registration
Main Lobby
7am – 6pm

Exhibit hours
8:30am – 5pm

ARVO/Alcon
Opening Keynote
ARVO Ballroom
10:15 – 11:45am

All Posters
5 – 6pm

Sunday Social
Vancouver Aquarium
7 – 10pm
(tickets required)

ARVO 2019
APRIL 28 – MAY 2
VANCOUVER, B.C.

Sunday, April 28 – Symposia, minisymposia, papers, workshops/SIGs and lectures

Time	Session	Title	Location
8– 10am	101	**Approaches to restoring vision: Where are we now?** [VN, AP, EY, GL, PH, RE, RC, VI]	East Ballroom A
	102	**A window on the soul: How systemic disease manifests in the eye** [AP, EY, GL, RE, VN, GEN]	East Ballroom B
	103	**The potential and pitfalls of big data** [CL, CO, GL, RE, MOI, LV]	East Ballroom C
10:15 – 11:45am	115	ARVO/Alcon Opening Keynote: How cells export proteins and RNA — applications to the treatment of disease	ARVO Ballroom
12 noon – 12:45pm	116	Proctor Award and Lecture	ARVO Ballroom
1– 2:30pm	117	New perspectives on sub-RPE deposit formation: discussing clinical and molecular progress — SIG [BI, RE, RC]	East 1
	118	Protection, Correction, Regeneration: Are combination therapies in the future for Inherited Retinal Degenerations? — SIG [RE, GEN, LV]	East 2/3
	119	New ideas about metabolic interactions between photoreceptors and Müller cells — SIG [RC, BI, RE]	East 8&15
	120	Diabetic Keratopathy: An Understudied Corneal Disease — SIG [CO]	East 11/12
	121	Tear film, inflammation and the nervous system—the three pillars of dry eye disease resulting in symptoms of discomfort — SIG [CO, IM]	East Ballroom A
	122	Biomechanical Injury and Inflammatory Signaling in the Eye — SIG [VN, BI, GL, IM, PH, RC, VN, GEN]	East Ballroom B
	123	Findings of the International Myopia Institute White Paper Reports — SIG [CL, AP, GEN]	East Ballroom C
	123a	Functional Imaging Technologies for Regenerative Medicine	West 211
	124	Grant writing: Early career funding opportunities	West 217-219
	125	Win-win collaborations between academia and industry	West 220
	126	The importance of animal research in the bench to bedside pipeline	West 221/222
	127	Low Vision Group — The effects of mesopic light levels on vision and functional activities [LV]	West 223/224
	128	China-ARVO networking forum	West 301
3 – 4:45pm	147	Uveal Melanoma [AP]	East 1
	148	Retina [PH]	East 2/3
	149	Emerging AMD Therapeutics [RE]	East 8&15
	150	Novel Pathogenic Mechanisms in Diabetic Retinopathy [RC]	East 11/12
	151	Myeloid and Innate Immunology of the Retina [IM, AP]	East Ballroom A
	152	**New and emerging clinical trials endpoints** — Minisymposium [RE, CL, GL, RE, RC, VI, GEN, MOI]	East Ballroom B
	153	Omics and systems biology approaches for profiling ocular tissues in health and disease [BI]	East Ballroom C
	154	Photoreceptors [VN]	West 212-214
	155	Cataract Surgery, Epidemiology and Clinical Outcomes [LE]	West 217-219
	156	Healthcare Delivery [CL]	West 220
	157	Amblyopia and Visual Plasticity [EY]	West 221/222
	158	Advanced Imaging of Retinal Structure and Function in Disease [VI]	West 223/224
	159	Epstein Award Session [GL]	ARVO Ballroom
	160	**Emerging gene-driven therapies for anterior segment disease** — Minisymposium [CO, BI, GL]	Harbour Ballroom

Symposia, minisymposia and basic clinical lecture highlighted in **boldface**

Sunday, April 28 – Posters

Time	Session	Title	Board No.
8 - 9:45am	104	Physiology/Pharmacology [PH]	A0091 - A0124
	105	AMD screening, risk factors, and consequences [CL]	A0125 - A0146
	106	AMD anti-VEGF I [RE]	A0253 - A0285
	107	AMD anti-VEGF II [RE]	A0287 - A0320
	108	Image Processing and Interpretation [MOI, CL]	A0549 - A0591
	109	Animal Imaging [MOI]	A0592 - A0617
	110	Amblyopia: Mechanisms and Associations [EY]	A0618 - A0636
	111	Strabismus: Surgical management and outcomes [EY]	A0637 - A0650
	112	Anti-inflammatory agents,antibiotics and antivirals [PH]	B0361 - B0380
	113	Dry Eye [CO]	B0401 - B0450
	114	Keratokonus and corneal crosslinking [CO]	B0504 - B0546
1 - 2:45pm	129	AMD therapies (excluding anti-VEGF) [RE]	A0232 - A0252
	130	Gene variants and regulation of ocular genes expression in health and disease [BI]	A0367 - A0420
	131	Retinal Degeneration: Animal Models [RC, LV, RE]	A0421 - A0458
	132	Cataract Surgery I [LE, RE]	A0459 - A0508
	133	Eye Movements and Nystagmus [EY]	A0651 - A0671
	134	Inner Retinal Circuits [VN]	B0001 - B0019
	135	Outer Retinal Function [VN]	B0020 - B0050
	136	Aberrations, Ocular Optics, and Retinal Image Quality [VI]	B0067 - B0090
	137	Neuroprotection [GL]	B0091 - B0124
	138	Neurodegeneration [GL]	B0125 - B0161
	139	Laser Therapy [GL]	B0162 - B0187
	140	Clinical Melanoma. Therapy and Complications [AP, CL, MOI]	B0188 - B0206
	141	Melanoma: Immunotherapy, Genomics, New Strategies [AP]	B0207 - B0240
	142	Mechanistic and translational studies of retinal degeneration and uveitis [IM]	B0241 - B0300
	143	Clinical and epidemiological aspects of infection [IM]	B0301 - B0360
	144	Corneal Immunology [CO, RC]	B0381 - B0400
	145	Corneal Epithelium [CO]	B0451 - B0482
	146	Corneal neovascularization [CO]	B0483 - B0503
3 - 4:45pm	161	Visual Impairment - Impact on Daily Activities [LV]	A0001 - A0022
	162	Diabetic eye disease [CL]	A0023 - A0066
	163	Cataractogenesis, Prevention, and Treatment [LE]	A0067 - A0090
	164	AMD clinical research I [RE]	A0147 - A0190
	165	AMD clinical research II [RE]	A0191 - A0231
	166	AMD Pathogenic Mechanisms [RC, RE]	A0321 - A0350
	167	From Modeling to Potential Therapies [RC]	A0351 - A0366
	168	OCT - New Biomarkers and Technical Improvements [MOI]	A0509 - A0548
	169	Color. Adaptation and Sensitivity [VI]	B0051 - B0066

Poster board numbers correspond to poster location in Exhibit Hall; A = Poster Area A , B = Poster Area B

NOTES

East Ballroom A

Sunday, April 28, 2019 8:00 AM-10:00 AM

Anatomy and Pathology/Oncology / Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Glaucoma / Physiology/ Pharmacology / Retina / Retinal Cell Biology / Visual Neuroscience / Visual Psychophysics/ Physiological Optics

101 Approaches to restoring vision: Where are we now?

Restoring vision is the common aim of many researchers and has led to a variety of approaches. The field is moving rapidly with new approaches reaching clinical trials. This symposium will bring together leading experts representing these different approaches including retinal prostheses, gene therapy, cell replacement, and optogenetics. This symposium will thus allow researchers to share insights into different approaches to restoring vision.

Moderators: Ulrike Grunert, Erika D. Eggers and Serge A. Picaud

— *8:00* **Introduction - Serge Picaud**

1 — *8:06* **Subretinal visual implant. Where are we today and where are we going to?** *Katarina Stingl*. Ophthalmology, Center for Ophthalmology, University Tuebingen **CR*

2 — *8:25* **Photovoltaic restoration of sight in age-related macular degeneration.** *Daniel V. Palanker*. Ophthalmology, Stanford University **CR*, ↗

3 — *8:44* **Human stem-cell-derived photoreceptors for cell-based therapies.** *Volker Busskamp*. Neuroscience, TU Dresden - Center for Regenerative Therapies

4 — *9:03* **Gene delivery to the primate retina.** *Leah Byrne*. Department of Ophthalmology, University of Pittsburgh **CR*

5 — *9:22* **Optogenetic approaches to restoring vision.** *Zhuo-Hua Pan*. Ophthalmology, Visual and Anatomical Sciences, Wayne State University **CR*

6 — *9:41* **Optogenetic restoration of vision in the macaque.** *William H. Merigan[1, 2]*. [1]Flaum Eye Institute, University of Rochester; [2]Center for Visual Science, University of Rochester

East Ballroom B

Sunday, April 28, 2019 8:00 AM-10:00 AM

Anatomy and Pathology/Oncology / Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Genetics / Glaucoma / Retina / Visual Neuroscience

102 A window on the soul: How systemic disease manifests in the eye

This symposium will bring together diverse experts to describe how systemic disease manifests in the eye in unexpected ways. It will highlight aspects of bench-to-bedside work in identifying biomarkers and potential therapeutic targets, and bedside-to-bench understanding of pathologies.

Moderators: Timothy W. Corson, Colleen M. Cebulla and Maya Koronyo-Hamaoui

— *8:00* **Introductions**

7 — *8:05* **Alzheimer's disease manifestation in the retina: early biomarkers and retinal imaging in patients.** *Maya Koronyo-Hamaoui[1, 2]*. [1]Department of Neurosurgery, Cedars Sinai Medical Center; [2]Department of Biomedical Sciences, Cedars-Sinai Medical Center **CR*

8 — *8:25* **The retina as a biomarker of Parkinson disease.** *Nicolas Cuenca*. University of Alicante

9 — *8:45* **Ocular manifestations of traumatic brain injury.** *José E. Capo-Aponte*. Womack Army Medical Center

10 — *9:05* **Ocular and systemic presentations of phosphoinositide signaling defects.** *Yang Sun[1, 2]*. [1]Department of Ophthalmology, Stanford University; [2]Palo Alto VA medical center

11 — *9:25* **Ocular side effects of systemic chemotherapy: management strategies and mechanistic clues.** *Colleen M. Cebulla*. Ophthalmology and Visual Science, The Ohio State University

— *9:45* **Discussion and Questions**

East Ballroom C

Sunday, April 28, 2019 8:00 AM-10:00 AM

Clinical/Epidemiologic Research / Cornea / Glaucoma / Low Vision / Multidisciplinary Ophthalmic Imaging / Retina

103 The potential and pitfalls of big data

The use of "Big Data" has increased in ophthalmology over the past five years, and ranges from mining administrative databases, using electronic medical records, and leveraging telemedicine data. This session will: (1) describe the advantages and limitations of big data and related analyses, (2) review how big data can be integrated into ophthalmology research and clinical settings, and (3) discuss the potential implications and future of big data in ophthalmology.

Moderators: Anne L. Coleman and Michael F. Chiang

12 — *8:00* **An overview of Big Data: Promises and potential pitfalls.** *Laura B. Balzer*. University of Massachusetts-Amherst

— *8:20* **Discussion**

13 — *8:24* **Integrating Big Data into Ophthalmology.** *Michael F. Chiang*. Ophthalmology and Medical Informatics, Oregon Health & Science University **CR*

— *8:44* **Discussion**

14 — *8:48* **Big Data Sets: Leveraging existing data sources for Big Data analyses in ophthalmology.** *Joshua D. Stein*. Kellogg Eye Center/Ophthal, University of Michigan

— *9:08* **Discussion**

15 — *9:12* **Big Data -Omics: Approaches for Genetics and Biological Research.** *Christopher J. Hammond*. Ophthalmology, King's College London

— *9:32* **Discussion**

16 — *9:36* **Implications of Big Data: Potential impacts on research, patient care, and policy.** *Anne L. Coleman*. Jules Stein Eye Institute, UCLA

— *9:56* **Discussion**

West Exhibition Hall A0091-A0124

Sunday, April 28, 2019 8:00 AM-9:45 AM

Physiology/Pharmacology

104 Physiology/Pharmacology

Moderator: Silke Becker

17 — *A0091* **Adenosine triphosphate (ATP) induces constriction after intravascular and dilatation after extravascular administration on porcine retinal arterioles ex vivo.** *Charlotte Ernst[1], P. Skov Jensen[1], C. Aalkjaer[2], T. Bek[1]*. [1]Department of Ophthalmology, Aarhus University Hospital; [2]Institute of Biomedicine (physiology), University of Aarhus

18 — *A0092* **Ocular biodistribution and duration of action of low-dose LNA oligonucleotides.** *Sindri Traustason[1], R. Alvarez Sanchez[2], U. Wessels[3], J. Mary[2], E. Atzpodien[2], J. Funk[2], H. Hudlebusch[1], S. Kammler[1]*. [1]Roche Innovation Center Copenhagen, Roche Pharma Research and Early Development; [2]Roche Innovation Center Basel, Roche Pharma Research and Early Development; [3]Roche Innovation Center Munich, Roche Pharma Research and Early Development **CR*

19 — *A0093* **Age-related decline of retinal oxygen extraction in healthy subjects.** *Gerhard Garhofer[1], A. Bata[1], S. Szegedi[1], G. C. Aschinger[2], D. Schmidl[1], J. Chua[3], R. M. Werkmeister[2], L. Schmetterer[1, 3]*. [1]Department of Clinical Pharmacology, Medical University of Vienna; [2]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [3]Singapore Eye Research Institute ↗

20 — *A0094* **Modulation of the electrical activity in degenerative retinas of rd10 mice using neuroprotective drugs.** *Kim Schaffrath[1], S. Diarra[1], J. Gehlen[2], F. Muller[2], P. Walter[1], S. Johnen[1]*. [1]Augenklinik der Uniklinik RWTH Aachen; [2]Research Center Juelich

21 — *A0095* **Retinal oxygen metabolism is altered in patients with mild cognitive impairment and Alzheimer's disease.** *Stephan Szegedi[1], P. Dal-Bianco[2], E. Stögmann[2], T. Traub-Weidinger[3], M. Rainer[4, 5], A. Masching[4], D. Schmidl[1], R. M. Werkmeister[6], L. Schmetterer[6, 7], G. Garhofer[1]*. [1]Department of Clinical Pharmacology, Medical University of Vienna; [2]Department of Neurology, Medical University of Vienna; [3]Department of Biomedical Imaging and Image-guided Therapy, Division of Nuclear Medicine, Medical University of Vienna; [4]Department of Psychiatry, Social and Medical Centre East - Danube Hospital; [5]Karl Landsteiner Institute for Memory and Alzheimer Research; [6]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [7]Singapore Eye Research Institute ↗

22 — *A0096* **Role of hypoxia-inducible factor-1α (HIF-1α) in retinal ganglion cell (RGC) death in glaucoma.** *Sudha Singh, S. Husain*. Ophthalmology, Medical University of South Carolina

23 — *A0097* **A comparison between injection speed and transient IOP elevation in normotensive eyes receiving intravitreal injections of bevacizumab.** *Oliver Fischer, P. S. Rosenbaum, Z. Zhou*. Ophthalmology, Bronx Care Health System of Icahn School of Medicine at Mount Sinai

24 — *A0098* **Endothelin-1 Mediated Decrease in Expression of Mitochondrial Proteins ATP5H and COX17 in Retinal Ganglion Cells.** *Renuka Chaphalkar, D. L. Stankowska, S. He, B. Kodati, R. R. Krishnamoorthy*. University of North Texas Health Science Center

25 — *A0099* **Electrophysiological Responses of Isolated Retinal Pigment Epithelial (RPE) Cells to Physiological Concentrations of Thiocyanate.** *Bret A. Hughes[1, 2], X. Cao[1]*. [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Molecular and Integrative Physiology, University of Michigan

26 — *A0100* **EXN407, a novel topical therapeutic candidate with high retinal bioavailability for the treatment of diabetic macular oedema, inhibits ocular neovascularisation.** *Jennifer Batson[1], H. Toop[2], S. Liddell[1], J. Daubney[1], E. A. Stewart[1], A. Habgood[1], A. Murphy[1], K. McKechnie[1], J. Morris[2], D. O. Bates[1]*. [1]Exonate Ltd; [2]University of New South Wales **CR*

27 — *A0101* **Involvement of Upregulated P53-Induced Death Domain Protein in Retinal Ganglions Cells Apoptosis after Optic Nerve Crush.** *Fan Xu, L. Jiang, S. Zeng, M. Li, L. Li*. Guangxi Ophthalmology Center

28 — *A0102* **Quantifying retinal and choroidal contributions to macular oxygenation: a theoretical approach.** *Alice Chandra Verticchio Vercellin[1, 2], A. Harris[3], T. A. Ciulla[7], G. Chiaravalli[6], R. Sacco[6], B. A. Siesky[3], I. Januleviciene[4], G. Guidoboni[5]*. [1]Ophthalmology, University of Pavia; [2]IRCCS - Fondazione Bietti; [3]Ophthalmology, Indiana University School of Medicine; [4]Eye Clinic of Lithuanian University of Health Sciences; [5]University of Missouri; [6]Politecnico di Milano; [7]Midwest Eye Institute **CR*

29 — *A0103* **Novel small molecule with neuroprotective activity.** *Suchismita Acharya, A. Dibas, Z. Wei, S. H. Chavala*. UNT HSC

30 — *A0104* **Changes in histone deacetylases (HDACs) in glaucomatous optic nerve.** *Wendy Guzman, S. Singh, S. Husain*. Ophthalmology, Medical University of South Carolina

31 — *A0105* **Modulatory effect of polyphenolic plant compounds on structure and function of rod visual receptor.** *Beata Jastrzebska, J. T. Ortega, T. Parmar*. Pharmacology, Case Western Reserve University

32 — *A0106* **Can inhibition of phosphodiesterase 6 mimic the oxidative stress phenotype *in vivo* found in mice with a loss-of-function phosphodiesterase 6 mutation?** *Collin Richards[1], H. Olds[1], J. Joy[1], T. Rosales[1], R. H. Podolsky[2], K. M. Lins-Childers[2], R. Roberts[1], B. A. Berkowitz[1]*. [1]Ophthalmology, Visual, and Anatomical Sciences, Wayne State University School of Medicine; [2]Beaumont Research Institute

33 — *A0107* **Azithromycin Protects retinal ganglion cells against Ischemia-Reperfusion induced Injury in rat retina**. *Zhenzhen Zhang***.** Ophthalmology, The ninth People's Hospital, Shanghai Jiao Tong University School of Medicine

34 — *A0108* **The role of mTORC1 signaling in retinal bipolar cells.** *Jing Li, Y. Rao*. Ophthalmology, Xin Hua Hospital Affiliated to Shanghia Jiao Tong Univeristy School of Medicine

35 — *A0109* **Controlled illumination of a PDMS-free Retina-on-a-Chip for the proximity-culture of retinal organoids with pigment epithelial cells.** *Johanna Chuchuy[1, 2], K. Achberger[3], C. Probst[1], J. Haderspeck[3], L. Antkowiak[3], S. Liebau[3], P. Loskill[1, 2]*. [1]Institute for Interfacial Engineering and Biotechnology IGB, Fraunhofer; [2]Department of Women's Health, University of Tuebingen; [3]Institute of Neuroanatomy & Developmental Biology (INDB), University of Tuebingen **CR*

36 — *A0110* **Evaluation of visual functional changes in eyes with drusen using the Micronized Lipid-Based Carotenoid Liquid Supplementation and AREDS2 Formula.** *Drake W. Lem[1], T. Henderson[2], R. Weiss[2], D. W. Evans[3], S. Amonoo-Monney[1], P. G. Davey[1]*. [1]Western University of Health Sciences; [2]Eye Clinic of Austin; [3]VectorVision/Guardion Health Sciences **CR*

37 — *A0111* **Regulation of cytokines and STATs by delta opioid receptor activation in rat glaucoma model.** *Syed A. Zaidi, S. Singh, S. Husain*. Ophthalmology, Medical University of South Carolina

38 — *A0112* **Macular Pigment Reflectometry: A Technique To Measure Peripheral Measurements.** *Juan C. Sanabria[1], J. S. Bass[1], F. Spors[1], D. L. Gierhart[2], P. G. Davey[1]*. [1]Western University of Health Sciences; [2]ZeaVision **CR*

39 — *A0113* **New Formulations Based On Innovative Brilliant Blue G Derivative To Stain Retinal Membranes.** *Claudio Bucolo[1, 2], F. Drago[1, 2], M. R. Romano[3], M. Rao[4], A. Spadaro[4]*. [1]Biomedical and Biotechnological Sciences, University of Catania; [2]Center for Research in Ocular Pharmacology-CERFO, University of Catania; [3]Biomedical Sciences, Humanitas University; [4]Drug Sciences, University of Catania

40 — *A0114* **The Endothelin Receptor Antagonist Macitentan Attenuates Vasoconstrictive Effects of Endothelin-1 following Intravitreal Administration in Rodents.** *Raghu R. Krishnamoorthy, W. Zhang, S. Chavala, D. L. Stankowska*. Pharmacology and Neuroscience, NTERI, UNT Health Science Ctr

41 — *A0115* **The dynamic assessment of retinal structural changes due to heavy physical exercise.** *Gabor M. Somfai[1, 2], I. Szalai[2], F. Pálya[2], A. Csorba[2], E. Bosnyák[3], E. Szendei[3], Z. Z. Nagy[2], J. Tian[4], M. Tóth[3], D. Cabrera DeBuc[4]*. [1]Pallas Kliniken, Switzerland; [2]Department of Ophthalmology, Semmelweis University; [3]Institute of Health Sciences and Sports Medicine, University of Physical Education; [4]Bascom Palmer Eye Institute, University of Miami **CR*

42 — *A0116* **Effect of Intravitreal Bevacizumab on the Retina Ganglion Cell Layer.** *Alice Zhang, N. Kumar, U. Desai*. Ophthalmology, Henry Ford Hospital

43 — *A0117* **Small molecules selectively reduce the misfolded rhodopsin that causes retinitis pigmentosa.** *Yuanyuan Chen[1], K. Palczewski[2], X. Liu[1]*. [1]University of Pittsburgh; [2]University of California at Irvin

44 — *A0118* **Upregulation of Interleukin-10 (IL-10) by interleukin-1β (IL-1β) in Human Muller cells.** *Sofia Noor Habib[1, 2], N. Niyadurupola[2], D. C. Broadway[2], J. Sanderson[1]*. [1]The University of East Anglia; [2]Ophthalmology, Norfolk and Norwich University Hospital

45 — *A0119* **Evaluation of Risuteganib as a neuroprotective agent in retinal dystrophy, using the Rabin cone contrast test.** *Vanessa Tirado, L. A. Hernández, S. Soberón, E. C. Hernández, J. Baca Moreno, E. Garcia, L. Garcia Arzate, Y. Lopez, A. Gonzalez-H.Leon, A. Suárez Licona, V. Morales-Canton, H. Quiroz-Mercado*. Retina, Asociacion para evitar la ceguera en Mexico **CR*

46 — *A0120* **Selective episcleral delivery of indomethacin: Pre-clinical safety and pharmacokinetics.** *Pamela P. Ko, J. Manders, R. Carvalho, R. Brito, M. V. Dougherty, m. guilherme*. Ophthalmology , 3T Ophthalmics **CR*

47 — *A0121* **Background Data for P23H Line 1 Heterozygous Rats Raised under Dim Light Conditions for the First 30 Days Post Partum.** *Mark Vezina[1], T. Bryant[1], E. Edwards[1], J. Levac[1], E. Lebel[1], A. Lambert[2]*. [1]Ocular And Neuroscience, Charles River; [2]Pathology, Charles River **CR*

48 — *A0122* **Pharmacokinetics of intravitreal flurbiprofen in rats with chiral and non-chiral analysis.** *Pavlina Tsoka[1], M. Tzatzarakis[2], E. Iatrou[2], M. K. Tsilimbaris[1]*. [1]Laboratory of Optics and Vision, University of Crete Medical School; [2]Toxicology, University of Crete Medical School **CR*

49 — *A0123* **Sustained oral delivery of ticagrelor (Brilinta) protects against retinal degeneration.** *Wennan Lu[1], K. Campagno[1], L. Carlsson[3], C. H. Mitchell[1, 2]*. [1]Anatomy & Cell Biology, Univ of Pennsylvania, Sch of Dental Med; [2]Ophthalmology, University of Pennsylvania; [3]AstraZeneca **CR*

50 — *A0124* **Retinal Ganglion Cell Losses in an Optic Nerve Crush Model Correlate with Time-Dependent Up-Regulation in phosphorylated c-Jun, c-Jun and Caspase 3.** *Dorette Z. Ellis[1], L. Li[1], Y. Liu[2], S. He[2], T. Yorio[2]*. [1]UNT System College of Pharmacy; [2]Pharmacology and Neuroscience, UNTHSC

West Exhibition Hall A0125-A0146

Sunday, April 28, 2019 8:00 AM-9:45 AM

Clinical/Epidemiologic Research

105 AMD screening, risk factors, and consequences

Moderators: Christopher J. Brady and Maria C. Ibanez Bruron

51 — *A0125* **Relationship Between Adult Body Height and Age-Related Macular Degeneration: A Korean Nationwide Population-Based Survey.** *Jeong Hun Bae[2, 1], I. Hwang[3], M. Hassan[2], M. Halim[2], M. Ormaechea[2], G. Uludağ[2], A. Tran[2], S. Mahajan[2], K. Y. Al-Kirwi[2], R. Afridi[2], Y. Sepah[2], D. V. Do[2], Q. D. Nguyen[2]*. [1]Department of Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine; [2]Department of Ophthalmology, Byers Eye Institute, Stanford University; [3]Department of Family Medicine, Gil Medical Center, Gachon University College of Medicine

52 — *A0126* **Association of short-term progression in AMD score with risk of development of late AMD and vision loss in the AREDS2 study.** *Susan Vitale[1], E. Agron[1], T. E. Clemons[2], A. Domalpally[3], R. P. Danis[3], T. D. Keenan[1], E. Y. Chew[1]*. [1]Div Epidemiol & Clin Applications, National Eye Inst/NIH; [2]Emmes Corporation; [3]Fundus Photograph Reading Center, University of Wisconsin↗

53 — *A0127* **Dietary Zinc Intake is Associated with Key Clinical Outcomes in Neovascular Age-Related Macular Degeneration Patients.** *Harshil Dharamdasani Detaram[1], P. Mitchell[1], J. Russell[2], G. Burlutsky[1], N. D. Joachim[1], G. Liew[1], B. Gopinath[1]*. [1]Centre for Vision Research, Westmead Institute for Medical Research, University of Sydney; [2]School of Health and Society, University of Wollongong

54 — *A0128* **A further increase of late age-related macular degeneration until 2050 in Europe – a systematic review, meta-analysis and meta-regression.** *Jeany Q. Li[3], T. Welchowski[2], M. Schmid[2], F. G. Holz[1], R. P. Finger[1]*. [1]Ophthalmology, University Hospital Bonn; [2]Medical Biometry, Informatics and Epidemiology, University of Bonn; [3]Ophthalmology, University of Bonn **CR*

55 — *A0129* **Features of Fear of Falling (FOF) and Balance Self-efficacy in Men and Women with Age-related Macular Degeneration (AMD).** *Claire S. Barnes*. Independent Research Scholar

56 — *A0130* **Mail-based Stool Collection in Women with and without Age-Related Macular Degeneration (AMD).** *Amy E. Millen[1], K. Hall[2], K. B. Kamm[3], Z. Liu[2], B. J. Krajewski[1], J. Wactawski-Wende[1], G. Lema[1], M. Buck[1], R. Hageman Blair[1], Y. Sun[1], D. McSkimming[1], J. A. Mares[2]*. [1]University at Buffalo; [2]University of Wisconsin- Madison; [3]Michigan Technological University

57 — *A0131* **Higher Intake of Polyunsatruated Fatty Acid and Monounsaturated Fatty Acid is inversely assoicated with presence of Age-related Macular Degeneration.** *Miin Roh[1, 2], H. J. Shin[3], I. Lains[2], J. Providência[6], E. Caseiro-Alves[6], P. Barreto[6], C. Lopes[6], D. Vavvas[2], J. B. Miller[2], I. K. Kim[2], L. Liang[4, 5], R. Silva[6], J. W. Miller[2], D. Husain[2]*. [1]Ophthalmology, Beetham Eye institute, Joslin Diabetes center; [2]Ophthalmology, Massachusetts Eye and Ear; [3]General Internal Medicine, Brigham and Women's Hospital; [4]Epidemiology, Harvard T.H. Chan School of Public Health; [5]Biostatistics, Harvard T.H. Chan School of Public Health; [6]Ophthalmology, Faculty of Medicine **CR*

58 — *A0132* **Incidence of age-related macular degeneration in the central region of Portugal: the Coimbra Eye Study – report 5.** *Claudia Farinha[1, 2], M. Cachulo[1, 2], D. Alves[1], I. Pires[1, 2], J. Marques[1, 2], P. Barreto[1], S. Nunes[1], J. Costa[1], A. Martins[1, 2], I. Sobral[1, 2], I. Lains[3], J. Figueira[1, 2], M. Ribeiro[1], J. G. Cunha-Vaz[1, 4], R. Silva[1, 2]*. [1]AIBILI; [2]Ohthalmology Department, Centro Hospitalar e Universitário de Coimbra (CHUC); [3]Massachusetts Eye and Ear, Harvard Medical School; [4]Faculty of Medicine, University of Coimbra **CR*, ↗

59 — *A0133* **Association of medications and neovascular age-related macular degeneration: National Sample Cohort 2010-2015.** *Jiyong Kwak[1], T. Rim[1], T. Yoo[1], S. Kim[1], D. Kim[2], S. Kim[1]*. [1]Ophthalmology, Severance Hospital, Institute of Vision Research, Yonsei University College of Medicine; [2]Research & Analysis Team, National Health Insurance Service Ilsan Hospital

60 — *A0134* **High-Dose Statins and Progression of Age-Related Macular Degeneration in Commercially Insured Patients, 2007 to 2016.** *Cassie A. Ludwig[1], N. Rajeshuni[1], D. Vail[2], N. F. Callaway[1], D. Moshfeghi[1]*. [1]Ophthalmology, Byers Eye Institute, Stanford University; [2]School of Medicine, Stanford University

61 — *A0135* **Effect of Proliferative Diabetic Retinopathy on Development of Neovascular AMD: a Big Data Analysis.** *Frank Brodie, L. Stell, M. Bhuckory, V. Zuckerman, E. Vounotrypidis, S. Sanislo, D. V. Palanker*. Ophthalmology, Stanford University

62 — *A0136* **Seasonal variation of first presentation with neovascular age-related macular degeneration.** *Roy Schwartz, T. Heeren, A. Tufail, C. A. Egan*. Medical Retina, Moorfields Eye Hospital

63 — *A0137* **Prevalence of Age-related macular degeneration using multi-modal retinal imaging in a population based aging cohort: the NICOLA Study.** *Ruth E. Hogg, N. B. Quinn, T. Peto, D. WRIGHT, B. McGuinness, I. Young, F. Kee, U. Chakravarthy*. Centre for Public Health, Queen's University Belfast **CR*

64 — *A0138* **The Association between Late Age-Related Macular Degeneration and Hospital Admission in the California Medicare Database.** *Alejandro Ochoa III[1], F. Yu[2], V. Tseng[2], K. Kitayama[1], A. L. Coleman[2]*. [1]David Geffen School of Medicine; [2]Ophthalmology, Jules Stein Eye Institute

65 — *A0139* **Clinical Manifestation of Cuticular Drusen in Korean Patients.** *Donghoon SHIN, D. Ham*. Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine

66 — *A0140* **Subretinal drusenoid deposits in the elderly in a population-based study (the Montrachet study: Maculopathy, Optic Nerve, nuTRition, neurovAsCular and HEarT diseases).** *Pierre-Henry GABRIELLE[1, 3], A. Seydou[2], L. Arnould[1], N. Acar[3], C. Binquet[2], A. M. Bron[1, 3], C. Creuzot-Garcher[1, 3]*. [1]Ophthalmology department, Dijon University Hospital; [2]Department of Epidemiology, INSERM unit, Dijon University Hospital; [3]Eye and Nutrition Research Group, CSGA, UMR 1324 INRA, 6265 CNRS

67 — *A0141* **The National Eye Institute Visual Function Questionnaire-25 in Patients with Age-Related Macular Degeneration and Controls.** *Jennifer Patnaik, P. Pecen, A. Lynch, F. Siringo, M. Mathias, N. Mandava*. University of Colorado School of Medicine

68 — *A0142* **Is Polypoidal Choroidal Vasculopathy differentiated from Age-related Macular Degeneration?** *Handan Akil[2], T. Fang[1], T. Wiens[1], D. Maberley[1], E. V. Navajas[1]*. [1]Ophthalmology, UBC Vancouver General Hospital; [2]Ophthalmology, University of Liverpool

69 — *A0143* **Sociodemographic disparities in presenting visual acuity of neovascular age related macular degeneration patients**. *Meera D. Sivalingam, K. A. Gervasio, C. M. Wu, D. Matsunaga, J. Uhr, A. Obeid, T. D. Wibbelsman, H. Levine, R. R. Pandit, T. Jenkins, D. Xu, J. Hsu, A. C. Ho*. Ophthalmology, Wills Eye Hospital

70 — *A0144* **Prevalence and associated factors of age-related macular degeneration in a Russian Population**. **The Ural Eye and Medical Study.** *Rinat Zainullin[1], M. Bikbov[1], T. Gilmanshin[1], G. Kazakbaeva[1], E. Rakhimova[1], K. Safiullina[1], S. Panda-Jonas[2], I. Rusakova[1], N. Bolshakova[1], G. Bikbova[1], J. B. Jonas[2]*. [1]Ufa Eye Research Institute; [2]Department of Ophthalmology, Medical Faculty Mannheim of the Ruprecht-Karls-University of Heidelberg

71 — *A0145* **Updated incidence rates of legal blindness from age-related macular degeneration in Denmark: 2010-2016.** *Michael Larsen[1, 2], S. Brandi[1], I. Munch[3, 2]*. [1]Department of Ophthalmology, Rigshospitalet; [2]Faculty of Health and Medical Sciences, University of Copenhagen; [3]Department of Ophthalmology, Zealand University Hospital **CR*

72 — *A0146* **Dietary intake of saturated fatty acid and early age-related macular degeneration in a Japanese population.** *Mariko Sasaki[1, 2], S. Harada[2], Y. Kawasaki[3], K. Tsubota[2], T. Takebayashi[2], Y. Nishiwaki[4], R. Kawasaki[3]*. [1]Tachikawa hospital; [2]Keio University School of Medicine; [3]Osaka University Graduate School of Medicine; [4]Toho University

West Exhibition Hall A0253-A0285

Sunday, April 28, 2019 8:00 AM-9:45 AM

Retina

106 AMD anti-VEGF I

Moderators: Philip J. Rosenfeld and Dimitra Skondra

73 — *A0253* **Two year outcomes of the integrated management scheme for AMD clinics and patient feedback with Eylea treatment protocol - The Swindon model.** *Hani Hasan[1, 2]*. [1]Ophthalmology, Great Western Hospitals NHS Foundation Trust; [2]Ophthalmology, University of Edinburgh **CR*

74 — *A0254* **Factors Associated with Extended Remission in Neovascular Age-Related Macular Degeneration on Pro Re Nata Treatment Protocol.** *Tiezhu Lin[1, 2], K. Dans[1], I. K. Muftuoglu[1], A. Meshi[1], M. Amador[1], L. Cheng[1], W. R. Freeman[1]*. [1]UCSD; [2]He Eye Hospital

75 — *A0255* **Pigment Epithelial Detachments Response to a Single Ranibizumab Injection: a HARBOR Subanalysis.** *Michael Javaheri[1], L. Hill[2], A. Ghanekar[2], I. Stoilov[2]*. [1]Retina Specialists of Beverly Hills; [2]Genentech, Inc. **CR*, ↗

76 — *A0256* **Subconjunctival injection of nano/micro-formulations of aflibercept reduces vascular leakage in mouse model of AMD.** *Gordon Xiong[1], R. Bhuthalingam[1], S. Yeo[2], N. Khandelwa[3], V. A. Barathi[2], R. V. Agrawal[3], S. Venkatraman[1]*. [1]Nanyang Technological University; [2]Singapore Eye Research Institute; [3]Tan Tock Seng Hospital

77 — *A0257* **Anti-VEGF Non-Responders are often short-term responders.** *Saghar Bagheri[1], G. Bontzos[3], L. Ioannidi[2], S. Kabanarou[4], I. K. Kim[1], E. S. Gragoudas[1], J. W. Miller[1], I. DATSERIS[3], M. K. Tsilimbaris[2], D. Vavvas[1]*. [1]Massachusetts Eye and Ear, Harvard Medical School; [2]Eye Clinic, University Hospital of Heraklion; [3]OMMA Eye Institute; [4]Department of Ophthalmology, Korgialenio Benakio Hopsital **CR*

78 — *A0258* **Changes in the inner retinal layer thickness in patients with exudative age-related macular degeneration during treatment with intravitreal anti-vascular endothelial growth factor according to dose of injection.** *Jae Yong Park[1], B. KIM[1], J. Kim[1], M. Song[1], J. Hwang[1], I. Jang[2], W. Oh[1]*. [1]Ophthalmology, Sanggye Paik Hospital; [2]Busan Paik Hospital

79 — *A0259* **A randomised clinical trial of slow versus fast intravitreal injection of ranibizumab (Lucentis®) and its impact on intraocular pressure (the Speed IOP Study).** *Samantha Fraser-Bell[2, 1], S. Zagora[1], H. Mehta[1], A. Campain[2], H. Seng Wong[1], Y. Aaron[1], M. C. Gillies[1]*. [1]Sydney Eye Hospital; [2]University of Sydney ↗

80 — *A0260* **Short-Term Outcomes of Eyes with Neovascular Age-related Macular Degeneration (nAMD) that Switched from Aflibercept to Ranibizumab.** *Jason Hsu, A. Obeid, P. L. Mellen, T. D. Wibbelsman, M. A. Konkoly, M. R. Velez, D. B. Calem, K. Sioufi, D. Su, P. Storey, M. A. Klufas, M. J. Spirn, C. Regillo, A. C. Ho*. Retina Service, Wills Eye Hospital **CR*

81 — *A0261* **Three-year Outcomes of Treat and Extend Aflibercept Treatment for Neovascular Age-related Macular Degeneration.** *Keiko Kataoka, K. Asai, Y. Tsunekawa, Y. Ito, H. Terasaki*. Ophthalmology, Nagoya University Graduate School of Medicine **CR*

82 — *A0262* **Subfoveal choroidal thickness in eyes with neovascular age-related macular degeneration treated with anti-VEGF agents.** *Tereza kanadani[1, 2], F. Kanadani[1], c. veloso[2], M. Nehemy[2]*. [1]Instituto De Olhos Ciências Médias; [2]Universidade Federal de Minas Gerais

83 — *A0263* **Real-life long-term outcomes for patients receiving intra-vitreal Aflibercept for neovascular age related macular degeneration (nAMD): five(5)-year follow-up.** *Ankur Mehta, M. Hartley, M. Habib, A. Kotagiri, D. Steel, S. Jonathan, D. Varma*. Sunderland Eye Infirmary **CR*

84 — *A0264* **Fequency of intra- and extralesional macular atrophy in the IVAN Follow-up trial.** *Tunde Peto[2], R. Evans[1], B. Reeves[1], U. Chakravarthy[2]*. [1]CTU, University of Bristol; [2]Centre for Public Health, Queen's University Belfast **CR*, ↗

85 — *A0265* **Individualizing therapy for neovascular age-related macular degeneration with aflibercept (the VITAL study): A two year prospective, interventional single-centre trial.** *Simona Degli Esposti[1, 2], M. K. Gemenetzi[1, 2], M. Eleftheriadou[1, 3], H. Jayaram[1], B. Pal[1, 2], N. Islam[3, 2], P. Addison[1, 2], R. Hamilton[1, 2], P. Patel[1, 2]*. [1]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust; [2]Medical Retina Department, Moorfields Eye Hospital NHS Foundation Trust; [3]Cataract Department, Moorfields Eye Hospital NHS Foundation Trust **CR*, ↗

86 — *A0266* **10-year Mortality and Clinical Outcomes in Patients with Neovascular Age-related Macular Degeneration Treated with Intravitreal Anti-VEGF Injections.** *Su Ling Young[1], M. Anderson[1], S. Borooah[2, 3], A. Ambrecht[1], P. D. Cackett[1]*. [1]Princess Alexandra Eye Pavillion, NHS Lothian; [2]Shiley Eye Institute, University of California; [3]Centre for Clinical Brain Sciences, University of Edinburgh **CR*

87 — *A0267* **Post-injection endophthalmitis rates with reduced povidone-iodine prophylaxis in patients with self-reported iodine allergy.** *Sarah Schimansky, I. M. Stratton, E. Fletcher, Q. Mohamed*. Ophthalmology, Gloucestershire Hospitals NHS Foundation Trust

88 — *A0268* **Outcomes of cataract surgery in patient with wet age-related macular degeneration while being treated with intravitreal Aflibercept with treat-and-extend regimen.***Tatsuya Nagai, T. Nizawa, M. Kitahashi, T. Baba, S. Yamamoto, T. Iwase*. Chiba Univercity Hospital

89 — *A0269* **Psychological impact of treat-and-extend ranibizumab therapy in patients with age-related macular degeneration.** *SATOSHI KUWAYAMA[1], A. Kato[1], T. Yasukawa[1], I. Sugita[2], M. Yoshida[1], M. Nozaki[1], Y. Hirano[1], J. Kondo[2], T. Abe[2], K. Sugita[2], T. Okita[2], H. Morita[1], K. Sugitani[1], N. Inoue[1], N. Takase[1], Y. Ogura[1]*. [1]Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences; [2]Sugita Eye Hospital **CR*, ↗

90 — *A0270* **Association Between Early Vision-Related Quality of Life Outcomes and Anatomic Dryness Response in Neovascular Age-Related Macular Degeneration (nAMD): A Post-Hoc Analysis of VIEW Trials.** *David A. Eichenbaum*. Retina Vitreous Associates of Florida **CR*

91 — *A0271* **Twelve percent of 6142 patients treated for neovascular age-related macular degeneration (nAMD) presented with low visual outcome within two years. Analysis from the Swedish Macula Registry (SMR).** *Marion Schroeder, M. K. Loevestam-Adrian*. Lund University **CR*

92 — *A0272* **Change in 1-year visual acuity gain with age-related macular degeneration from 2006 and 2015.** *Sachi Nishino[1], T. Yasukawa[2], H. Imaizumi[3], H. Mastubara[4], H. Ishikawa[7], K. Kimura[5], H. Terasaki[6], Y. Mitamura[10], T. Murata[13], M. Yamashita[11], J. Kogo[14], M. Takeuchi[9], Y. Takamura[12], T. Murakami[8], T. Sakamoto[15], M. Ohji[1]*. [1]Ophthalmology, Shiga University of Medical Science; [2]Ophthalmology, Nagoya City University; [3]Ophthalmology, Sapporo City General Hospital; [4]Ophthalmology, Mie University; [5]Ophthalmology, Yamaguchi University; [6]Ophthalmology, Kagoshima University; [7]Ophthalmology, Hyogo College of Medicine; [8]Ophthalmology, University of Tsukuba; [9]Ophthalmology, National Defense Medical College; [10]Ophthalmology, Tokushima University; [11]Ophthalmology, Nara Medical University; [12]Ophthalmology, University of Fukui; [13]Ophthalmology, Shinshu University; [14]Ophthalmology, St. Marianna University School of Medicine; [15]Ophthalmology, Kagoshima University **CR*, ↗

93 — *A0273* **Patient Preferences for Anti-VEGF Treatment Regimens for Wet Age-Related Macular Degeneration in Japan.** *Yuji Oshima[1], T. Joko[2], Y. Nagai[7], R. Mori[6], K. Tanaka[6], Y. Hikichi[5], T. Komori[8], J. Carrasco[4], M. Maculaitis[3], O. Will[3], K. Beusterien[3], K. Takahashi[7]*. [1]Department of Ophthalmology, Graduate School of Medical Sciences, Kyushu University; [2]Department of Ophthalmology, Ehime University School of Medicine; [3]Department of Health Outcomes Research, Kantar Health, LLC; [4]Department of Market Access, Bayer Consumer Care AG; [5]Department of Market Access, Bayer Yakuhin, Ltd; [6]Division of Ophthalmology, Department of Visual Sciences, Nihon University School of Medicine; [7]Department of Ophthalmology, Kansai Medical University; [8]Department of Research & Product Development, Bayer Yakuhin, Ltd **CR*

94 — *A0274* **One-year efficacy of anti-vascular endothelial growth factor agents in patients with neovascular age-related macular degeneration: a meta-analysis and meta-regression.***Daniele Veritti[1, 2], V. Sarao[1, 2], C. Danese[1], P. Lanzetta[1, 2]*. [1]Department of Medicine - Ophthalmology, University of Udine; [2]Istituto Europeo di Microchirurgia Oculare - IEMO **CR*

95 — *A0275* **Intravitreal Aflibercept in a Routine Treat and Extend (T&E) Regimen for Treatment-Naïve wet AMD Patients: 2-Year Outcomes of the observational ASTERIA Study.** *Andreas Ebneter[1], S. Michels[2], P. Imesch[3], F. Eilenberger[4], S. Oesch[5], C. Prünte[6], K. Hatz[7]*. [1]Department of Ophthalmology, University of Bern; [2]Augenklinik Zürich West; [3]Eyeparc; [4]Alcedis GmbH; [5]Bayer (Schweiz) AG; [6]University Eye Clinic Basel; [7]Vista Klinik **CR*

96 — *A0276* **Combination therapy with intravitreal tissue plasminogen activator and ranibizumab for wet age-related macular degeneration with subretinal hyperreflective material.** *Ryoko Takeuchi, T. Yasukawa, A. Kato, T. Obayashi, S. Kuwayama, S. Kuwayama, N. Suzuki, N. Takase, N. Inoue, K. Sugitani, Y. Hirano, M. Yoshida, Y. Ogura*. Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences

97 — *A0277* **Impacts of cataract surgery in eyes treated by anti-vascular endothelial growth factor therapy for wet age-related macular degeneration on visual outcomes.** *Tomohiro Obayashi, T. Yasukawa, R. Takeuchi, M. Inagaki, K. Suzuki, N. Takase, N. Inoue, A. Kato, H. Morita, Y. Hirano, M. Nozaki, M. Yoshida, Y. Ogura*. Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences

98 — *A0278* **Assessing the Efficacy and Safety of Intravitreal Dexamethazone Implant in Treating Macular Edema in Eyes with an Incomplete Response to Anti-vascular Endothelial Growth Factor Agents.** *Walid Abdallah[1, 2], M. Barakat[1, 2], D. Goldenberg[1, 2], S. Itty[1, 2], P. U. Dugel[1, 2], K. Jamal[1, 2], D. Kunimoto[1, 2], S. Mehta[1, 2], E. Quinlan[1, 2], N. Palejwala[1, 2]*. [1]Retinal Consultants of Arizona; [2]Department of Ophthalmology, Keck School of Medicine, University of Southern California

99 — *A0279* **Anatomic and functional results with Aflibercept in poor-responders to Ranibizumab with long term recurrent neovascular AMD.** *Laura Andrea Lima Modino, G. Pacheco Callirgos, C. Blando Labrandero, M. López Gálvez*. Hospital Clinico Universitario de Valladolid

100 — *A0280* **Treat-and-extend anti-VEGF therapy for exudative age-related macular degeneration: long-term results.** *Sandra DELAUNAY, F. Becquet, S. Dupouy, E. Hermouet-Leclair, I. Badat, J. Le Rouic*. Retinal department, Institut Ophtalmologique de l'Ouest - Clinique Jules Verne **CR*

101 — *A0281* **Efficacy of the Treat-and-Extend Regimen in the Management of Neovascular Age-related Macular Degeneration: 5-year Results of the RENO Study.** *Jonathan Dang[1], A. M. Khanani[3], G. Gahn[1], M. Koci[1], N. Mojumder[1], S. Phillips[3], L. Hill[2]*. [1]University of Nevada, Reno School of Medicine; [2]Independent Statistical Consultant; [3]Sierra Eye Associates **CR*

102 — *A0282* **Are patients with wet AMD as satisfied following a switch from Treat and Extend to Observe and Plan protocol?** *Alietha Vorren[1], D. Austeng[2], T. Morken[2]*. [1]Eye Department, Alesund Hospital; [2]Neuroscience, Norwegian University of Science and Technology

103 — *A0283* **Outcomes of quarterly anti-VEGF dosing for nAMD management in real-world clinical practice.** *Alexander M. Rusakevich[1], B. Zhou[1], C. C. Wykoff[1, 2]*. [1]Retina Consultants of Houston; [2]Blanton Eye Institute, Houston Methodist Hospital, Weill Cornell Medical College **CR*

104 — *A0284* **Factors predictive of visual outcome and retreatment of polypoidal choroidal vasculopathy 6 years after photodynamic therapy combined with intravitreal injection of anti-vascular endothelial growth factor.** *Wataru Kikushima, Y. Sakurada, N. Tanabe, A. Sugiyama, M. Matsubara, H. Iijima*. Ophthalmology, Yamanashi University Hospital

105 — *A0285* **Prognostic factors associated with long-term results of intravitreal ranibizumab combined with photodynamic therapy for treatment-naïve polypoidal choroidal vasculopathy.** *Atsushi Okubo, R. Obata, k. azuma, T. Inoue*. University of Tokyo

West Exhibition Hall A0287-A0320

Sunday, April 28, 2019 8:00 AM-9:45 AM

Retina

107 AMD anti-VEGF II

Moderators: Andreas Pollreisz and Mark C. Gillies

106 — *A0287* **Clinical outcome of switching from ranibizumab to aflibercept in the treatment of neovascular age-related macular degeneration.** *Lin Lu[1, 2], G. Muthulingam[2], C. Osborne[2], P. Tonne[2], G. Reddy[2], M. Logendran[2]*. [1]Ophthalmology, South East Midlands Deanery, UK; [2]Ophthalmology, Northampton General Hospital

107 — *A0288* **A highly soluble and fully modified aptamer that targets all VEGF-A isoforms for treating retinal diseases.** *Jinpeng Wang, Q. Yang, J. Yu, H. Kang, M. Vukovich, W. Chou, S. Ferguson, Q. Gong*. Aptitude Medical Systems **CR*

108 — *A0289* **Changes in the SOD2, HIF1α and VEGFA gene expression in wet AMD cybrid cells after treatment with aflibercept or ranibizumab.** *Jaime Toledo Corral, R. S. Gabriel, P. Sakemi Fukuhara, N. Shekoh, T. Hadi, C. Kenney, B. D. Kuppermann*. UCIrvine **CR*

109 — *A0290* **Survey of Intravitreal Injection Practice Patterns among Retina Specialists.** *Stephen J. Smith[2], T. Sassalos[1], N. Patel[1], C. Andrews[1], D. C. Musch[1], C. G. Besirli[1]*. [1]Kellogg Eye Center, University of Michigan; [2]Byers Eye Institute, Stanford University **CR*

110 — *A0291* **Macular Atrophy Affecting Visual Outcomes in Patients Undergoing Anti-VEGF Treatment.** *Weilin Song[1, 3], N. B. Rieveschl[2], A. Li[3], T. Conti[3, 4], G. L. Hom[3, 4], R. P. Singh[3, 4]*. [1]Cleveland Clinic Lerner College of Medicine at Case Western Reserve University School of Medicine; [2]Case Western Reserve University School of Medicine; [3]Cole Eye Institute, Cleveland Clinic Foundation; [4]Center for Ophthalmic Bioinformatics, Cole Eye Institute, Cleveland Clinic Foundation **CR*

111 — *A0292* **Ten-Year Treatment Outcomes of Neovascular Age-Related Macular Degeneration.** *Mark C. Gillies[1, 2], S. BHANDARI[1], B. Wolff[8], J. J. Arnold[3], R. W. Essex[4], S. Young[5], D. M. Squirrell[6], D. Barthelmes[7], V. Nguyen[2]*. [1]Ophthalmology, University of Sydney; [2]Save Sight Institute; [3]Marsden Eye Specialists; [4]Academic Unit of Ophthalmology, Australian National University; [5]Gladesville Eye Specialists; [6]Auckland District Health Board; [7]Department of Ophthalmology, University Hospital Zurich; [8]Rothschild Foundation **CR*

112 — *A0293* **High-Dose High-Frequency Aflibercept For Recalcitrant Neovascular Age-Related Macular Degeneration (2-year follow up).** *Manuel Amador, M. Jhingan, A. Meshi, K. Dans, T. Lin, M. Cavichini Cordeiro, W. R. Freeman*. UCSD

113 — *A0294* **Volume evaluation of additional Anti-VEGF agents released when the plunger is double squeezed.** *Miryoung Song, J. Kim, J. Hwang, W. Oh, J. Park, B. KIM*. Sanggye Paik Hospital

114 — *A0295* **A Novel Long-Acting Drug Conjugate for Extended Anti-VEGF Therapy.** *Wesley M. Jackson[1], L. W. Brier[1], A. Twite[1], M. Mahomed[1], R. Lamy[2], M. F. Chan[2]*. [1]Valitor, Inc.; [2]Ophthalmology, UCSF **CR*

115 — *A0296* **Interleukin-8 production by cells in peripheral blood is associated with age-related macular degeneration lesion activity during anti-VEGF treatment and with variants of the interleukin-8 gene.** *Ilkka J. Immonen[1], A. Robciuc[1], J. Kivioja[2], J. Moilanen[1], S. Seitsonen[1], I. Järvelä[2], A. Hautamäki[1]*. [1]Ophthalmology, Helsinki University Hospital; [2]Dept. of Medical Genetics, University of Helsinki

116 — *A0297* **Anatomical outcomes of patients receiving 50 or more intravitreal anti-VEGF injections for neovascular age-related macular degeneration.** *Cristina Arpa[1, 2], G. Moraes[1], K. Fasler[1, 3], D. Fu[1], S. K. Wagner[1], K. Balaskas[1], P. A. Keane[1]*. [1]Moorfields Eye Hospital London; [2]Eye Unit, IRCCS Policlinico San Matteo; [3]Department of Ophthalmology, University Hospital, Zurich **CR*

117 — *A0298* **Efficacy of Intravitreal Aflibercept Administered using Treat-and-Extend Regimen over 2 Years in Patients with Neovascular Age-Related Macular Degeneration: 1-Year ARIES Results.** *Paul Mitchell[1], E. H. Souied[2], E. Midena[3], F. G. Holz[4], P. G. Hykin[5], S. Wolf[6], H. Allmeier[7]*. [1]Ophthalmology, University of Sydney; [2]Hopital Intercommunal de Creteil, Department d'ophthalmolgie; [3]University of Padova, Department of Ophthalmology; [4]Department of Ophthalmology, University of Bonn; [5]Moorfields Eye Hospital, Ophthalmology; [6]Reading Centre and department for Ophthalmology, Inselspital; [7]Bayer AG **CR*, ↗

118 — *A0299* **Predictors of five-year visual outcome for exudative age-related macular degeneration treated with intravitreal aflibercept using treat and extend regimen.** *Manabu Yamamoto, T. Kohno, K. Hirayama, S. Honda*. Ophthalmology & Visual Sciences, Osaka City Univ Grad School of Medicine

119 — *A0300* **Ten-Year Results Of Wet Age-Related Macular Degeneration Anti-Vegf Treatment.** *Heinrich Gerding, L. Hefner, M. Timmermann, K. Hurtikova, G. Somfai*. Department of Ophthalmology, Pallas Kliniken **CR*

120 — *A0301* **High-Frequency Anti-VEGF Treatment for Neovascular AMD.** *Dillion Matthews, K. G. Kapoor, A. Wagner***.** Wagner Macula and Retina Center

121 — *A0302* **A valid VEGF overexpression-induced rat choroidal neovascularization model for the investigation of antiangiogenic therapies.** *Shan Liu[1, 2], A. Biesemeier[1, 3], A. Tschulakow[1, 2], S. Julien[1, 2], H. Thakkar[1, 2], Y. Fang[1, 2], U. Schraermeyer[1, 2]*. [1]Center for Ophthalmology, Division for experimental vitreoretinal surgery; [2]STZ OcuTox Preclinical Drug Assesment; [3]Natural and Medical Institute at the University of Tuebingen, Applied Material Science and Electron Microscopy

122 — *A0303* **Quantification of Anterior Chamber Reaction after Intravitreal Injections of Conbercept and Ranibizumab: a pilot study.** *Haoyu Chen[1], X. Liao[1], C. Jin[1], W. Chen[1], G. Zhang[1], L. Cen[1], S. Ng[2]*. [1]Joint Shantou International Eye Center; [2]Ophthalmology & Vision Sciences, Chinese University of Hong Kong

123 — *A0304* **Long-term treatment patterns and visual outcomes of anti-vascular endothelial growth factor agents among people with neovascular age-related macular degeneration in the US.** *Adrian Skelly[1], A. M. Khanani[2], R. Griner[3], V. Bezlyak[1], J. Clark[4], A. Sagkriotis[1]*. [1]Novartis Pharma AG; [2]Sierra Eye Associates; [3]IQVIA; [4]Novartis Pharmaceuticals **CR*

124 — *A0305* **Long-term follow up or macular neovascularization using optical coherence tomography angiography: Pro Re Nata versus Treat&Extend regimens.** *Pierre Sustronck, A. Miere, H. Oubraham, E. H. Souied*. Ophtalmologie, Centre hospitalier intercommunal Créteil

125 — *A0306* **Macular atrophy in neo-vascular AMD – incidence and risk factors related to treatment.** *Oliveira A. Oliveira[2], C. Farinha[2], T. Rodrigues[2], A. Martins[2], M. Cachulo[2, 1], J. Marques[2, 1], I. Pires[2, 1], R. Silva[2, 1]*. [1]Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal; [2]Department of Ophthalmology, Centro Hospitalar e Universitário de Coimbra - CHUC, Coimbra, Portugal **CR*

126 — *A0307* **Chronic Nonclinical Ocular Toxicity Study of KSI-301 Demonstrates Tolerability after Intravitreal Administration in Cynomolgus Monkeys.** *John Sinclair[1], H. Liang[1], Z. Antonio[2], P. Miller[3], A. Tolosa[1], J. Naor[1], L. Quarberg[3], A. Sharma[2], X. Huang[1], J. Lu[1], W. Ngo[1], D. Dang[1], F. Clemo[2], J. N. Ver Hoeve[3], T. Nork[3], D. Perlroth[1]*. [1]Kodiak Sciences Inc.; [2]Covance Laboratories Inc.; [3]OSOD, LLC **CR*

127 — *A0308* **Rhegmatogenous retinal detachment in active neovascular age-related macular degeneration.** *Danny Mammo[1], A. L. Ringeisen[2], D. Parke III[2]*. [1]Ophthalmology, University of Minnesota; [2]Vitreoretinal Surgery, PA

128 — *A0309* **Drug Testing in the Virtual Eye.** *Simon Dörsam[1], G. U. Auffarth[2], E. Friedmann[1]*. [1]Department of Applied Mathematics, Heidelberg University; [2]Department of Ophthalmology, Heidelberg University

129 — *A0310* **A new phenotype of atypical wet age-related macular degeneration.** *Bishwanath Pal[1, 2], F. Rodrigues[1], H. Khalid[1, 2]*. [1]Medical Retina, Moorfields Eye Hospital NHS Foundation Trust; [2]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology **CR*

130 — *A0311* **The efficacy of treatment with aflibercept intravitreal injections in patients with wet age-related macular degeneration.** *Anna Heinke[1, 2]*. [1]Department of Ophtalmology, Medical University of Silesia; [2]Department of Ophtalmology, Klinikum Frankfurt Höchst

131 — *A0312* **Intraocular pressure trends in the Canadian treat and extend trial with ranibizumab in patients with nAMD: CANTREAT study 24-month results.** *Peter Kertes[1, 2], T. Sheidow[4], G. Williams[3], M. Greve[6], I. Galic[5], E. Rampakakis[7], M. Lahaie[8]*. [1]Ophthalmology and Vision Sciences, Sunnybrook Health Sciences Centre; [2]Ophthalmology and Vision Sciences, The University of Toronto; [3]Calgary Retina Consultants; [4]Ivey Eye Institute; [5]Institut de la Rétine de Montréal; [6]Alberta Retina Consultants; [7]JSS Medical Research; [8]Novartis Canada **CR*, ↗

132 — *A0313* **A Novel Surrobody Reduces Neovascularization in a Rat Model of CNV.** *Anthony A. Jones[2, 1], J. L. Morgenstern[1], A. D. Strong[1], J. Olson[1]*. [1]Ophthalmology, University of Colorado School of Medicine; [2]Rocky Vista University College of Osteopathic Medicine

133 — *A0314* **Visual Acuity Outcomes of Fellow Eyes Treated for New Onset Neovascular Age-Related Macular Degeneration in Patients in the RENO study.** *Nazrul Mojumder[1], J. Dang[1], A. M. Khanani[2], G. Gahn[1], M. Koci[1], S. Phillips[2], L. Hill[3]*. [1]University of Nevada, Reno School of Medicine; [2]Sierra Eye Associates; [3]Independent Statistical Consultanat **CR*

134 — *A0315* **Correlation of BCVA and SRF in Type 1 CNV(Choroidal Neovascularisation) with Pachychoroid Features.** *Virinder Kaur Dhillon, A. Ding Wu, B. Pal*. Ophthalmology, Moorfields Eye Hospital

135 — *A0316* **Treatment of type 3 choroidal neovascularization with intravitreal injections of Aflibercept : a prospective study.** *Nicolas Leveziel[1, 2], R. Warrak[1], E. Bedue[1], M. Omar[1], P. Ingrand[1]*. [1]CHU Poitiers; [2]University of Poitiers **CR*, ↗

136 — *A0317* **Treatment and Management of Neovascular AMD: Impact on Patients.** *Vincent W. Li[1], I. R. Gabriel[1], M. M. Li[1], A. N. Antoszyk[2], C. W. Baker[3], P. U. Dugel[4], R. A. Goldberg[5], J. Heier[6], A. C. Ho[7], J. S. Pollack[8], C. C. Wykoff[9], D. Vavvas[10], W. W. Li[1]*. [1]Angiogenesis Foundation; [2]Charlotte Eye Ear Nose & Throat Associates; [3]Paducah Retinal Center; [4]Retinal Consultants of Arizona; [5]Bay Area Retina Associates; [6]Ophthalmic Consultants of Boston; [7]Wills Eye Hospital; [8]Rush University Medical Center; [9]Retina Consultants of Houston; [10]Massachusetts Eye and Ear Infirmary

137 — *A0318* **Thermo-sensitive hydrogel for the controlled release of Aflibercept: *in vitro* release and *ex vivo* bioactivity.** *Xinxin Zhao[1], K. Xue[2], X. Su[1]*. [1]Institute of Molecular and Cell Biology, Agency for Science, Technology and Research (A*STAR); [2]IMRE

138 — *A0319* **Significant Correlation between Ganglion Cell Layer & Inner Plexiform Layer Thickness and Retinal Sensitivity Changes After Intravitreal Aflibercept Treatment in Eyes with Exudative Age-related Macular Degeneration.** *Rie Osaka[1], C. Shiragami[1], A. Ono[1], Y. Takasago[1], M. Kobayashi[1], A. Yamashita[1], S. Manabe[1], A. Tsujikawa[2], K. Suzuma[1]*. [1]Kagawa University Faculty of Medicine; [2]Kyoto University Graduate School of Medicine **CR*

139 — *A0320* **Outcomes of suspending VEGF inhibitors for neovascular age-related macular degeneration when lesions have been inactive for 3 months.** *Vuong Nguyen[1], A. Vaze[1], S. Fraser-Bell[1], J. J. Arnold[2], R. W. Essex[3], D. Barthelmes[4], M. C. Gillies[1]*. [1]Save Sight Institute; [2]Marsden Eye Specialists; [3]Australian National University; [4]University Hospital Zurich **CR*

West Exhibition Hall A0549-A0591

Sunday, April 28, 2019 8:00 AM-9:45 AM

Multidisciplinary Ophthalmic Imaging Group

108 Image Processing and Interpretation

Moderators: Hiroshi Ishikawa and Acner Camino

140 — *A0549* **Automated multimodal registration of OCT en face and color fundus images.** *Reza Jafari, Q. Yang, C. A. Reisman*. Research and Development, Topcon Healthcare Solutions **CR*

141 — *A0550* **Full Range Optical Coherence Tomography by Optical Path Difference Sweep.** *Naoki Takeno, S. Iwata, R. Shiba, K. Ito, M. Hanebuchi*. Advanced Technology Development Dept., Development Dev., Eye Care Div., NIDEK Co., Ltd. **CR*

142 — *A0551* **Optical coherence tomography shape analysis describes myopic retinal shape.** *Stewart Lake[1], M. Bottema[2], K. Williams[1], K. Reynolds[2]*. [1]College of Medicine and Public Health, Flinders University; [2]College of Science and Engineering, Flinders University

143 — *A0552* **A method for automated choroidal-scleral interface segmentation in optical coherence tomography.** *Homayoun Bagherinia[1], G. Gregori[2], P. J. Rosenfeld[2], C. Lyu[2], J. Noorikolouri[2], Y. Shi[2], F. Zheng[2], L. De Sisternes[1], M. K. Durbin[1]*. [1]Carl Zeiss Meditec, Inc.; [2]Ophthalmology, Bascom Palmer Eye Institute **CR*

144 — *A0553* **Speckle Noise Reduction in Visible-Light OCT.** *Jenna Tauber[1], R. Kuranov[3, 2], I. Rubinoff[2], Y. Wang[3], Z. Ghassabi[1], K. Lucy[1], H. F. Zhang[2], G. Wollstein[1], J. S. Schuman[1], H. Ishikawa[1]*. [1]NYU Eye Center, NYU Langone Health; [2]Department of Biomedical Engineering, Northwestern University; [3]Opticent Inc. **CR*

145 — *A0554* **Variability and repeatability of inner retinal macula layers segmentation by SD-OCT.** *Radouil T. Tzekov[1, 2], K. Zimmerman[1], D. Richards[3], R. Ayyala[1]*. [1]USF Eye Institute; [2]Medical Engineering, University of South Florida; [3]Physics, University of South Florida

146 — *A0555* **Clinical implementation of malarial retinopathy screening system for improved diagnosis of cerebral malaria.** *Vinayak S. Joshi[1], J. C. Wigdahl[1], S. C. Nemeth[1], G. Zamora[1], P. Soliz[1], S. Lewallen[5], S. P. Harding[2], B. Turner[2], C. Manda[3], T. Taylor[4]*. [1]VisionQuest Biomedical LLC; [2]University of Liverpool; [3]University of Malawi; [4]Michigan State University; [5]Kilimanjaro center for community ophthalmology **CR*

147 — *A0556* **Comparison of OCTA algorithms for detecting vascular and non-vascular flow signal on hyperreflective lesions in diabetic retinopathy.** *Xiang Wei, Q. You, A. Camino, J. Wang, C. J. Flaxel, S. T. Bailey, D. Huang, T. S. Hwang, Y. Jia*. Casey Eye Institute, Oregon Health & Science University **CR*

148 — *A0557* **Enhancing visibility of choroidal vasculature in OCT via attenuation compensation and coherence transport inpainting.** *Jianlong Yang[1], X. Mu[1], Y. Zhao[1], F. Li[2], L. Fang[1], Y. Hu[1], J. Cheng[1], X. Zhang[2], J. Liu[1]*. [1]Cixi Institute of Biomedical Engineering, Chinese Academy of Sciences; [2]Zhongshan Ophthalmic Center, State Key Laboratory of Ophthalmology

149 — *A0558* **A theoretical study of vascular configurations of retinal capillary plexi based on OCTA data.** *Greta Chiaravalli[1], G. Guidoboni[2], R. Sacco[1], T. A. Ciulla[4], A. Harris[3]*. [1]Politecnico di Milano; [2]University of Missouri; [3]Ophtalmology, Indiana University School of Medicine; [4]Eye Clinic of Lithuanian University of Health Sciences **CR*

150 — *A0559* **Investigation of parameters to quantify local variations in the circumpapillary retinal nerve fiber layer on OCT circle scans of eyes with early glaucoma.** *William E. McKee[1], E. Tsamis[1], K. Tsang[1], C. De Moraes[2], D. C. Hood[2, 1]*. [1]Psychology, Columbia University; [2]Ophthalmology, Columbia University **CR*

151 — *A0560* **Intergrader reproducibility of peripapillary retinal metrics from optical coherence tomographic angiography in community dwelling older adults.** *Saleema Kherani[1], R. Sharrett[1], X. Guo[1], Q. You[2], L. Liu[2], D. Huang[2], P. Y. Ramulu[1], A. Abraham[1], X. Kong[1]*. [1]Johns Hopkins University; [2]Casey Eye Institute, OHSU **CR*

152 — *A0561* **Automated Bruch's membrane segmentation in OCT volumes with choroidal neovascularization.** *Jenwei Kuo, Q. Yang, W. Huang, C. A. Reisman*. Research and Development, Topcon Healthcare Solutions **CR*

153 — *A0562* **Nerve fiber layer thickness in young subjects with poor fixation; resampling misaligned scans.** *John P. Kelly[1, 2], F. Baran[1, 2]*. [1]Ophthalmology OA.5.342, Seattle Children's Hospital; [2]Ophthalmology, University of Washington

154 — *A0563* **Correlation between Retinal Nerve Fiber Layer Thickness of Different Parapapillary Regions and the Age.** *Chen LIN[1, 2], Q. LI[1], W. Huang[2]*. [1]Aier school of Ophthalmology, Central South University; [2]ShenZhen Aier Eye Hosptial

155 — *A0564* **Fast and memory-efficient Just-Enough Interaction for retinal layer segmentation in OCT in layer-disrupting pathology.** *Kyungmoo Lee[1], H. Zhang[1], Z. Guo[2], A. Wahle[1], H. Bogunović[3], S. M. Waldstein[3], B. Gerendas[3], U. Schmidt-Erfurth[3], M. D. Abramoff[4, 1], M. Sonka[1, 4]*. [1]Electrical and Computer Engineering, University of Iowa; [2]Biomedical Engineering, University of Iowa; [3]Christian-Doppler-Laboratory for Ophthalmic Image Analysis, Medical University of Vienna; [4]Ophthalmology and Visual Sciences, University of Iowa **CR*

156 — *A0565* **Real-time retinal layer segmentation for high-resolution OCT angiography.** *Worawee Janpongsri[1], M. Heisler[1], M. J. Ju[1], M. V. Sarunic[1], Y. Jian[2]*. [1]Simon Fraser University; [2]Casey Eye Institute, Oregon Health & Science University **CR*

157 — *A0566* **Optic Disc Tracking in SLO/OCT Videos.** *Chen Gong, J. P. Kelly, S. Brunton, E. Seibel*. University of Washington

158 — *A0567* **Asynchronous Remote Adjudication for Grading Diabetic Retinopathy.** *Mike Schaekermann[1, 2], N. Hammel[1], B. Basham[1], B. Campana[1], E. Law[2], L. Peng[1], D. R. Webster[1], R. Sayres[1]*. [1]Google AI Healthcare, Google LLC; [2]University of Waterloo **CR*

159 — *A0568* **Distinguishing cognitive impairment with multifractal complexity of the retinal vascular network.** *Delia Cabrera DeBuc[1], E. Arthur[1], G. M. Somfai[2], M. Kostic[1], S. Oropesa[1], C. Mendoza-Santiesteban[1]*. [1]Ophthalmology, University of Miami; [2]Retinology Unit, Pallas Kliniken **CR*

160 — *A0569* **Characterization of macular edema in the initial stages of diabetic retinopathy.** *Torcato Santos[1], I. Marques[1], A. Santos[1], D. Alves[1], C. Lobo[1, 2], J. G. Cunha-Vaz[1, 2]*. [1]Association for Innovation and Biomedical Research on Light and Image; [2]Faculty of Medicine, University of Coimbra

161 — *A0570* **Construction of Digital Video Fluorescein Angiography for Quantitative Analysis of Retinal Blood Flow.** *Hanjo Kwon, J. E. Lee*. Department of Ophthalmology, Pusan National University Hospital

162 — *A0571* **Integration of Artificial Intelligence and OpacitySuppression™ Software in Tele-Retinal Screenings.** *Andrew Caterfino[1], A. Ooms[1], S. Trikha[2], B. Caterfino[3], B. Szirth[1], A. S. Khouri[1]*. [1]Rutgers New Jersey Medical School; [2]King's College Hospital; [3]Flatiron School

163 — *A0572* **Quantitative analysis of fundus images as affected by cataract.** *Lydia Mineeva[1], C. L. Passaglia[2], L. Balashevich[3], D. Richards[4], L. Shubin[5], A. Kabanov[6], B. Madow[7], E. Greenberg[7]*. [1]Ophthalmology, Yaroslavl state Medical University; [2]Biomedical Engineering, University of South Florida; [3]Eye Microsurgery Complex; [4]Physics, University of South Florida; [5]Anatomopathology, Yaroslavl state Medical University; [6]Clinical Pharmacology, Yaroslavl state Medical University; [7]Ophthalmology, University of South Florida

164 — *A0573* **A Study of Feature-based Consensus Formation for Glaucoma Risk Assessment.** *Naama Hammel, M. Schaekermann, S. Phene, C. Dunn, L. Peng, D. R. Webster, R. Sayres*. Google AI Healthcare, Google LLC **CR*

165 — *A0574* **Corneal Confocal Image Fusion.** *Simone Pajaro[1], G. Menin[2], M. Pascolini[1]*. [1]NIDEK Technologies Srl; [2]Department of Information Engineering, University of Padova **CR*

166 — *A0575* **Chromatic vs monochromatic blue fundus Autofluorescence in patients with cataract.** *Marco U. Morales[1], A. Muraca[2], C. Toma[2], E. Poletti[3], S. De Cillà[2], W. M. Amoaku[1], S. Vujosevic[2]*. [1]Academic Ophthalmology, Nottingham University; [2]Retina, University Hospital Maggiore della Carita'; [3]Centervue SpA **CR*

167 — *A0576* ***Fully automated segmentation algorithm for corneal nerves analysis from in-vivo UHR-OCT images.*** *Zohreh Hosseinaee[1, 2], L. Han[2], O. Kralj[2], A. Wong[1], L. Sorbara[3], K. K. Bizheva[2, 1]*. [1]System Design Engineering, University of Waterloo; [2]Physics and astronomy, University of Waterloo; [3]School of Optometry and Vision Science, University of Waterloo

168 — *A0577* **Automated structure-function analysis of OCT and microperimetry data using intensity-based image registration.** *Jovi Wong, P. Pandey, M. Jackson, C. Sheldon*. University of British Columbia **CR*

169 — *A0578* **Performance evaluation of multi-retinal layer segmentation using SD-OCT.** *Ting Luo[2], H. Bagherinia[2], A. Fard[2], J. Anderson[1], Y. Huang[1], K. Makedonsky[2], M. K. Durbin[2]*. [1]EyeKor; [2]Carl Zeiss Meditec, Inc. **CR*

170 — *A0579* **Estimating the Shape of the Human Foveola.** *Brett A. Davis, H. J. McNeill, J. Hamwood, M. J. Collins*. School of Optometry, Queensland University of Technology

171 — *A0580* **Measurement of optical scattering properties of retinal layers.** *Jeremy D. Rogers*. Biomeidical Engineering, University of Wisconsin-Madison

172 — *A0581* **Validating Laser Speckle Contrast Imaging as a Quantitative Tool for Measuring Retinal Vascular Function in Rodents.** *Dwani Patel[1], T. B. Connor[2], D. M. Lipinski[2, 3]*. [1]Cell Biology, Neurobiology, Anatomy, Medical College of Wisconsin; [2]Department of Ophthalmology and Visual Science, Medical College of Wisconsin; [3]Nuffield Laboratory of Ophthalmology, University of Oxford

173 — *A0582* **Retinal pulsatile shift enhancement with blind source separation.** *Ivana Labounkova[1], R. Labounek[2, 3], J. Odstrcilik[1], M. Hracho[1], I. Nestrasil[2, 4], R. P. Tornow[5], R. Kolar[1]*. [1]Department of Biomedical Engineering, Brno University of Technology; [2]Department of Pediatrics, University of Minnesota; [3]Department of Neurology, Palacky University; [4]Center for Magnetic Resonance Research (CMRR), University of Minnesota; [5]Department of Ophthalmology, Friedrich-Alexander-University of Erlangen-Nuremberg

174 — *A0583* **Pattern recognition for the distinction of drusen from reticular pseudodrusen.** *Angelica Ly, L. Nivison-Smith, M. Kalloniatis*. Centre for Eye Health **CR*

175 — *A0584* **The Prospective Imaging Quantification of Ocular Inflammation (IQI) Study.** *Sunil K. Srivastava, K. Baynes, S. Sharma, A. Venkat, C. Lowder*. Cole Eye Institute, Cleveland Clinic **CR*, ↗

176 — *A0585* **High resolution Scanning Laser Ophthalmoscope imaging with ultrafast retinal tracking.** *Maciej Szkulmowski[1], M. Nowakowski[2], K. Dalasinski[2, 3], M. M. Bartuzel[1, 3], K. Wrobel[1], S. Tamborski[1], E. Pijewska[1], A. Szkulmowska[2]*. [1]Institute of Physics, Nicolaus Copernicus Univ; [2]AM2M Ltd. L.P.; [3]Wroclaw University of Technology **CR*

177 — *A0586* **Fully Convolutional Segmentation of Corneal Limbus and Foveal Blood Vessels in Fluorescein Angiography.** *Yalin Zheng[1, 2], H. Yao[3], Y. Shen[3], Y. Zhao[4, 1], B. Williams[1]*. [1]Department of Eye and Vision Science, University of Liverpool; [2]St Paul's Eye Unit, Royal Liverpool University Hospitals NHS Trust; [3]Department of Electrical Engineering and Electronics, University of Liverpool; [4]Ningbo Institute of Industrial Technology, Chinese Academy of Sciences

178 — *A0587* **Non-mydriatic structured light imaging of the retina with the Digital Light Ophthalmoscope.** *Matthew S. Muller[1], J. Papay[1], R. N. Gilbert[2], T. Gast[2, 1], A. E. Elsner[2, 1]*. [1]Aeon Imaging, LLC; [2]School of Optometry, Indiana University **CR*

179 — *A0588* **Euclidean distance method for retinal amyloid polarimetry segmentation.** *Erik Mason[1], M. C. Campbell[1, 2]*. [1]University of Waterloo; [2]Optometry, University of Waterloo **CR*

180 — *A0589* **Confocal and multiply scattered light imaging with the Digital Light Ophthalmoscope.** *Joel Papay[1], M. S. Muller[1], R. N. Gilbert[2], T. Gast[2, 1], A. E. Elsner[2, 1]*. [1]Aeon Imaging, LLC; [2]School of Optometry, Indiana University **CR*

181 — *A0590* **Prediction of Late Dry and Wet Age-related Macular Degeneration (AMD) in 1-year and 2-year Incident using Retinal Imaging and Traditional Risk Factors.** *Alauddin Bhuiyan, A. Govindaiah*. IhealthScreen

182 — *A0591* **Robust Alignment of Retinal Sequential Multispectral Images.** *Yu Wang[1], Y. Ding[1], W. Jiao[2], F. Yan[1], B. Zhao[2], Y. Zheng[1]*. [1]School of Information Science & Engineering, Shandong Normal University; [2]Ophthalmology, Shandong Provincial Hospital affiliated to Shandong University

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West Exhibition Hall A0592-A0617

Sunday, April 28, 2019 8:00 AM-9:45 AM

Multidisciplinary Ophthalmic Imaging Group

109 Animal Imaging

Moderators: Gillian J. McLellan and Robert J. Zawadzki

183 — *A0592* **Multiphoton microscopy for three dimensional histology of retinal whole mounts.** *Chintan Patel[1], R. Torres[2], E. Olson[2], M. Levene[3], M. S. Lawrence[1]*. [1]RxGen; [2]School of Medicine, Yale University; [3]Applikate Technologies **CR*

184 — *A0593* **Outer Retinal Oxidative Stress Measured *In Vivo* using QUEnch-assiSTed (QUEST) OCT.** *Haohua Qian[1], R. H. Podolsky[3], K. M. Lins-Childers[3], Y. Li[1], B. A. Berkowitz[2]*. [1]Visual Function Core, National Eye Institute; [2]Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine; [3]Beaumont Research Institute

185 — *A0594* **Mouse corneal topography, pachymetry, and keratometry utilizing OCT with keratometer validation.** *Alice S. Liu[1], D. Brown[2], R. E. Conn[3], R. P. McNabb[1], M. T. Pardue[2, 4], A. N. Kuo[1, 5]*. [1]Ophthalmology, Duke University; [2]Biomedical Engineering, Georgia Institute of Technology/Emory University; [3]Neuroscience, Emory University; [4]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Healthcare System; [5]Biomedical Engineering, Duke University **CR*

186 — *A0595* **Functional and Ultrastructural Assessment of Novel OCT Findings in the Cynomolgus Monkey.** *Helen Booler[1], A. M. Kusi[1], N. Tassew[1], C. Frantz[1], M. Holdren[1], P. Lai[1], T. Nork[2, 3], C. Rasmussen[2, 3], W. Meier[4], V. Bantseev[1]*. [1]Genentech; [2]Ocular Services On Demand; [3]Department of Ophthalmology and Visual Sciences, University of Wisconsin School of Medicine and Public Health; [4]Covance **CR*

187 — *A0596* **Monitoring Retinal Responses to Acute Intraocular Pressure Elevation in Rats with Visible Light Optical Coherence Tomography.** *Shaohua Pi, T. Hormel, X. Wei, W. Cepurna, A. Camino, Y. Guo, D. Huang, J. C. Morrison, Y. Jia*. Oregon Health & Science University **CR*

188 — *A0597* **Retinal thickness increases in anesthetized but not awake-behaving mice.** *GUANPING FENG[2, 1], J. B. Schallek[1, 3]*. [1]Center for Vision Science, University of Rochester; [2]Biomedical Engineering, University of Rochester; [3]Flaum Eye Institute, University of Rochester **CR*

189 — *A0598* **Optimization and validation of a novel technique for *in vivo* imaging of FITC-dextran labelled erythrocytes in non-human primates.** *Elise L. Ma, L. Mayo, X. Fan, K. Underwood, S. L. Bernstein, O. Saeedi*. University of Maryland School of Medicine **CR*

190 — *A0599* **Multimodal longitudinal *in vivo* retinal and cerebral imaging-based framework for neurodegenerative diseases using mouse model of Alzheimer's Disease.** *Da Ma[1], S. Lee[1, 2], D. J. Wahl[1], A. Sidiqi[2], A. Yung[3], J. A. Matsubara[2], P. Kozlowski[3], M. F. Beg[1], M. V. Sarunic[1]*. [1]School of Engineering Science, Simon Fraser University; [2]Department of Ophthalmology & Visual Science, University of British Columbia; [3]MRI Research Centre, University of British Columbia

191 — *A0600* **Retinal Oxygen Delivery, Metabolism, and Extraction Fraction During Long-term Bilateral Common Carotid Artery Occlusion in Rats.** *Sophie Leahy[1], J. Burford[1], S. Farzad[1], N. P. Blair[2], M. Shahidi[1]*. [1]Department of Ophthalmology, University of Southern California; [2]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago **CR*

192 — *A0601* **Characterization of a mouse model of RPE pathology.** *Ivana Arellano, H. Li, J. Aranda, S. Hanks, T. Pagliaro, J. Vrouvlianis, N. V. Rangaswamy, C. E. Bigelow, S. H. Poor*. Ophthalmology, Novartis Institutes for Biomedical Research **CR*

193 — *A0602* ***Assessing longitudinal changes in the SOD1 knock-out mouse model by OCT imaging.*** *Marco Augustin[1], D. J. Harper[1], C. W. Merkle[1], C. K. Hitzenberger[1], M. Glösmann[2], B. Baumann[1]*. [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]VetCore Facility for Research, Imaging Unit, University of Veterinary Medicine Vienna

194 — *A0603* **A longitudinal study of *in vivo* fluorescence imaging of curcumin-labeled amyloid beta deposits in the retina of an Alzheimer mouse model.** *Ahmad Sidiqi[1], D. J. Wahl[2], S. Lee[1, 2], D. Ma[2], E. To[1], S. Cao[1], E. To[1], J. Z. Cui[1], M. F. Beg[2], M. V. Sarunic[2], J. A. Matsubara[1]*. [1]Opthalmology and Visual Sciences, University of British Columbia; [2]Engineering, Simon Fraser University **CR*

195 — *A0604* **Visualization of three-dimensional microcirculation of rodents' retina for study of critical illness using optical coherence tomography angiography.** *Jang Ryul Park[1], Y. Kim[1], K. Kim[2], W. Oh[1]*. [1]KAIST; [2]SNUH

196 — *A0605* **Real-time guidance and monitoring of CNV through subretinal injection in rabbit eyes using multimodal PAM and OCT imaging system.** *Yanxiu Li[1, 2], W. Zhang[3], V. P. Nguyen[3], X. Xia[2], X. Wang[3], Y. M. Paulus[1, 3]*. [1]Department of Ophthalmology and Visual Science, University of Michigan; [2]Department of Ophthalmology, Xiangya Hospital, Central Sounth University; [3]Department of Biomedical Engineering, University of Michigan

197 — *A0606* **Increased scattering by the RPE of *Abca4*$^{-/-}$ mice relative to WT controls measured with OCT *in vivo* correlates with increased fundus autofluorescence measured with SLO.** *Ratheesh Kumar Meleppat[1], S. K. MANNA[1], G. Peinado[1], K. Ronning[1], P. Zhang[1], E. N. Pugh[1], R. J. Zawadzki[1, 2]*. [1]University of California Davis; [2]Ophthalmology & Vision Science, University of California Davis

198 — *A0607* **3D visualization of angiogenesis in the mouse eye using light sheet fluorescence microscopy.** *Marie Darche[2, 1], M. Belle[1], S. Fouquet[1], A. Chédotal[1], I. Cascone[3], M. Paques[2, 1]*. [1]UPMC - Institut de la Vision; [2]CIC, 15-20 hospital; [3]CRRET laboratory

199 — *A0608* **Investigating Retinal Changes in a Mouse Model of Alzheimer's Disease using OCT.** *Bernhard Baumann[1], D. J. Harper[1], A. Lichtenegger[1], M. Muck[1, 2], C. W. Merkle[1], J. Gesperger[1, 2], T. Himmel[3], A. Woehrer[2], M. Glösmann[3], M. Augustin[1]*. [1]Ctr for Med Physics & Biomed Engineering, Medical University of Vienna; [2]Institute of Neurology, Medical University of Vienna; [3]VetCore, University of Veterinary Medicine Vienna

200 — *A0609* **Quantification of fluorescein leakage induced by DL-2-aminoadipic acid in an experimental model of chronic neovascular leakage.** *Robin J. Goody, A. Kurian, A. Browne, E. Demmons, D. Allen, C. Patel, W. Hu, M. S. Lawrence*. RxGen, Inc **CR*

201 — *A0610* **OCT in Neonate Monkeys With and Without Maternal Zika Virus Exposure.** *Carol A. Rasmussen[1, 2], S. Eaton[2, 3], N. Diers[3], P. Cueno[3], E. L. Mohr[4], D. H. O'Connor[5, 6], A. W. Katz[1], M. Schotzko[6], C. J. Murphy[7, 8], Y. Huang[3], T. Nork[1, 2]*. [1]Ophthalmology and Visual Sciences, University of Wisconsin-Madison; [2]OSOD LLC; [3]EyeKor, Inc.; [4]Department of Pediatrics, University of Wisconsin-Madison; [5]Department of Pathology and Laboratory Medicine, University of Wisconsin-Madison; [6]Wisconsin National Primate Research Cente, University of Wisconsin-Madison; [7]Surgical & Radiological Sciences, School of Veterinary Medicine, UC Davis; [8]Ophthalmology & Vision Science, School of Medicine, UC Davis, **CR*

202 — *A0611* **Assessment of the nonhuman primate macula across the lifespan: Thickness of retinal layers measured with sdOCT.** *Lauren Renner[1], L. Sam[1], M. Neuringer[1, 2], T. J. McGill[2, 1]*. [1]Neuroscience, Oregon Health & Science University; [2]Casey Eye Institute, Oregon Health & Science University

203 — *A0612* **Characterization of the Royal College of Surgeon's Rat Model Endpoints for Use in Preclinical Ophthalmic Studies.** *Justin Prater[1], V. Peele[1], D. Culp[1], B. C. Gilger[2, 1]*. [1]Powered Research; [2]Clinical Sciences, North Carolina State University **CR*

204 — *A0613* **Comparison of amyloid deposits in retinas of cognitively impaired and cognitively normal beagles.** *Laura Emptage[1], M. C. Campbell[1, 2], R. Redekop[1], E. Mason[1], M. Kitor[1], M. Hamel[1]*. [1]Physics, University of Waterloo; [2]Optometry, University of Waterloo **CR*

205 — *A0614* **Quantitative analysis of retinal structure and function in two chromosomally altered mouse models of Down syndrome.** *Alberto Costa[1], D. B. Victorino[1, 2], J. J. Scott-McKean[1]*. [1]Case Western Reserve University School of Medicine; [2]Postgraduate Program in Neurology and Neuroscience, Federal University of São Paulo

206 — *A0615* **Classification of Fluorophore Hyperspectral Signatures in Canine Best Disease.** *Jacob Rosenbloom[1], Y. Tong[2], T. Mohammed[3], N. Challa[4], R. Smith[2]*. [1]Keck School of Medicine of USC; [2]Ophthalmology, Icahn School of Medicine at Mount Sinai; [3]New York University; [4]The Ohio State University College of Medicine

207 — *A0616* **Changes in visual function and visual pathway in experimental glaucoma induced by intracameral injection of a chemically cross-linked hydrogel.** *Tianmin Ren[1], K. C. Chan[3, 4], Y. Yu[2], S. Ng[1], H. Mak[1], W. Yip[1], Y. VAN DER MERWE[3], J. S. Yung[1], S. Biswas[1], X. Cao[1], Y. Chau[1], C. K. Leung[1, 2]*. [1]Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong; [2]Department of Chemical and Biological Engineering, The Hong Kong University of Science and Technology; [3]Departments of Ophthalmology and Bioengineering, University of Pittsburgh; [4]Departments of Ophthalmology and Radiology, NYU School of Medicine, NYU Langone Health, New York University

208 — *A0617* **OCT Camera Position Affects Apparent Eye Morphometry in Tree Shrews (Tupaia belangeri).** *Preston A. Fuchs, M. El Hamdaoui, J. L. Henry, R. Grytz, B. C. Samuels*. Ophthalmology, University of Alabama at Birmingham **CR*

West Exhibition Hall A0618-A0636

Sunday, April 28, 2019 8:00 AM-9:45 AM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

110 Amblyopia: Mechanisms and Associations

Moderators: Bin Zhang and Frank A. Proudlock

209 — *A0618* **Evaluation of foveal avascular zone and macular vessel density in unilateral amblyopia using optical coherence tomographic angiography.** *Atsushi Miki[1], S. Araki[1], K. Goto[1], T. Yamashita[1], T. Yoneda[1], K. Haruishi[1], Y. Ieki[1], J. Kiryu[1], G. Maehara[2], K. Yaoeda[3]*. [1]Department of Ophthalmology, Kawasaki Medical School; [2]Department of Human Sciences, Kanagawa University; [3]Yaoeda Eye Clinic

210 — *A0619* **Amblyopia and Spectacle Compliance in Children.** *Kailey Marshall, M. Wade*. Ophthalomology, University of California, Irvine

211 — *A0620* **Improving Grating Acuity in Adult Amblyopia by Perceptual Learning.** *Tsz Wing Leung[1], M. Antonucci[2], B. Li[2], S. Wong[1], K. Chan[1], B. Feldmar[2], K. D. Tran[2], C. Kee[1], R. Li[2]*. [1]School of Optometry, The Hong Kong Polytechnic University; [2]School of Optometry, University of California, Berkeley

212 — *A0621* **Training under constant instead of progressively elevated interocular inhibition leads to better cooperation between the two eyes in amblyopia.** *Zidong Chen[1], Z. Liu[1], D. Deng[1], J. Yuan[1], C. Huang[2], M. Yu[1]*. [1]Zhongshan Ophthalmic Center, Sun Yat-sen University; [2]Institute of Psychology, CAS

213 — *A0622* **Response to Patching in Amblyopic patients with and without Fusion Maldevelopment Nystagmus.** *Fatema F. Ghasia[1], A. Shaikh[2]*. [1]Ophthamology and visual science, Cole Eye Institute-Cleveland Clinic; [2]Neurology, Case Western Reserve University

214 — *A0623* **Inverse occlusion, a binocularly motivated treatment for amblyopia.** *Jiawei Zhou[1], Y. Wu[1], Y. Chen[1], X. Chen[1], Y. Liang[1], Y. Mao[1], Z. Yao[1], Z. He[1], F. Lu[1], J. Qu[1], R. Hess[2]*. [1]Ophthalmology, Wenzhou Medical University; [2]Ophthalmology, McGill University

215 — *A0624* **Short-term deprivation of the amblyopic eye, combined with physical exercise, promotes long-term visual recovery in young amblyopic children.** *Michela Fresina[1], C. Lunghi[2, 5], C. Fariselli[1], A. Sale[3], M. C. Morrone[2, 4], E. C. Campos[1]*. [1]DIMES, University of Bologna; [2]Department of Translational Research on New Technologies in Medicine and Surgery, University of Pisa; [3]National Research Council (CNR), Neuroscience Institute; [4]IRCCS Calambrone, IRCCS Stella Maris; [5]Département d'études cognitives, Ecole normale supérieure, PSL University, Laboratoire des systèmes perceptifs

216 — *A0625* **Comparing the effect of patching therapy with gaming for amblyopia.** *Aveen Kadhum[1], E. T. Tan[1], G. Holtslag[2], H. J. Simonsz[1], S. E. Loudon[1]*. [1]Erasmus Medical Center; [2]Optometry & Orthoptics, University of Applied Sciences ↗

217 — *A0626* **Contribution of monocular patching of the amblyopic eye prior to dichoptic movie viewing for the treatment of amblyopia beyond the critical period.** *Lauren Sauvan[1], N. Stolowy[1], D. Denis[2], F. Matonti[2, 3], F. Chavane[1], R. Hess[4], A. Reynaud[4]*. [1]CNRS - Aix-Marseille Université; [2]CHU NORD Marseille; [3]Centre Paradis Monticelli; [4]McGill University **CR*

218 — *A0627* **Binocular treatment for amblyopia in adults and children with low-pass filtering when occlusion therapy fails.** *Cindy Ho[1], Y. M. Shahin[2], H. Reis[1], S. Grenier[1], D. Giaschi[2]*. [1]Integra Eyecare Centre; [2]Department of Ophthalmology and Visual Sciences, University of British Columbia

219 — *A0628* **Functional Visual Acuity in patients with successfully treated anisometropic amblyopia.** *Ayaka Fujita, S. Hoshi, T. Hiraoka, A. Kato, T. Murakami, T. Oshika*. Ophthalmology, University of Tsukuba **CR*

220 — *A0629* **Preferred Fixation with the Hyperopic Eye In Children With Anisometropic Amblyopia.** *Nitza Goldenberg-Cohen[1, 3], A. Sternfeld[4], R. Segal[4], M. Altman[2]*. [1]Ophthalmology, Bnai Zion Medical Center; [2]Ophthalmology, Sinai Hospital of Baltimore; [3]The Ruth and Bruce Rappaport Faculty of Medicine, Krieger Eye Research Laboratory, Technion; [4]Ophthalmology, Rabin Medical Center

221 — *A0630* **Visuomotor performance on precision grasping and aiming tasks in school-age children with abnormal binocular vision.** *Ewa Niechwiej-Szwedo[1], G. Thai[1], L. Christian[2]*. [1]Kinesiology, University of Waterloo; [2]School of Optometry and Vision Science, University of Waterloo

222 — *A0631* **Abnormal monocular and dichoptic temporal synchrony in adults with Amblyopia.** *Chunwen Tao[1], Y. Wu[1], J. Zhou[1], P. Huang[2]*. [1]Eye Hospital and School of Ophthalmology and Optometry, Wenzhou Medical University; [2]Natioanl Cheng Kung University

223 — *A0632* **Objective Blur Detection Thresholds in Amblyopic and Fellow Eyes of Children with Amblyopia.** *Alyssa M. Gehring[1], A. Juric[1], I. A. Ricker[1], T. L. Roberts[2]*. [1]Akron Children's Hospital; [2]Byers Eye Institute, Stanford University

224 — *A0633* **Interocular suppression of form but not motion in dichoptic plaids.** *Amy Chow, A. E. Silva, B. Thompson*. University of Waterloo

225 — *A0634* **Monocular Retinal Blockade (Pharmacological Occlusion Therapy) in Macaque Monkey: Spatial-Sweep Visually-Evoked Potential Visual Acuity, Relative Afferent Pupillary Defect, and Optokinetic Tracking.** *Paul E. Foeller, L. Tychsen*. Ophthalmology & Visual Science, Washington Univ Sch of Med

226 — *A0635* **Roles of Magnocellular and Parvocellular Pathways in interocular suppression of amblyopia patients.** *Wen Wen, S. Wang, H. Liu*. Ophthalmology, EENT Hospital, Fudan University

227 — *A0636* **Refractive Adaptation Selectively Changes Magnocellular Pathway in Anisometropic Amblyopia.** *Liu Zitian, Z. Chen, D. Deng, M. Yu*. State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

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West Exhibition Hall A0637-A0650

Sunday, April 28, 2019 8:00 AM-9:45 AM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

111 Strabismus: Surgical management and outcomes

Moderator: E. Eugenie Hartmann

228 — *A0637* **'Restraining the over-achiever' in incomitant strabismus: Scott's resect-recess procedure re-visited.** *Sharon Armarnik[1, 2], S. Shirke[1], E. AlQahtani[1], C. Giligson[2], V. Mehta[2], C. J. LYONS[1, 2]*. [1]Department of Ophthalmology and Visual Sciences, UBC; [2]Ophthalmology, BC Children's Hospital

229 — *A0638* **Quantitative measurement of retinal vascular diameter changes after strabismus surgery.** *Jinqiong Zhou, J. Fu, J. Li, X. Wang, W. Wang, B. Zhao, M. Qi*. Beijing Tongren Eye Center, Beijing Tongren Hospital, Capital Medical University

230 — *A0639* **Surgical outcomes following resection-recession versus plication-recession in unilateral surgery for children with intermittent exotropia.** *Haeng Jin Lee, S. Kim*. Ophthalmology, Seoul National University Hospital

231 — *A0640* **The influence of preoperative ocular misalignment on anatomic outcomes in patients undergoing surgical re-alignment for exotropia.** *Daniel Oh, D. Maidana, I. Jung, M. Roubach, N. F. Azar, C. Mocan*. Ophthalmology, Illinois Eye and Ear Infirmary **CR*

232 — *A0641* **Factors impacting the postoperative pain and discomfort of children undergoing strabismus surgery.** *Jamie Moffa, P. E. Foeller, L. Tychsen*. Washington University School of Medicine

233 — *A0642* **Maximal horizontal rectus recession-resection procedure for complete six nerve palsy.** *zhonghao wang, J. Yan*. strabismus and amblyopia department, Zhongshan ophthalmic center

234 — *A0643* **Early results of a modified vertical rectus transposition versus superior rectus transposition for complete six nerve palsy.** *Jing Yao[1], W. Xia[2], C. Zhao[1]*. [1]Eye and ENT Hospital of Fudan University; [2]First People's Hospital of Kunshan Affiliated with Jiangsu University ↗

235 — *A0644* **Surgical management of strabismus in patients with orbital fractures.** *Jianhua Yan, Q. Xia, Z. Wang*. Zhongshan Ophthalmic Center,Sun Yat-sen University

236 — *A0645* **The effect of Inferior oblique weakening procedure on the resolution of initial overcorrection in exotropia surgery.** *Hee-Young Choi[1, 2], H. JEON[1]*. [1]Ophthalmology, Pusan National Univ Hosp; [2]Biomedical research institute

237 — *A0646* **Long-term results of slanted recession of bilateral lateral rectus muscle for intermittent exotropia with convergence insufficiency.** *Ji Min Kwon[1], J. Park[2], S. Lee[1]*. [1]Department of Ophthalmology, Haeundae Paik Hospital, Inje University College of Medicine; [2]Department of Ophthalmology, Maryknoll Hospital

238 — *A0647* **What changes do patients report after strabismus surgery for planned psychosocial benefit?** *Gemma Arblaster[1], H. Davis[1], D. Buckley[1], S. Barnes[2]*. [1]Academic Unit of Ophthalmology & Orthoptics, University of Sheffield; [2]School of Health and Related Research (ScHARR), University of Sheffield

239 — *A0648* **The Effect of Strabismus Surgery on Vision Related Quality of Life.** *Sinthu Ranjan, K. Estes, R. Parrish, J. Sinacore, P. Mumby, J. F. McDonnell*. Ophthalmology, Loyola University Medical Center

240 — *A0649* **The Value of Surgical Realignment in Restoration of Near Stereoacuity in Pediatric Patients with Exotropia.** *Judy Chen, D. Maidana, I. Jang, M. Rouhbakhshzaeri, N. F. Azar, C. Mocan*. Illinois Eye and Ear Infirmary **CR*

241 — *A0650* **Satellite Cell Activity in Extraocular Muscle after Recession and Resection.** *Suk-Gyu Ha, J. Park, S. Kim*. Ophthalmology, Korea University, College of Medicine

West Exhibition Hall B0361-B0380

Sunday, April 28, 2019 8:00 AM-9:45 AM

Physiology/Pharmacology

112 Anti-inflammatory agents,antibiotics and antivirals

Moderator: Jing Hua

242 — *B0361* **Visual impairment in patients with giant cell arteritis treated with tocilizumab in real-world clinical practice.** *Ivo Stoilov[2], T. J. McCulley[1], J. Pei[2], P. N. Sidiropoulos[2], C. Birchwood[2], J. Best[2], J. H. Stone[3], S. Unizony[3]*. [1]The Wilmer Eye Institute, Johns Hopkins University School of Medicine; [2]Genentech, Inc.; [3]Massachusetts General Hospital Rheumatology Unit, Harvard Medical School **CR*

243 — *B0362* **Systemic anti- IL6R antibody administration limits infiltrating leukocytes in pericyte depletion model in mice.** *Eunice Cheung, J. Cao, C. Romano*. Ophthalmology, Regeneron Pharmaceuticals, Inc. **CR*

244 — *B0363* **A Cell Penetrating Peptide from Type I Interferon Protects Mice Against Experimental Autoimmune Uveitis.** *Alfred S. Lewin[1], C. M. Ahmed[1], H. M. Johnson[2]*. [1]Molecular Genetics & Microbio, University of Florida; [2]Microbiology and Cell Science, University of Florida **CR*

245 — *B0364* **Incidence of Polybacterial Infections in Three Bacterial Conjunctivitis Studies and Outcomes with Besifloxacin Ophthalmic Suspension 0.6%.** *Joseph M. Blondeau[1], C. M. Sanfilippo[2], H. H. DeCory[2]*. [1]Clinical Microbiology, Royal University Hospital; [2]Medical Affairs, Bausch + Lomb **CR*, ↗

246 — *B0365* **Antibiotic Resistance Among Ocular Pathogens – An Update from the 2018 ARMOR Study.** *Christine M. Sanfilippo[1], H. H. DeCory[1], P. A. Asbell[2]*. [1]Medical Affairs, Bausch + Lomb; [2]Ophthalmology, University of Tennessee Health Science Center **CR*

247 — *B0366* **Ocular Disposition of Cationic Antibiotics: Evaluation of Lacrimal Route.** *Ujjalkumar S. Das[1], M. NATH[1], N. Halder[1], J. S. Titiyal[3], J. B[2], B. S. Singh[4], S. Vishnubhatla[5], T. Velpandian[1]*. [1]Ocular Pharmacology and Pharmacy Division, Dr Rajendra Prasad Centre for Ophthalmic Sciences, AIIMS, All India Institute of Medical Sciences; [2]Department of Chemistry, Indian Institute of Technology; [3]Department of Ophthalmology, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences; [4]Department of Biophysics, All India Institute of Medical Sciences; [5]Department of Biostatistics, All India Institute of Medical Sciences

248 — *B0367* **Comparison of toxicities of moxifloxacin, cefuroxime, and vancomycin on retinal vascular endothelial cells and pericytes.** *Hitomi Miyake, F. Ehara, D. Miyazaki, Y. Shimizu, Y. Inoue*. Opthalmology, Tottori Univercity

249 — *B0368* **HL036 Ophthalmic Solution, a Topical TNF-α Inhibitor, Significantly Improves Signs and Symptoms of Dry Eye in a Phase 2 Clinical Trial.** *Minjae Shin[1], H. Ahn[1], E. Bernton[1], J. Chae[1], S. Park[1], S. Park[1], G. Torkildsen[2], G. W. Ousler[3]*. [1]HanAll BioPharma; [2]Andover Eye; [3]Dry Eye, Ora, Inc **CR*, ↗

250 — *B0369* **Ocular Pharmacokinetics of a Novel Class of Selective Multi-Kinase Inhibitors with Anti-Inflammatory Potential.** *Kevin Carbajal, K. Crews, K. Vick, B. E. Foley, J. Ding, A. Glendenning, M. Weksler, C. L. Lichorowic, J. Sturdivant, M. A. deLong, E. C. Carlson, C. Lin*. Pharmacology, Aerie Pharmaceuticals **CR*

251 — *B0370* **Proportion of subjects achieving zero-trace anterior chamber inflammation with loteprednol etabonate (submicron) gel 0.38% following cataract surgery: Integrated analysis of 3 pivotal trials.** *Joseph Martel[1, 2], R. Fong[3], M. E. Cavet[4], J. Vittitow[5]*. [1]California Northstate University; [2]Martel Eye Medical Group; [3]Manhattan Eye, Ear and Throat Hospital and Lenox Hill Hospital; [4]Bausch + Lomb; [5]Bausch + Lomb **CR*, ↗

252 — *B0371* **Topical tacrolimus use in inflammatory ocular surface diseases.** *Kelley Bohm, A. R. Djalilian*. Illinois Eye and Ear Infirmary

253 — *B0372* **Chemical Landscape Analysis in Drug Discovery: Ophthalmic Fluoroquinolones.** *Anne M. Clark[2], C. Baddeley[1], M. McBride[2]*. [1]Innovation, CAS; [2]Science IP, CAS **CR*

254 — *B0373* **Novel blockers of the L-VGCC play a protective role in microglia-related ocular inflammation and angiogenesis disorders.** *Madhu Sudhana Saddala[1, 2], A. Lennikov[1, 2], A. Mukwaya[3], H. Huang[1, 2]*. [1]Ophthalmology, University of Missouri; [2]Ophthalmology, Johns Hopkins University School of Medicine; [3]Ophthalmology, Linköping University

255 — *B0374* **Co-culture with corneal epithelial cells decreases transformation of tenon`s capsule fibroblasts into myofibroblasts by benzalkonium chloride.** *Chiemi Yamashiro, K. Tokuda, Y. Kobayashi, M. Hatano, M. Kobayashi, S. Uchi, S. Teranishi, K. Kimura*. Ophtahlmology, Yamaguchi Univesity School of Medicine

256 — *B0375* **In vitro eye irritation testing for hazard identification of ocular irritants using cellular capacitance.** *Manuel Chacon[3], N. Vazquez[3], S. Berisa[2], M. P. MEDINA[3], M. Sanchez[1], J. Merayo-Lloves[3], A. Meana[3]*. [1]Universidad de Oviedo; [2]Instituto Oftalmologico Fernandez-Vega; [3]Instituto Universitario Fernandez-Vega, Fundacion de Investigacion Oftalmologica & Universidad de Oviedo

257 — *B0376* **Systemic and intraocular administration of the liposomal formulation of the cyclic GMP analogue CN03: An exploratory safety and tolerability study in non-human primates.** *Francois Paquet-Durand[1], T. Peters[5], P. Gaillard[4], N. Schipper[3], T. Strasser[1], F. Schwede[6], V. Marigo[8], P. A. Ekstrom[7], C. Säfholm[2]*. [1]Experimental Ophthalmology, Institute for Ophthalmic Research; [2]Comparative Medicine, Karolinska Institute; [3]RISE; [4]2-BBB medicines BV; [5]Centre for Ophthalmology, University Hospital Tuebingen; [6]Biolog Life science Institute; [7]Clinical Sciences Lund, Lund University; [8]Life Sciences, University of Modena and Reggio Emilia **CR*

258 — *B0377* **Regulation of Cataractogenesis in Cultured Bovine Lenses by ATB 337.** *Catherine A. Opere[1], L. Maffofou N[1], S. Heruye[2], N. J. Singh[1], Y. Njie-Mbye[3], S. Ohia[3]*. [1]Pharmacy Sciences, Creighton University; [2]Pharmacology, Creighton University; [3]College of Pharmacy & Health Sciences, Texas Southern University

259 — *B0378* **Low Visual Pathway Alterations and Neurological Toxic Effects after Acute Mercury Poisoning in Zinc Manufacturer Workers.** *Salvador Pastor[1, 2], Y. Lantigua[1], R. COCO[1, 2], I. Fernandez[1, 3], A. Dueñas-Laita[1, 4], J. Pérez-Castrillon[1, 4], J. Pastor[1, 2]*. [1]Ophthalmology, IOBA-University of Valladolid; [2]Red Temática de Investigación Cooperativa en Salud (RETICS), Oftared, Instituto de Salud Carlos III, Valladolid, Spain.; [3]CIBER-BBN (Biomedical Research Networking Center Bioengineering, Biomaterials and Nanomedicine), Carlos III National Institute of Health, Spain; [4]Department of Medicine and Toxicology, Medicine School, University of Valladolid, Valladolid, Spain

260 — *B0379* **Case Report: Severe Bilateral Visual Loss after Taking Overdose of Praziquantel and Triclabendazole.** *Ya Ma[1], X. Peng[1, 2]*. [1]Ophthalmology, Beijing Tongren Hospital; [2]Beijing Institute of Ophthalmology

261 — *B0380* **Acute And Subchronic Toxicity Study Of Aqueous Extract Of Pleurotus Tuberregium On Rabbits Eye.** *Ghalib A. Akinlabi*. Department of Optometry, University of Benin

West Exhibition Hall B0401-B0450

Sunday, April 28, 2019 8:00 AM-9:45 AM

Cornea

113 Dry Eye

Moderators: Sarah F. Hamm-Alvarez, Humberto Hernandez and Tor P. Utheim

262 — *B0401* **Polyelectrolyte multilayer coating for delivery of IL-4 from contact lenses for dry eye disease.** *Vishal Jhanji[1], A. Nolfi[2], M. Kulkarni[2], B. Brown[3]*. [1]Ophthalmology & Visual Sciences, University of Pittsburgh; [2]Department of Bioengineering, Univeristy of Pittsburgh; [3]McGowan Institute for Regenerative Medicine, Univeristy of Pittsburgh

263 — *B0402* **Discriminant Proteomic Analysis of Dry Eye Syndrome and Glaucoma: Deciphering the Protein Code Underlying the Double Trouble.** *Natarajan Perumal, C. Manicam, A. Tschäbunin, M. Scieranski, A. Ratcliffe, L. Gronbach, N. Pfeiffer, F. H. Grus*. Department of Ophthalmology, University Medical Centre Mainz

264 — *B0403* **Effect of *parthenocissus tricuspidata* extract living on pine in pre-clinical model of dry eye disease.** *Kyong Jin Cho[1], J. Kim[3], Z. Kim[2]*. [1]Ophthalmology, Dankook University; [2]Ophthalmology, Dankook University Hospital; [3]Physics, College of Natural Science, Dankook University

265 — *B0404* **Changes in tears and ocular structures involved in tear film formation in chemotherapy-induced polyneuropathy in mice.** *Jessica Welss[1], N. Phunchago[2], M. Sisignano[3], N. Perumal[4], F. Grus[4], J. Feldt[1], E. Lütjen-Drecoll[1], F. P. Paulsen[1]*. [1]Anatomy, Friedrich-Alexander Universität; [2]Anatomy, Khon Kaen University; [3]Goethe-Universität; [4]University Medical Center Mainz

266 — *B0405* **The Effect of Comprising Natural Extracts in Experimental Dry Eye Rat Model.** *Soo Youn Choi[1], Y. Eom[1], J. Kim[2], D. Jang[2], J. Song[1], S. Baek[1], H. Kim[1]*. [1]Korea University Medical School; [2]Medical O Co., Ltd. **CR*

267 — *B0406* **Up-regulating autophagy with trehalose: a contribution to osmoprotective properties?** *Marc Labetoulle[1, 2], E. Hernandez[3], O. Haigh[2], A. Rousseau[1, 2], A. Esclatine[3]*. [1]Ophthalmology, Paris-Sud University Hospital, APHP; [2]IDMIT, CEA, Paris Sud University,; [3]Institute for Integrative Biology of the Cell (I2BC), CEA, CNRS, Paris Sud University **CR*

268 — *B0407* **Expression and Role of Nucleotide-binding Oligomerization Domain 2 (NOD2) in the Ocular Surface of Murine Dry Eye.** *Ying Li[1], R. Jin[1], L. Li[1], H. YOON[1], I. You[2], K. Yoon[1]*. [1]Department of ophthalmology, Chonnam National University Medical School & Hosp.; [2]Department of Ophthalmology, Research Institute of Clinical Medicine of Chonbuk National University-Biomedical Research Institute of Chonbuk National University Hospital

269 — *B0408* **Inhibitory Effect of Topical Thymosin beta 4 against Ocular Surface Inflammation in a Mouse Model of Experimental Dry Eye.** *Rujun Jin[1, 3], Y. Li[1], L. Li[1, 3], H. YOON[1], I. You[2], K. Yoon[1]*. [1]Ophthalmology, Chonnam National University Medical School & Hospital; [2]Ophthalmology, Chonbuk National University Hospital; [3]Biomedical Sciences Graduate School, Chonnam National University

270 — *B0409* **NRF2 activator RS9 protects corneal epithelium from cell damage in dry eye models.** *Yuka Matsuda[1], M. Machida[1], Y. Nakagami[2], T. Nakajima[1], M. Azuma[1]*. [1]Senju Laboratory, Senju Pharmaceutical Co., Ltd.; [2]Pain & Neuroscience Laboratories, Daiichi Sankyo Co., Ltd. **CR*

271 — *B0410* **Age-associated changes in T effector and regulatory T cells.** *Cintia S. De Paiva, H. Hernandez, R. G. de Souza, Z. Yu, F. Bian*. Ophthalmology, Baylor College of Medicine **CR*

272 — *B0411* **Sjögren-Syndrome Microbiota Colonization in Germ-Free Mice induces Antigen-Presenting Cell Activation and Production of IL-12.** *Laura Schaefer[1], C. M. Trujillo-Vargas[1, 2], S. C. Pflugfelder[3], R. A. Britton[1], C. S. De Paiva[3]*. [1]Molecular Virology and Microbiology, Baylor College of Medicine; [2]Grupo de Inmunodeficiencias Primarias, Universidad de Antioquia; [3]Ophthalmology, Baylor College of Medicine **CR*

273 — *B0412* **Application of a Cannabinoid-Receptor Agonist in a Mouse Model of Desiccating Stress.** *Philipp Steven[1, 2], D. Heß[1, 2], H. Jens[1, 2], F. M. Dautzenberg[3], M. E. Stern[1, 4], U. Gehlsen[1, 2]*. [1]Ophthalmology, University of Cologne; [2]Division of Dry Eye and ocular GvHD, University of Cologne; [3]Novaliq GmbH; [4]ImmunEyez LLC **CR*

274 — *B0413* **Comparison of inflammatory gene networks in dry eye between human and mouse.** *Karima Kessal[1, 2], P. Daull[3], L. Feraille[4], N. Cimbolini[4], H. Liang[1, 2], M. Docquier[5], S. Barabino[6], S. Melik Parsadaniantz[1], J. Garrigue[3], C. BAUDOUIN[1, 2], F. Baudouin[1, 2]*. [1]Institut de la vision; [2]Ophtalmology, Quinze-Vingts National Ophthalmology Hospital; [3]Santen SAS; [4]Iris pharma; [5]iGE3 Genomics Platform, University of Geneva; [6]Clinica Oculistica, Università degli Studi di Genova **CR*

275 — *B0414* **Low humidity plus anti-cholinergic-induced dry eye skews toward a Th1 response.** *Zhiyuan Yu, J. Alam, R. G. de Souza, C. S. De Paiva, S. C. Pflugfelder*. Ophthalmology, Baylor College of Medicine

276 — *B0415* **Changes in Murine Subbasal Corneal Nerves After Scopolamine Induced Dry Eye Stress Exposure.** *Cem Simsek, T. Kojima, T. Nagata, M. Dogru, K. Tsubota*. Keio University

277 — *B0416* **Selective serotonin reuptake inhibitorsaggravate depression- associated dry eyevia activating the NF-κB pathway.** *Xiaozhao Zhang, Y. Yin, L. Gong*. The Eye & ENT Hospital of Fudan University

278 — *B0417* **Calcitriol Inhibits ROS-NLRP3-IL-1β Signaling Axis via Activation of Nrf2-Antioxidant Signaling in Hyperosmotic Stress stimulated Human Corneal Epithelial Cells.** *Zhang Jing, Y. Dai, J. Xu*. Ophthalmology, Eye & ENT Hospital of Fudan University

279 — *B0418* **Analysis of CD4+ T cell populations in male NOD mice highlights the potential of local administration of cyclosporine A in the treatment of Sjögren's syndrome.** *Hao Guo, J. A. MacKay, S. F. Hamm-Alvarez*. University of Southern California

280 — *B0419* **Identification of Botanical Extracts with PPARγ Receptor Activity for Improving Meibomian Gland Health and Function.** *James V. Jester[1], S. Kim[1, 2], Y. Xie[1], D. Venzon[3], B. L. Bender[3], M. A. Murray[3], J. F. Rebhun[3], R. P. Dugar[3], K. W. Gellenbeck[3], K. M. Glynn[3]*. [1]Gavin Herbert Eye Institute, University of California, Irvine; [2]Ophthalmology, Yonsei University Wonju College of Medicine; [3]Amway Research & Development, Amway Corporation **CR*

281 — *B0420* **Eicosapentaenoic acid activates PPARγ signaling leading to lipid synthesis and autophagy in hMGEC.** *Sun Woong Kim[2, 1], X. Yilu[1], D. Brown[1], J. V. Jester[1]*. [1]Gavin herbert eye institute, UC Irvine; [2]Ophthalmology, Yonsei University

282 — *B0421* **Efficient Delivery of a Hydrophobic PPAR Agonist OS300 via a Nanostructured Delivery System, for the Treatment of Meibomian Gland Dysfunction.** *Koushik Barman, S. Amere, K. Ward, S. P. Barman*. Pharmaceutical Development, Integral BioSystems **CR*

283 — *B0422* **Comparison of the lipidome produced by human meibomian gland epithelial cells treated with rosiglitazone to normal human meibum.** *Jillian F. Ziemanski, K. K. Nichols*. The School of Optometry, The University of Alabama at Birmingham

284 — *B0423* **Glutathione Supplementation May Enhance Buthionine Sulfoximine-Induced Cell Death in Immortalized Human Meibomian Gland Epithelial Cells.** *William Ngo, J. J. Nichols*. The University of Alabama at Birmingham

285 — *B0424* **Pharmacokinetics of OTX-CSI, a Sustained Release Cyclosporine Intracanalicular Insert in Beagles.** *Andrew Vanslette, C. D. Blizzard, P. Haberman, J. Tomaszewski, C. Rosales, J. Metzinger, M. H. Goldstein, A. Driscoll*. Discovery, Ocular Therapeutix **CR*

286 — *B0425* **High content imaging assay for detection of immunological synapse inhibition of ICAM-1/LFA-1 binding with lifitegrast.** *Anneli Savinainen[1], A. Essex[2], G. Carey[1], G. Grandjean[2]*. [1]Shire; [2]PhenoVista Biosciences **CR*

287 — *B0426* **Enhanced Ocular Delivery Using Biocompatible Nanomaterials.** *David L. Kent[1], G. Behl[2], S. Kumari[2], N. O'Reilly[2], P. McLoughlin[2], O. O'Donovan[2], L. Fitzhenry[2]*. [1]The Vision Clinic; [2]Department of Science, Waterford Institute of Technology

288 — *B0427* **Protective effects of Risuteganib® against inflammation and oxidative stress on a Dry Eye Disease experimental model on C57BL / 6J mice.** *Hugo Quiroz-Mercado[1, 2], L. HERNANDEZ[1, 2], I. Ramos-Martínez[3], R. Zamora-Alvarado[1, 2], L. Ochoa-de la Paz[5, 2], A. Pérez-Nakano[4], R. Gonzalez-Salinas[1, 2]*. [1]Research Department, Asociación para Evitar la Ceguera en México; [2]Laboratorio Nacional de Optica de la Visión; [3]Departamento de Bioquímica, Facultad de Medicina Universidad Nacional Autónoma de México; [4]Universidad La Salle; [5]Departamento de Bioquímica, Facultad de Medicina, Universidad Nacional Autónoma de México **CR*

289 — *B0428* **Effects of topical dry eye treatment on anxiety-related behavior in a mouse dry eye model.** *Takashi Kojima, S. Omura, T. Nagata, C. Simsek, M. Dogru, K. Tsubota*. Ophthalmology, Keio Univ School of Medicine

290 — *B0429* **Therapeutic effect of STAT3 inhibition on experimental murine dry eye.** *MINGLI QU, X. Qi, Q. Wang, L. Wan, Q. Zhou*. Shandong Eye Institute

291 — *B0430* **Dry Eye: Efficacy evaluation of three synthetic peptides from Chondrocyte-Derived ExtraCellular Matrix (CDEM) in comparison to lifitegrast, cyclosporine A, diquafosol sodium and sodium hyaluronate in a mouse model.** *Taegon Baik[1], J. Choi[1], K. Min[1], L. Feraille[2], E. Raymond[2], E. Pierre-Paul[2]*. [1]Yuyu Pharma; [2]IRIS PHARMA **CR*

292 — *B0431* **Efficacy of preservative-free cyclosporine emulsion eye drops in a mouse model of dry eye.** *Philippe Daull[1], T. Nagano[2], S. Okada[2], E. Gros[3], L. Feraille[3], J. Garrigue[1]*. [1]Santen SAS; [2]Santen Ltd; [3]Iris Pharma **CR*

293 — *B0432* **The discovery of novel LFA-1 antagonist VVN001 to treat Dry Eye Disease (DED).** *Yong Li, E. Xia, W. Shen*. VivaVision Biotech Inc

294 — *B0433* **Evaluation Of The Dry Eye In The Experimental Model Of Sjogren Syndrome (SJS).** *Lucimeire N. Carvalho, P. C. Cristovam, A. Nasare, L. R. Rosa, J. P. Gomes*. Oftalmologia e Ciências Visuais, Universidade Federal de São Paulo

295 — *B0434* **TLR4 is responsible for NLRC4 inflammasome activation in human corneal epithelial cells exposed to hyperosmotic stress.** *Hui Chen, W. Chi*. Zhongshan Ophthalmic Center,China

296 — *B0435* **Lacrimal gland acinar TRAIL (CD253) expression is essential for inhibiting bone marrow-derived CD45+ inflammatory cell infiltration in dry eye disease.** *Hyung Keun Lee, Y. Ji, E. Choi, A. Yeo*. Ophthalmology, Yonsei University College of Medicine

297 — *B0436* **Analysis of the tear MicroRNA levels in primary sjögren's syndrome.** *Yu Jeong Kim[1], Y. Yeon[1], J. Kim[2], Y. Shin[1], H. Cho[1], H. Lim[1], M. Kang[1]*. [1]Hanyang University Hospital; [2]Seoul Paik Hospital

298 — *B0437* **A Newly Thermo-Responsive Artificial Tear Formulation, AT-1401: Its Retentivity and Efficacy on Ocular Surface.** *Mitsuyo Takashima[1], M. Kimura[2], T. Yamamura[2], T. Otsuka[2], Y. Takahashi[2], A. Suzuki[2], A. Yamamuro[2], S. Watanabe[2], K. Masubuchi[2], R. Arakawa[2], A. Naito[2]*. [1]International Business Development Department, Wakamoto Pharmaceutical Co., Ltd.; [2]Sagami Research Laboratories, Wakamoto Pharmaceutical Co., Ltd. **CR*

299 — *B0438* **Subconjunctival dendrimer-cyclosporin therapy for the treatment of dry eye in a rabbit model of induced autoimmune dacryoadenitis.** *Hui Lin, R. Sharma, S. P. Kambhampati, K. Rangaramanujam, S. C. Yiu*. Wilmer Eye Institute, Johns Hopkins University

300 — *B0439* **Effect of cevimeline in ocular surface of dry eye mouse model.** *Chae Eun Kim[1], D. Kum[3], Y. Park[3], Y. Lee[1], B. Ahn[1], J. Yang[1, 2]*. [1]T2B infrastructure Center for Ocular Disease, Inje University Busan Paik Hospital; [2]Department of Ophthalmology, Inje University College of Medicine, Inje University Busan Paik Hospital; [3]College of Pharmacy, Ajou University

301 — *B0440* **The effect of an ocular surface modulator in an in vitro model of inflammatory dry eye.** *Stefano Barabino[1], F. Carriero[2], S. Balzaretti[2], D. Manenti[3], M. Meloni[2]*. [1]Ospedale L. Sacco, University of Milan, Ocular surface & Dry Eye Center; [2]Vitroscreen; [3]Sildeha Swiss **CR*

302 — *B0441* **Mucoadhesive micelles for anterior segment ocular drug delivery.** *Emily Anne Hicks, B. B. Muirhead, T. Rambarran, N. Yasin, L. Liu, F. Lasowski, H. Sheardown*. Chemical Engineering, McMaster University

303 — *B0442* **Characterization of a New Phospholipid Containing Nanoemulsion Lubricant Eye Drop for Dry Eye.** *Rekha Rangarajan[1], H. Ketelson[1], R. Do[2], D. McCanna[2], A. Suko[2], D. Enstone[2], L. Subbaraman[2, 1], L. W. Jones[2], A. Meyer[3]*. [1]Alcon Laboratories Inc.; [2]Center for Ocular Research and Education, School of Optometry and Vision Science, University of Waterloo; [3]Industry/University Center for Biosurfaces, University at Buffalo **CR*

304 — *B0443* **Effectiveness of 3% trehalose and 0.15% sodium hyaluronate eye drop in an adverse dry environment.** *Hamad Alzamil, L. Madden, E. Pearce*. Vision Sciences, Glasgow Caledonian University **CR*

305 — *B0444* **Effects of ALY688 on Atropine-Induced Dry Eye in Rabbits.** *Kathryn S. Crawford[2, 1], C. Schuh[1], J. Schuh[1], H. Hsu[2]*. [1]PharmOcu; [2]Allysta Pharmaceuticals **CR*

306 — *B0445* **Restoration of regulatory T cell function in dry eye disease by targeting substance P/neurokinin 1 receptor.** *Yukako Taketani[1, 2], T. Dohlman[1, 2], Y. Chen[1], R. Dana[1, 2]*. [1]Schpens Eye Reseach Institute; [2]Mass Eye and Ear **CR*

307 — *B0446* **SP-G, a novel surfactant protein of the ocular surface that regulates surface tension of tears and might play a role in dry eye disease.** *Lars Bräuer, M. Schicht, F. P. Paulsen*. Institute of Functional and Clinical Anatomy, Friedrich-Alexander-University Erlangen-Nuremberg

308 — *B0447* **Multivalent Lacripep Elastin-Like Polypeptide fusions initiate calcium signaling and prosecretory activity in cells of the ocular surface system.** *Changrim Lee, M. Edman, S. F. Hamm-Alvarez, J. A. MacKay*. University of Southern California

309 — *B0448* **Sub-Anticoagulant Dose Heparin Dismantles Neutrophil Extracellular Traps (NETs): Therapeutic Implementations for Dry Eye Disease (DED).** *Jieun Kwon, S. AN, I. Raju, B. Surenkhuu, A. Pradeep, C. Mun, N. Atassi, S. Jain*. Ophthalmology and Visual Sciences, University of Illinois at Chicago **CR*

310 — *B0449* **Ability of lifitegrast to block immunological synapse formation and downstream T cell function.** *Galen Carey[1], L. Brackenbury[2], A. Savinainen[1], S. Hunt[2]*. [1]Shire; [2]Charles River **CR*

311 — *B0450* **Inhibition of corneal nociceptors reduces persistent, ongoing dry eye-induced pain.** *Neal Mecum[1, 2], R. Russell[1], J. Havelin[1, 2], I. Meng[1, 3]*. [1]Center for Excellence in Neuroscience, University of New England; [2]University of Maine; [3]College of Osteopathic Medicine, University of New England

West Exhibition Hall B0504-B0546

Sunday, April 28, 2019 8:00 AM-9:45 AM

Cornea

114 Keratokonus and corneal crosslinking

Moderators: Rachel Bishop and Edgar M. Espana

312 — *B0504* **One Year Outcomes of Pulsed, Accelerated, Epithelial-on Crosslinking for Keratoconus.** *Sangeethabalasri Pugazhendhi[1], S. Konda[2], S. A. Cherne[3], B. K. Ambati[3]*. [1]PSG Institute of Medical Sciences and Research; [2]Texas A&M College of Medicine; [3]Pacific ClearVision Institute ↗

313 — *B0505* **Five Year Outcomes of Corneal Collagen Crosslinking: Accelerated Crosslinking Induces Less Corneal Haze and Less Continuous Corneal Flattening Compared to Conventional Crosslinking.** *Naoko Kato[1, 2], K. Negishi[2], C. Sakai[2], I. Toda[1], T. Ide[3], K. Tsubota[2]*. [1]Minamiaoyama Eye Clinic; [2]Ophthalmology, Keio University School of Medicine; [3]Tokyo Vision Eye Clinic Asagaya **CR*

314 — *B0506* **Exosomes and their miRNA/ protein contents in Keratoconus.** *Rabab Sharif[1], M. Khaled[2], J. She[3], Y. Liu[2], D. Karamichos[1]*. [1]University of Oklahoma Health Sciences Center; [2]Augusta University; [3]Medical College of Georgia

315 — *B0507* **Corneal Response to Transepithelial Corneal Collagen Crosslinking for Keratoconus.** *Michael Lai[1], S. Greenstein[1, 2], P. Hersh[1, 2]*. [1]The Cornea & Laser Eye Institute - Hersh Vision Group; [2]Ophthalmology, Rutgers New Jersey Medical School **CR*, ↗

316 — *B0508* **Oxygen uptake into porcine cornea with topical administration of ozonated water.** *Koji Kakisu*. Toho University

317 — *B0509* **Biomechanical Impact of Drug Formulation, Supplemental Oxygen, and UV Delivery on Epi-On CXL.** *Desmond C. Adler[1], J. Hill[1], C. Liu[1], P. Deardorff[1], M. Raizman[2], R. Rajpal[3, 4]*. [1]Research and Development, Avedro, Inc.; [2]Ophthalmic Consultants of Boston; [3]Avedro, Inc.; [4]See Clearly Vision Group **CR*

318 — *B0510* **Clinical Outcomes of KeraVio using Violet Light Emitting Glasses and Riboflavin for Corneal Ectasia: A Pilot Study.** *Hidenaga Kobashi[1, 2], H. Torii[1, 2], I. Toda[1, 2], K. Tsubota[1, 2]*. [1]Department of Ophthalmology, Keio University; [2]Minamiaoyama Eye Clinic **CR*, ↗

319 — *B0511* **Changes in collagen structure and permeability of rat and human scleral tissue after crosslinking.** *Sruti S. Akella, J. Yang, P. Guo, Y. Miao, C. Zhang, R. S. Chuck*. Montefiore Medical Center

320 — *B0512* **Ocular surface disease index and ocular thermography in keratoconus and in normal subjects.** *Orsolya Németh[1, 2], S. Lepper[1], G. Milioti[1], A. Abdin[1], B. Seitz[1], T. Eppig[3], Z. Z. Nagy[2], A. Langenbucher[3], N. Szentmáry[1, 2]*. [1]Department Of Ophthalmology, Saarland University Medical Center; [2]Department Of Ophthalmology, Semmelweis University; [3]Experimental Ophthalmology, Saarland University Medical Center

321 — *B0513* **Assessment of clinical parameters by ethnicity in patients with keratoconus: a multi-country study.** *Srujana Sahebjada[1, 2], E. Chan[1, 3], M. McGuinness[1], C. Hodge[4, 7], C. C. Pang[5], G. Kumaramanickavel[6], G. Sutton[4, 7], M. Daniell[1, 3], P. N. Baird[1, 2]*. [1]Ophthalmology, Centre for Eye Research Australia; [2]Surgery, The University of Melbourne; [3]Royal Victorian Eye and Ear Hospital; [4]The University of Sydney; [5]Chinese University of Hong Kong; [6]Narayana Nethralaya; [7]Lions NSW Eye Bank

322 — *B0514* **The KERALINK trial of corneal cross-linking for progressive keratoconus in children. Methodology and baseline patient characteristics.** *Frank Larkin[1], A. Quartilho[2], K. Chowdhury[2], C. Dore[2], J. Burr[3], C. Bunce[4]*. [1]Cornea & External Diseases, Moorfields Eye Hospital; [2]Comprehensive Clinical Trials Unit, University College London; [3]University of St. Andrew's; [4]Primary Care & Public Health Sciences, King's College London ↗

323 — *B0515* **Altered regulation of arginine metabolism during hypoxia in keratoconus human corneal fibroblasts.** *Tanja Stachon[1], L. Latta[1], B. Seitz[1], N. Szentmáry[1, 2]*. [1]Department of Ophthalmology, Saarland University Medical Center; [2]Department of Ophthalmology, Semmelweis University

324 — *B0516* **Patient Satisfaction and Visual Function after combination Intracorneal Ring Segments and Corneal Collagen Crosslinking.** *Daniel Chung[1], S. Greenstein[1, 2], P. Hersh[1, 2]*. [1]Cornea and Laser Eye Institute; [2]Ophthalmology, Rutger - New Jersey Medical School **CR*, ↗

325 — *B0517* **Stromal Oxygen Dynamics During High-Irradiance Epi-On Corneal Crosslinking.** *jason m. hill[1], C. Liu[1], P. Deardorff[1], D. C. Adler[1], V. Thompson[2], D. Gore[2]*. [1]R&D, Avedro Inc; [2]Avedro Inc **CR*

326 — *B0518* **Depth-resolved collagen order after in vivo rabbit corneal cross-linking.** *James A. Germann[1], E. Martinez-Enriquez[1], C. Martinez-Garcia[2], I. E. Kochevar[3], S. Marcos[1]*. [1]VIOBIO, IO-CSIC; [2]Department of Cell Biology, Histology, and Pharmacology, Universidad de Valladolid; [3]Wellman Center for Photomedicine, Massachusetts General Hospital

327 — *B0519* **Impact of Eye Motion and Active vs. Passive Eye Tracking on Refractive Crosslinking.** *David Usher, A. Mukherjee, M. Smirnov, J. Hill, W. Eddington, C. Liu, D. C. Adler*. Avedro Inc **CR*

328 — *B0520* **Regulation of the Keratoconic in vitro phenotype through Integrated stress response stimulation.** *James W. Foster, U. Soiberman, M. Lu, A. Shehata, T. Young, Y. Daoud, A. S. Jun*. Ophthalmology, Wilmer Eye Institute

329 — *B0521* **Depth-dependent analysis of contact lens-assisted corneal cross-linking by Brillouin microscopy.** *Hongyuan Zhang[1], A. L. PICCININI[1, 4], m. roozbahani[1], O. Golan[1, 3], G. Scarcelli[2], J. B. Randleman[1]*. [1]University of Southern California; [2]University of Maryland; [3]Tel Aviv Sourasky Medical Center; [4]Sadalla Amin Ghanem Eye Hospital

330 — *B0522* **Depth dependent measurements of the concentration of riboflavin to make the crosslinking (CXL) treatment safer.** *Maximilian Franke[1], T. Landes[1], T. Seiler[2], A. Heisterkamp[3], D. Heinemann[1], T. Ripken[1]*. [1]Laser Zentrum Hannover; [2]Inselspital Bern; [3]Leibniz Universität Hannover

331 — *B0523* **In-vivo evaluation of corneal collagen fibrils pattern to detect keratoconus.** *Vito Romano[1, 2], D. Borroni[2, 1], B. Geraghty[1], E. Lipari[3], A. Sborgia[4], Y. Zheng[1], S. B. Kaye[1, 2], B. Williams[1]*. [1]Department of Eye and Vision Science, University of Liverpool; [2]Ophthalmology, Royal Liverpool Univeristy Hospital; [3]Phronema srl; [4]University of Bari **CR*

332 — *B0524* **Progression predictive factors of keratoconus after accelerated crosslinking (A CXL).** *DA COSTA Marie, S. Maxime, J. Menet, c. goetz, N. Ouamara, Z. Mohamed, L. Lhuillier, J. Perone*. Hopital de Mercy,CHR Metz-Thionville

333 — *B0525* **Gene expression in the corneal epithelium of progressive keratoconus patients.** *Uri Soiberman*. Wilmer Eye Institute, Johns Hopkins University School of Medicine

334 — *B0526* **In-vivo and in-vitro corneal epithelial and stromal thickness in Keratoconus.** *Nicole Hallett[1, 2], V. K. Maseedupally[2], M. Markoulli[2], N. Jeyakumar[5], C. Hodge[1, 3], G. Sutton[1, 4], J. You[1, 4]*. [1]Discipline of Opthalmology, Sydney Medical School , Sydney University, Save Sight Institute; [2]School of Optometry and Vision Sciences, University of New South Wales; [3]Vision Eye Institute; [4]NSW Tissue Bank; [5]School of Medical Sciences, Faculty of Medicine, University of New South Wales

335 — *B0527* **Profile of inflammatory factors in patients with keratoconus after penetrating keratoplasty.** *Daniel Robles Yeme, E. Alegría-Gómez, A. Robles-Contreras, O. Baca Lozada, O. Fernandez Vizcaya, C. Pacheco Del Valle, R. Velasco-Ramos, A. Babayan Sosa, E. Ferrer-Cobos*. Fundación Hospital Nuestra Señora de la Luz

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

336 — *B0528* **Corneal Crosslinking Effects On Tear Inflammatory Mediators In Patients With Keratoconus.** *Dahana Lucia Thalia L. Mendoza-Garcia, C. Pacheco Del Valle, A. Robles-Contreras, O. Baca Lozada, O. Fernandez Vizcaya, R. Velasco-Ramos, E. Alegría-Gómez, A. Babayan Sosa, E. Ferrer-Cobos*. Córnea, Hospital Fundación Nuestra Señora de Luz

337 — *B0529* **Optimizing time in crosslinking: scleral lens based riboflavin impregnation. A pilot study.** *Natalia Paulina Quiroz-Casian, O. Santana-Cruz, A. Navas, A. J. Ramirez-Miranda, E. O. Graue-Hernandez*. Cornea and Refractive surgery, Institute of Ophthalmology "Conde de Valenciana"

338 — *B0530* **Spectrum of Binocular Vision Function in Keratoconus Patients.** *Prema Padmanabhan[1], S. Dandapani[2], J. R. Hussaindeen[2]*. [1]Department of Cornea and Refractive Surgery, Medical Research Foundation; [2]Department of Binocular Vision, Medical Research Foundation

339 — *B0531* **Ten year results after corneal collagen crosslinking with riboflavin and UV-A irradiation (CXL) for keratoconus – when to repeat CXL?** *Franziska Seifert, F. Seufert, D. Hommes, G. Kann, L. Thederan, J. Hillenkamp, D. Kampik*. Department of Ophthalmology, University of Wuerzburg

340 — *B0532* **Improving precision for determining change in patients with keratoconus.** *Carlos Rocha de lossada[1], M. Brunner[2], D. Borroni[3, 4], E. Arbabi[5], S. B. Kaye[6], V. Romano[5], G. Czanner[2]*. [1]Oftalmologia, Hospital Regional Universitario de Malaga; [2]University of Liverpool; [3]Ophtalmology, Riga Stradins University; [4]Department of Eye and Vision Science, Royal Liverpool and Broadgreen University Hospital NHS Trust; [5]Department of Eye and Vision Science, Royal Liverpool and Broadgreen University Hospital NHS Trust; [6]Department of Eye and Vision Science, Univsersity of Liverpool, Royal Liverpool and Broadgreen University Hospital NHS Trust

341 — *B0533* **Main corneal tomographic findings, tear film cytokine profile and proteomic analysis in keratoconus families.** *Daniel Borges[1], B. Duarte[1], H. B. Assalin[2], D. Guadagnini[2], M. A. Saad[2], C. L. Arieta[1], M. Alves[1]*. [1]Department of Ophthalmology, University of Campinas; [2]University of Campinas

342 — *B0534* **In vivo Brillouin microscopy in crosslinked Keratoconus corneas.** *Theo G G. Seiler[1, 2], P. Shao[2], A. M. Eltony[2], T. Seiler[3], S. Yun[2]*. [1]Inselspital Bern, Universitätsklinik für Augenheilkunde; [2]Wellman Center for Photomedicine, Harvard Medical School; [3]IROC **CR*

343 — *B0535* **Riboflavin Concentrations at the Endothelium during Corneal Crosslinking (CXL).** *Beatrice E. Frueh[1], A. Batista[2], K. Koenig[2], T. G. Seiler[1]*. [1]Ophthalmology, Univ of Bern Inselspital; [2]Universität des Saarlandes **CR*

344 — *B0536* **Higher Order Aberration Measurement Comparison Between Scheimpflug and Dual Scheimpflug/Placido Technology in Normal and Keratoconic Eyes.** *Claudia E. Perez Straziota, A. L. PICCININI, O. Golan, E. A. Torres-Netto, F. Hafezi, J. B. Randleman*. Ophthalmology, USC

345 — *B0537* **Safety and efficacy of accelerated cornea cross-linking to arrest progression of corneal ectasia in a tertiary referral center in the UK.** *Borja Salvador Culla[1], A. Ahmmed[1], N. Roper[1], J. Mulroy[1], D. Tabibian[1], F. Figueiredo[1, 2]*. [1]Ophthalmology, Royal Victoria Infirmary; [2]Institute of Genetic Medicine, Newcastle University,

346 — *B0538* **Barbatimão (*Stryphnodendron adstringens*) extract as a potent corneal crosslinking agent: Laboratory characterization by differential scanning calorimetry (DSC).** *Paulo Schor[1], A. Reis[2], T. Carvalho[1], A. Marquini[1], A. Morandim-Giannetti[2], P. A. Bersanetti[1]*. [1]Ophthalmology, UNIFESP; [2]Chemical Engineering, FEI **CR*

347 — *B0539* **Early evidence of visual and topographic improvements following cross-linking procedure in eyes with keratoconus.** *Dian Yu, J. M. Lustbader*. Ophthalmology , Georgetown University Hospital

348 — *B0540* **Comparison of the variability of Scheimpflug imaging measurements between normal eyes, progressive and no-progressive keratoconus eyes at 1 year of follow up.** *Raúl Alberto Zúñiga Iracheta, J. Camargo Acuña, M. CAMINO QUEZADA, C. Maldonado, J. Chauca, K. Ruiz-Montenegro Villa, L. Izquierdo, M. A. Henriquez*. Instituto OftalmoSalud

349 — *B0541* **Delayed re-epithelialization after epithelium-off crosslinking: associated factors and impact on keratoconus progression.** *Chiara Bonzano, D. Musetti, R. Scotto, M. Sturloni, C. Cutolo, C. Traverso*. Clinica Oculistica, DiNOGMI, University of Genoa, IRCCS Ospedale Policlinico San Martino

350 — *B0542* **OCT-Guided Laser Custom Corneal Collagen Cross-linking in Keratoconus.** *Yan Li, O. C. Thaware, W. Chamberlain, A. Nanji, J. Clements, D. Huang*. Ophthalmology, Oregon Health and Science University **CR*, ↗

351 — *B0543* **Correlation between basal keratometric readings and the keratometric change at 12 months in two pulsed accelerated crosslinking protocols.** *Julio C. Hernandez[1], R. Ruiz[2], D. Loya[1], J. Valdez-Garcia[1]*. [1]Cornea and Refractive Surgery, Tecnologico de Monterrey, Escuela de Medicina y Ciencias de la Salud; [2]Escuela de Medicina y Ciencias de la Salud, Tecnologico de Monterrey, Escuela de Medicina y Ciencias de Salud

352 — *B0544* **Evaluation of total corneal power in keratoconic eyes using Pentacam HR (high resolution) Scheimpflug camera system.** *YANJUN HUA[1], X. Zhou[2]*. [1]Ophthalmology, Shanghai Jiao Tong University Affiliated Sixth People's Hospital; [2]The Eye and ENT Hospital of Fudan University

353 — *B0545* **Keratoconus: New insights in the underlying pathomechanism.** *Uwe Hansen[1], M. Timmen[1], M. Goette[2], R. Stange[1], T. Pap[1], N. Eter[3], M. Alnawaiseh[3]*. [1]Institute for Musculoskeletal Medicine, University Hospital Muenster; [2]Department of Gynecology and Obstetrics; [3]Department of Ophthalmology

354 — *B0546* **Evaluation of a topical corneal cross-linking solution using sodium hydroxymethylglycinate by intravital confocal microscopy in the Dutch-belted rabbit: a follow up report on keratocyte morphologic changes.** *David C. Paik, M. Zyablitskaya, A. Takaoka, J. R. Mehta, E. Hong, S. Fallahi, L. Suh, T. Nagasaki, S. L. Trokel*. Ophthalmology, Columbia University **CR*

ARVO Ballroom

Sunday, April 28, 2019 10:15 AM-11:45 AM

115 ARVO/Alcon Opening Keynote: How cells export proteins and RNA - applications to the treatment of disease

Dr. Schekman's has studied how cells transport proteins from their site of synthesis in the endoplasmic reticulum to their various ultimate destinations inside or outside the cell, using membrane vesicles as a vehicle. His research has involved yeast as a model organism. Additionally, Dr. Geave's work has harnessed the power of yeast genetics to understand this fundamental biological process of intracellular vesicular trafficking.

— How cells export proteins and RNA - applications to the treatment of disease: Randy W. Schekman, PhD, Howard Hughes Medical Institute

ARVO Ballroom

Sunday, April 28, 2019 12:00 PM-12:45 PM

116 Proctor Award and Lecture

Many immune responses are profoundly reduced in the eye – a condition known as “immune privilege”. Ocular immune privilege relies on the generation of regulatory T lymphocytes, which suppress immune-mediated inflammation. Severing nerves during corneal transplantation in one eye abolishes immune privilege in both eyes by disabling T regulatory cells - a phenomenon known as “sympathetic loss of immune privilege” (SLIP). A corneal infection in one eye also abolishes immune privilege in both eyes. This presentation will discuss the role of neuropeptides in SLIP and how SLIP jeopardizes the survival of corneal transplants. However, SLIP’s main importance may be to protect the host from life-threatening infections originating in the eye.

— *12:00* **Introduction: James P. McCulley, M.D**

— *12:05* **— The Eye Sees Eye to Eye with the Immune System - Jerry Niederkorn, PhD, FARVO**

East 1

Sunday, April 28, 2019 1:00 PM-2:30 PM

Biochemistry/Molecular Biology / Retina / Retinal Cell Biology

117 New perspectives on sub-RPE deposit formation: discussing clinical and molecular progress - SIG

One of the hallmarks of age-related macular degeneration (AMD) is the accumulation of sub-retinal pigment epithelial deposits (sub-RPE deposits), including drusen, basal laminar and linear deposits. In this SIG we will discuss how improving clinical imaging modalities and better understanding of the molecular events underlying sub-RPE deposit formation helped and continuously helps us to develop more refined phenotyping of disease progression and started to increases the prospect for earlier and more precise intervention in our battle to alleviate irreversible visual loss at late stage of a disease like AMD.

Moderator: Srinivas R. Sadda

The role of hydroxyapatite formation in AMD. *Imre Lengyel*. Wellcome Wolfson Institute for Experimental Medicine, The Queen's University Belfast, Belfast, United Kingdom **CR*

How single cell sequencing can help to understand sub-RPE deposit formation. *David A. Simpson*. Wellcome Wolfson Institute for Experimental Medicine, The Queen's University Belfast, Belfast, United Kingdom

Detection of the initiation and progression of sub-RPE deposit formation using fluorescence lifetime imaging of hydroxyapatite. *Richard Thompson*. University of Maryland Baltimore, WA

Uncovering the contribution of blood components to sub-RPE deposit formation. *Arthur A. Bergen*. Amsterdam Medical Center, Amstredam, Netherlands

Refinement of clinical image grading of sub-RPE deposit. *Srinivas R. Sadda*. Doheny Eye Institute, CA

Why is this SIG timely? *Imre Lengyel*. Wellcome Wolfson Institute for Experimental Medicine, The Queen's University Belfast, Belfast, United Kingdom

East 2/3

Sunday, April 28, 2019 1:00 PM-2:30 PM

Retina / Genetics / Low Vision

118 Protection, Correction, Regeneration: Are combination therapies in the future for Inherited Retinal Degenerations? - SIG

There are continuing advances in treatment approaches for inherited retinal degenerations (IRDs) with multiple clinical trials for a variety of treatment approachs including gene therapies, cell therapies, drug, neuroprotective and prosthetic devices. We are now seeing combinations of therapies being used in rare and common disease with gene correction combined with cell therapy being one example. In the field of IRD therapy development there are opportunities for gene mutation specific therapies as well as non gene specific approaches that could benefit multiple IRD genotypes. This Special Interest Group Session will bring together a panel and audience of experts in the field to identify and debate the various avenues for treatment of IRDs and the potential for those to be used in combination therapies to arrest and possibly reverse vision loss. Inherited retinal degenerative disease genotypes and phenotypes are highly heterogeneous, however commonalities exist between some of these unique diseases that could benefit from similar treatment approaches. In other rare, and non-rare diseases combination therapies are becoming standards of care.

Moderator: Paul A. Sieving

Panelist Discussion Organizer. *Randy M. Wheelock*. The Choroideremia Research Foundation, Inc., Johnson City, TN **CR*

Panelist Discussion. *Tomas S. Aleman*. [1]Scheie Eye Institute, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA; [2]Center for Advanced Retinal and Ocular Therapeutics, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

Panelist Discussion. *Jacque L. Duncan*. Ophthalmology, University of California San Francisco, San Francisco, CA **CR*

Panelist Discussion. *Ian M. MacDonald*. Opthalmology and Visual Sciences, The University of Alberta, Edmonton, Alberta, Canada

Panelist Discussion. *Mark E. Pennesi*. Casey Eye Institute, Oregon Health and Science University, Portland, OR **CR*

Panelist Discussion. *Stephen H. Tsang*. [1]Opthalmology, Columbia University, New York, NY; [2]Pathology and Cell Biology, Columbia University, New York, NY

East 8&15

Sunday, April 28, 2019 1:00 PM-2:30 PM

Retinal Cell Biology / Biochemistry/Molecular Biology / Retina

119 New ideas about metabolic interactions between photoreceptors and Müller cells - SIG

The close physical contact between photoreceptors and Müller (glial) cells is reflected in 'metabolic symbiosis' involving a multitude of functional interactions that include metabolite exchange, ionic homeostasis and retinoid cycling. The proposed SIG will focus on recent advances in understanding metabolic relationships between Müller cells and photoreceptors, and explore some controversies in the field. The SIG will have three speakers who will make short presentations. Dr. James Hurley will speak on intermediary metabolism in Müller cells and photoreceptors, with an emphasis on the differences between intermediary metabolite exchange in retina and brain. Dr. Gabriel Travis will describe recent progress in elucidating the contribution of Müller cell derived-retinoids in the cone visual cycle. Dr. Cagri Besirli will present studies that attempt to rescue photoreceptor loss by metabolic reprogramming, a potentially novel therapeutic strategy for photoreceptor neuroprotection during acute stress.The presentations will be followed by an open discussion that includes: (1) Specific questions remaining to be addressed in the field of metabolic relationships between retinal neurons and Müller cells; (2) Metabolic changes that occur in diseased retinas; and (3) Development of imaging technologies to study metabolic interactions in vivo.

Metabolic roles of Müller cells: An Introduction. *Vijay P. Sarthy*. Ophthal-Feinberg Med Sch, Northwestern University, Chicago, IL

Energy metabolism in photoreceptors, Müller cells and RPE. *James Hurley*. Biochemistry, University of Washington, Seattle, WA

The role of Müller cells in the regeneration of cone visual pigments. *Gabriel H. Travis*. Ophthalmology, University of California Los Angeles, Los Angeles, CA

Metabolic reprogramming for photoreceptor rescue. *Cagri Besirli*. Ophthalmology and Visual Sciences, University of Michigan Medical School, Ann Arbor, MI **CR*

East 11/12

Sunday, April 28, 2019 1:00 PM-2:30 PM

Cornea

120 Diabetic Keratopathy: An Understudied Corneal Disease - SIG

Diabetes (DM) is the leading cause of blindness in working age adults worldwide. Approximately 23 million people in USA currently have diabetes and another 57 million have pre-diabetes. The long-term effects of both Type I and II DM include heart disease, stroke, neuropathy, and kidney failure. In ocular health, all eye tissues are affected, including the cornea. A significant minority of patients with DM are at high risk of developing corneal erosions, persistent epithelial defects, punctate keratitis, and corneal endothelial damage. A variety of animal models for T1DM and T2DM have been developed to explore these abnormalities and in particular delayed wound healing. This SIG will discuss the latest translational research for the early diagnosis of neuropathy in patients with pre-diabetes and diabetes and highlight the developed animal models of diabetes to better understand the pathophysiology, diagnosis and treatment of diabetic complications.

The Intriguing Role of PPARa in the Diabetic Cornea. *Dimitrios Karamichos*. Ophthalmology & Cell Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

Dysfunction of Neuroimmune communication in the diabetic corneas. *Fushin X. Yu*. Wayne State University School of Medicine, MI

The influence of Vitamin D on Corneal Epithelial Wound Healing in the Diabetic Cornea. *Mitchell A. Watsky*. Augusta University, GA

Emerging targeted therapies for diabetic corneal epithelial disease. *Alexander V. Ljubimov*. University of California Los Angeles, CA

East Ballroom A

Sunday, April 28, 2019 1:00 PM-2:30 PM

Cornea / Immunology/Microbiology

121 Tear film, inflammation and the nervous system—the three pillars of dry eye disease resulting in symptoms of discomfort - SIG

Dry eye syndrome is a chronic disease that affects tens of millions of people worldwide, representing one of the most common ocular pathologies. The traditional approach to treat dry eye focuses on tear replacement with artificial tears or on conserving the patients' tears through occlusion of the tear drainage system, but these therapies can be considered palliative in that they do not control symptoms of disconfort because they do not address the pathogenic process that underlines the disease. This SIG will discuss the recent major advances in better understanding the role of the tear film, ocular surface inflammation, and the nervous system in determing the different forms of dry eye, including new technologies that can help in diagnosing and treating the disease.

Moderators: Stefano Barabino and Pedram Hamrah

Organizer. *Stefano Barabino*. Ospedale L. Sacco, University of Milan, Ocular Surface & Dry eye Center, Italy

Diagnosis and management of neuropathic corneal pain. *Pedram Hamrah*. Tufts Medical Center, MA

Neurostimulation in dry eye disease. *Gabriela Dieckman*. Tufts Medical Center, MA

Causes and consequences of tear film break up. *Kazuo Tsubota*. Keio University Hospital, Dept. of Ophthalmology, Japan

A new way to control ocular surface inflammation in dry eye syndrome. *Claudio Bucolo*. University of Catania, Italy

East Ballroom B

Sunday, April 28, 2019 1:00 PM-2:30 PM

Visual Neuroscience / Biochemistry/Molecular Biology / Genetics / Glaucoma / Immunology/ Microbiology / Physiology/Pharmacology / Retinal Cell Biology / Visual Neuroscience

122 Biomechanical Injury and Inflammatory Signaling in the Eye - SIG

The vertebrate eye is a biomechanically dynamic environment in which cells and tissues experience continuous tensile, compressive and osmotic forces. Specialized mechanotransducers sense and mediate responses to these forces but when excessive can result in tissue damage and blindness. It is becoming clear that an integral feature of biomechanical pathologies of the eye involves inflammatory signaling that is mediated by innate mechanisms expressed in the anterior and posterior eye. These mechanisms include mechanosensitive ion channels and receptors, which are coupled to downstream signaling pathways and release of inflammation-promoting molecules such as purines and cytokines. Presentations in this SIG will cover mechanosensitive mechanisms in front of the eye (cornea, ciliary body and trabecular meshwork) and back of the eye (retinal neurons and glia) with the aim to discern unifying principles that govern the transduction of mechanical stressors together with the molecular signatures that are specific for ocular cell types.

Neuronal and glial mechanotransduction in glaucoma. *David Krizaj*. [1]Ophthalmology & Visual Sciences, Univ of Utah School of Med, Salt Lake City, UT; [2]Neurobiology & Anatomy, University of Utah, Salt Lake City, UT

Inflammatory cell death mechanisms induced by ocular hypertension injury. *Valery Shestopalov*. Bascom Palmer Eye Institute, University of Miami, Miami, FL

Modulation of corneal inflammation by TRPV/A signals. *Shizuya Saika*. Wakayama University, Japan

Astrogliosis in hypertensive glaucoma. *Daniel Sun*. Pathology, Harvard University, Boston, MA

Linking mechanical strain to inflammatory signals through microglia, astrocytes and neurons. *Claire H. Mitchell*. University of Pennsylvania, PA

East Ballroom C

Sunday, April 28, 2019 1:00 PM-2:30 PM

Clinical/Epidemiologic Research / Anatomy and Pathology/Oncology / Genetics

123 Findings of the International Myopia Institute White Paper Reports - SIG

Understanding myopia control in the context of public health is important since the recent rapid rise in the prevalence of myopia globally with projections of myopia revealing that there will be 4.5 billion myopic in 2050. Vision impairment and blindness through myopic macular degeneration and ocular diseases are already a frequent cause of blindness in China and Japan and emerging elsewhere with the growing prevalence of myopia and high myopia predicted. However, there remains a lack of consensus for defining and classifying myopia and associated ocular conditions, little standardization of clinical trials and instrumentation, a wide range of experimental models of emmetropization and myopia, and an ever increasing list of genes linked to myopia. These issues were the specific focuses of four of the International Myopia Institute (IMI) White Papers. The committee chairs will report evidence-based findings and gaps in knowledge and lead a discussion on the implications for research, clinical trials, management, and public health. This is the first opportunity for an open discussion on the findings and recommendations of the White Papers following their recent publication in IOVS.

Moderator: Padmaja Sankaridurg

N/A. *Monica Jong*. [1]Translational Research, Brien Holden Vision Institute, Sydney, New South Wales, Australia; [2]School of Optometry and Vision Science, UNSW Australia, Sydney, New South Wales, Australia

Defining and classifying myopia. *Ian Flitcroft*. [1]Ophthalmology, Children's University Hospital, Dublin, Ireland; [2]Vision Science, Dublin Institute of Technology, Dublin, Ireland

Experimental models of myopia and emmetropization. *David Troilo*. College of Optometry, SUNY, New York City, NY **CR*

Clinical myopia control trials and instrumentation. *James S. Wolffsohn*. Ophthalmic Research Group, Aston University, Birmingham, United Kingdom **CR*

Genetics of myopia. *Caroline C. Klaver*. [1]Ophthalmology, Erasmus Medical Center, Rotterdam, Netherlands; [2]Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands **CR*

West 211

Sunday, April 28, 2019 1:00 PM-2:30 PM

123a Functional Imaging Technologies for Regenerative Medicine

The five teams from the first NEI Audacious Goals Initiative for Regenerative Medicine consortium will give brief updates on their projects and will address how the imaging technology they are developing could be used in regenerative medicine studies. A discussion panel will be moderated by Len Levin, MD, PhD.

West 217-219

Sunday, April 28, 2019 1:00 PM-2:30 PM

124 Grant writing: Early career funding opportunities

This workshop focuses on providing ARVO trainees with advice on strategies to prepare a successful early-career grant application. A panel of experts from government, non-governmental funding agencies and industry, as well as current K99/R00 awardee will provide advice on application preparation and in career development.

Moderators: Wenlin Zhang, Nawajes A. Mandal and Mehrnoosh Saghizadeh

— 1:00 **Introduction**

— 1:05 **Pathway to Independence Award (K99/R00) at NEI.** *Neeraj Agarwal*. National Eye Institute/NIH

— 1:20 **KTEF Career-development award in pediatric ophthalmology.** *John S. Penn[1, 2]*. [1]Ophthalmology and Visual Sciences, Vanderbilt University School of Medicine; [2]Associate Dean, Faculty Affairs, Vanderbilt University School of Medicine

— 1:35 **Alcon Research Institute Grants for Young and Senior Investigators: Supporting Research in Vision Science.** *Matthew E. Helton*. Alcon Laboratories, Inc. **CR*

— 1:50 **My K99 journey: insights from an NEI award recipient.** *Elizabeth Zuniga-Sanchez*. The University of California at Los Angeles

— 2:05 **Questions and panel discussion**

West 220

Sunday, April 28, 2019 1:00 PM-2:30 PM

125 Win-win collaborations between academia and industry

In this time of excess pressure for accelerated growth, corporations are downsizing internal research capabilities and looking to external research contracts and academic partnerships. Thus, academic-Industry collaborations are an increasing source of basic science and technology development funding, fueling high impact innovations across the spectrum of sectors. This workshop will explore the potential impact that these win-win collaborations can provide for research and development programs.

Moderator: Derek Nankivil

— 1:00 **Opening Remarks**

— 1:02 **Introduction**

— 1:05 **The synergistic relationship between industry and academia.** *John R. Buch*. Research & Development, Johnson & Johnson Vision **CR*

— 1:20 **The synergistic relationship between industry and academia.** *Billy R. Hammond*. University of Georgia Library

— 1:35 **Industry-Academic Collaborations for Mutual Benefit: Perspective from a former Academic in Industry.** *Ashwath Jayagopal*. Ophthalmology Discovery and Biomarkers, F. Hoffmann-La Roche Ltd **CR*

— 1:50 **Industry-Academic Collaborations for Mutual Benefit.** *Steven F. Abcouwer*. Ophthalmology & Visual Science, Univ of Michigan Kellog Eye Ctr **CR*

— 2:05 **Q & A**

— 2:15 **Panel Discussion**

West 221/222

Sunday, April 28, 2019 1:00 PM-2:30 PM

126 The importance of animal research in the bench to bedside pipeline

Animal research has many roles in developing treatments for human disease. It is critical for basic science research aimed at identifying potential therapeutic targets. Also, new treatment paradigms utilizing novel technologies, including viral gene delivery, stem cell mediated therapies, and nanoparticles all rely on animal models for development. Furthermore, animal models are used to determine the feasibility, safety and long-term stability of potential therapeutic interventions. It is important to note that animal models are crucial to unraveling and modeling findings from human patients. For instance, animal models have and will play a large role in understanding complex genomic studies and studies exploring the environmental influence in human disease. Thus, not only are animal models important for bringing treatments into the clinic they are also important in a reiterative process that is critical for understanding human disease and personalizing treatments. In this symposium we discuss areas were animal research has driven and will drive the development of treatments and regenerative therapies for blinding diseases.

Moderators: Malia M. Edwards, Andras M. Komaromy and Richard T. Libby

— 1:00 **Using animal models to develop and test therapies for ocular disease.** *Neena B. Haider*. Dept of Ophthalmology, Schepens Eye Research Inst/MEEI **CR*

— 1:15 **Allelic and mechanistic heterogeneity underlie variable expressivity and pleiotropism – a case study in mouse genetics.** *Douglas B. Gould[1, 2]*. [1]Ophthalmology, University of California, San Francisco; [2]Anatomy, UCSF School of Medicine

— 1:30 **Bidirectional Studies in Vision Research: Accelerating the Pace Toward Novel Therapies.** *Monica M. Jablonski[1, 2]*. [1]Hamilton Eye Institute, Univ Tennessee Health Sci Ctr; [2]OculoTherapy, LLC **CR*

— 1:45 **A transgenic biosensor mouse model for monitoring ocular-surface health, disease and therapeutic outcome.** *Nick Di Girolamo*. School of Medical Sciences - Pathology, University of New South Wales

— 2:00 **Using animal models to discover therapeutic targets.** *Cynthia L. Grosskreutz[1, 2]*. [1]Ophthalmology, Novartis Inst for Biomedical Research; [2]Ophthalmologty, Massachusetts Eye & Ear Infirmary **CR*

— 2:15 **Q&A**

West 223/224

Sunday, April 28, 2019 1:00 PM-2:30 PM

Low Vision Group

127 Low Vision Group - The effects of mesopic light levels on vision and functional activities

This session will include an overview of how mesopic light levels affect visual processing. In addition, it will include presentations on measures of Patient Reported Outcomes, visual function and mobility and falls under low light levels for patients with and without eye disease.

Moderators: Joanne M. Wood, Nicole C. Ross and Walter Wittich

— 1:00 **A mini-review of how mesonic light levels affect visual processing.** *Aaron Johnson*. Psychology, Concordia University

— 1:18 **Mesopic microperimetry and age-related macular degeneration.** *Lauren N. Ayton[1, 2]*. [1]Bionic Eye Technologies; [2]Surgery (Ophthalmology), University of Melbourne **CR*

— 1:36 **Patient reported outcome measures targeted at low luminance activities.** *Cynthia Owsley*. Ophthalmology, University of Alabama at Birmingham **CR*

— 1:54 **Mobility and falls under low light levels.** *Bonnielin K. Swenor[1, 2]*. [1]Ophthalmology, Johns Hopkins Wilmer Eye Institute; [2]Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health

— 2:12 **Impact of mesopic test conditions on visual function measures in retinitis pigmentosa versus normals.** *Ava K. Bittner[2, 1]*. [1]Optometry, Nova Southeastern University, College of Optometry; [2]Stein Eye Institute, UCLA **CR*, ↗

West 301

Sunday, April 28, 2019 1:00 PM-2:30 PM

128 China-ARVO networking forum

This is the 14th annual China – ARVO Networking Forum. The purpose of this event is to provide a platform for vision researchers from China, the USA and other country to interact, discuss and exchange knowledge in the field of vision research & ophthalmology and to promote collaboration among the scientists. Speakers include leading ophthalmic researchers from China, the USA and other country. At the upcoming meeting, topics will align with the 2019 ARVO "Bench to Bedside and Back" theme that will show the advanced researches in major blindness eye diseases. Everyone is welcome to attend the meeting; a limited lunch will be provided.

Moderators: Ningli Wang, Wei Li and Hossein Ameri

— 1:00 **Opening Remarks**

— 1:05 **OCAVER Award**

— 1:25 **The importance of targeting trabecular outflow for the treatment of glaucoma.** *W Daniel Stamer*. Ophthalmology, Duke University **CR*

— 1:35 **Microvasculature and Microcirculation analysis in ocular diseases.** *Jin Yuan[1, 2]*. [1]cornea, ZhongShan Opthalmic Center; [2]Sun Yat-sen University ↗

— 1:45 **A Bioengineered Cornea: Just around the corner?** *Gerard Sutton[2, 1]*. [1]Save Sight Institute, Sydney University; [2]Lions NSW Eye Bank

— 1:55 **Sampling, Measurement, and Management Methods of the Shanghai Diabetic Eye Study (SDES).** *Haidong Zou[1, 2]*. [1]Shanghai General Hospital, Shanghai Jiao Tong University; [2]Shanghai Eye Diseases Prevention & Treatment Center/ Shanghai Eye Hospital

— 2:05 **CRISPR-Cas9 gene editing in the treatment of autosomal dominant retinitis pigmentosa.** *Hossein Ameri*. USC Roski Eye Institute, Keck School of Medici, USC Roski Eye Institue, Univ. Southern California **CR*

— 2:15 **Q&A**

West Exhibition Hall A0232-A0252

Sunday, April 28, 2019 1:00 PM-2:45 PM

Retina

129 AMD therapies (excluding anti-VEGF)

Moderator: Scott H. Greenwald

355 — *A0232* **Small PEDF-derived peptides mitigate choroidal neovascularization.** *Jack Henkin[1], I. Melgar-Asensio[1], S. R. Darjatmoko[2], S. Wang[2], C. M. Sorenson[6], D. M. Albert[3], R. Bhowmick[4], O. Volpert[5], N. Sheibani[2]*. [1]Chemistry, Northwestern University; [2]Ophthalmology & Visual Sciences, University of Wisconsin School of Medicine; [3]Casey Eye Institute, Oregon Health Sciences University; [4]Thoracic & Cardiovascular Surgery, MD Anderson Cancer Center; [5]Cancer Biology, MD Anderson Cancer Center; [6]Pediatrics, University of Wisconsin School of Medicine **CR*

356 — *A0233* **Short Term Effects of Carbidopa-Levodopa in Neovascular AMD.** *Brennan M. Boyd[1], T. Fagan[2], A. G. Figueroa[3], B. S. McKay[3], R. W. Snyder[2]*. [1]College of Medicine, University of Arizona; [2]SnyderBiomedical; [3]Ophthalmology and Vision Science, University of Arizona **CR*, ↗

357 — *A0234* **Kaempferol protects retinal function in a mouse model of light-induced retinal damage.** *Jonathan Noguchi[1], Z. Tan[2], J. F. McDonnell[1], J. I. Perlman[1], P. Bu[1]*. [1]Ophthalmology, Loyola University Medical Center; [2]Ophthalmology, University of California, Irvine

358 — *A0235* **Effects of the Mitochondria-Targeted Drug Elamipretide on Leakage-Independent Vision Loss in Fellow Eyes with Neovascular AMD in the ReCLAIM Study.** *Priyatham S. Mettu, M. J. Allingham, S. W. Cousins*. Ophthalmology / Duke Eye Center, Duke University School of Medicine **CR*, ↗

359 — *A0236* **Does Brimonidine DDS Reduce the Geographic Atrophy Lesion Perimeter Hyperautofluorescence Over Time?** *Amber Lewis[1, 3], I. Kravtsova[2], K. Kerr[3], Y. Li[3], W. Schmidt[3], F. López[3]*. [1]School of Pharmacy, USC; [2]Keck Graduate Institute School of Pharmacy and Health Sciences; [3]Allergan **CR*

360 — *A0237* **Robust Generation of Photoreceptor Precursors from Human Pluripotent Stem Cells Using a Scalable 3D Bioreactor System.** *Qiang Feng, C. Chen, J. Zhang, S. Lu*. Hebecell Corp **CR*

361 — *A0238* **Elamipretide, a Mitochondrial-Targeted Drug, for the Treatment of Vision Loss in Dry AMD with High Risk Drusen: Results of the Phase 1 ReCLAIM Study.** *Michael J. Allingham, P. S. Mettu, S. W. Cousins*. Ophthalmology, Duke Eye Center **CR*, ↗

362 — *A0239* **Triptolide inhibits experimental choroidal neovascularization in mice by modulating focal inflammatory microenvironment through macrophages.** *Kunbei Lai, Y. Gong, L. Li, C. Huang, F. Xu, C. Jin*. Zhongshan Ophthalmic Center, Sun Yat-sen University

363 — *A0240* **The Use of Photodynamic Therapy in Exudative Age Related Macular Degeneration for Subretinal Fluid Refractory to Anti-VEGF Treatment.** *Michelle Peng[1, 2], R. Johnson[1, 2]*. [1]West Coast Retina; [2]California Pacific Medical Center

364 — *A0241* **The local and systemic effects following subthreshold nanosecond laser treatment to the posterior retina.** *Quan Findlay[1], A. I. Jobling[1], K. A. Vessey[1], U. Greferath[1], P. Avula[3], B. Gu[3], R. H. Guymer[2, 4], E. L. Fletcher[1]*. [1]Anatomy and Neuroscience, University of Melbourne; [2]Centre for Eye Research Australia; [3]Florey institute of Neuroscience and Mental Health; [4]Surgery, University of Melbourne

365 — *A0242* **The Notch and TGF-β signaling pathways interact and contribute to retinal fibrosis-results from an *in vitro* study.** *Jiawen Fan[2, 1], M. C. Gillies[2], L. Zhu[2], T. Zhang[2], G. Xu[1], W. Shen[2]*. [1]Department of Ophthalmology and Vision Sciences, Eye and ENT Hospital, Fudan University; [2]Discipline of Ophthalmology, Sydney Medical School, The University of Sydney, Save Sight Institute

366 — *A0243* **Stabilization and supporting blood vessel growth as a new concept to treat wet AMD.** *Sylvie Julien[1, 2], A. Tschulakow[1, 2], H. Thakkar[1, 2], S. Liu[1], B. Illing[1], U. Schraermeyer[1, 2]*. [1]Center for Ophthalmology, Institute for Ophthalmic Research Tuebingen; [2]STZ OcuTox (www.ocutox.com) **CR*

367 — *A0244* **IDB0062, a dual targeting protein for enhanced anti-angiogenic effect for several ocular diseases.** *Seongbeom Kim[1], S. Yang[1], K. Min[1], B. Kim[1], J. Kim[2], H. Kwon[1], S. Choi[1]*. [1]Ildong pharmaceutical, Republic of Korea; [2]FARB(Fight against Angiogenesis-Related Blindness) Laboratory, Clinical Research Institute, Seoul National University Hospital

368 — *A0245* **P2X7 antagonist attenuates retinal inflammation and neovascularization induced by oxidized low density lipoprotein in mice.** *Mingzhu Yang*. Henan Eye Hospital, Henan Provincial People's Hospital

369 — *A0246* **Inhibition of Microfibrillar-associated Protein 4 as a Potential Therapy Targeting Choroidal Neovascularisation in Age-related Macular Degeneration.** *Andew Benest[1], A. P. Lynch[1], A. Schlosser[2], U. Holmskov[2], G. L. Sorensen[2], D. O. Bates[1]*. [1]Division of Cancer and Stem Cells, University of Nottingham; [2]University of Southern Denmark **CR*

370 — *A0247* **Vitrectomy With or Without Drainage of Subretinal Hemorrhage for Breakthrough Vitreous Hemorrhage Secondary to Polypoidal Choroidal Vasculopathy.** *PENG SUN, F. Gu, H. Zhang, Z. Liu*. Ophthalmology, 1st Affiliated Hospital of China Medical University

371 — *A0248* **The effect of varying dosage and fluence setting of Verteporfin on choroidal vasculature in a rodent model.** *PENG QIN[1], I. Wong[2]*. [1]Ophthalmology, Chongqing Medical University; [2]The University of Hong Kong

372 — *A0249* **Efficacy & Tolerability of OTX-TKI, a Sustained Hydrogel Delivery System for a Tyrosine Kinase Inhibitor, in a VEGF Induced Retinal Leakage Model: 1 Year Results.** *Peter K. Jarrett, R. F. Elhayek, E. Kahn, S. Takach, J. Metzinger, M. H. Goldstein*. Ocular Therapeutix **CR*

373 — *A0250* **Generation of adeno-associated virus vector for RPE delivery of secretory antibody fragment.** *Peter Shaw, Z. Lu, V. Lin, A. May, Z. Wang*. UC San Diego

374 — *A0251* **Pegylated CB2782: a Complement Factor C3-Inactivating Protease and Potential Long-Acting Treatment for Dry AMD.** *Eric Furfine[1], A. Rao[1], S. Baker[1], M. Connacher[1], A. Kazanstev[1], B. Kumar[2], G. Blouse[2], M. Stanton[1], M. Traylor[1]*. [1]Mosaic Biosciences; [2]Catalyst Biosciences **CR*

375 — *A0252* **Taurocholic acid prevents progression of age-related macular degeneration in *in vitro* models.** *Joshua M. Barnett, C. Warden, M. A. Brantley*. Vanderbilt Eye Institute, Vanderbilt University Medical Center

West Exhibition Hall A0367-A0420

Sunday, April 28, 2019 1:00 PM-2:45 PM

Biochemistry/Molecular Biology

130 Gene variants and regulation of ocular genes expression in health and disease

Moderators: Cristhian J. Ildefonso and Donita Garland

376 — *A0367* **Phenotypic variability in patients with *CDHR1* mutations.** *David A. Terrell, R. M. Huckfeldt, E. A. Pierce, E. M. Place*. Ophthalmology, Massachusetts Eye and Ear Infirmary

377 — *A0368* **_ABCA4_-associated disease as a model for missing heritability in autosomal recessive disorders: novel non-coding splice, _cis_-regulatory, structural and recurrent hypomorphic variants.** *Miriam Bauwens[1], A. Garanto[2, 7], S. Naessens[1], N. Weisschuh[3], J. De Zaeytijd[4], M. Khan[2], F. Sadler[3], S. Kohl[3], B. Wissinger[3], t. cherry[5, 6], R. W. Collin[2], F. P. Cremers[2], B. P. Leroy[4, 1], E. De Baere[1]*. [1]Center for Medical Genetics, Ghent University; [2]Radboud University Medical Center, Radboud University; [3]Institute for Ophthalmic Research, University of Tuebingen; [4]Department of Ophthalmology, Ghent University Hospital; [5]Department of Pediatrics, University of Washington School of Medicine; [6]Center for Developmental Biology and Regenerative Medicine, Seattle Children's Research Institute; [7]Ocular Genomics Insitute, Department of Ophthalmology, Massachusetts Eye and Ear Infirmary and Harvard Medical School

378 — *A0369* **Germline Mutations in _CTNNB1_ Associated with syndromic FEVR or Norrie Disease.** *Wenmin Sun, X. Xiao, S. Li, X. Jia, P. Wang, Q. Zhang*. State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-Sen University

379 — *A0370* **Mutations in splicing factors that cause Retinitis Pigmentosa (RP) do not affect splicing in a global manner.** *Revital Bronstein[1], S. Mehrotra[1], E. E. Capowski[2], L. Foltz[3], M. H. Farkas[4], D. M. Gamm[2], D. O. Clegg[3], E. A. Pierce[1]*. [1]Mass Eye and Ear; [2]University of Wisconsin-Madison; [3]UCSB; [4]State University of New York at Buffalo

380 — *A0371* **Biallelic Mutations in a Novel Gene _FAM***_ are Associated with Inherited Retinal Dystrophies.** *Zhen Yii, Q. Zhang*. Zhongshan Ophthalmic Center, Sun Yat-sen University

381 — *A0372* ***Mutations in* WDR34 *is a rare cause of non-syndromic autosomal recessive rod-cone dystrophy*.** *Isabelle S. Audo[1, 2], M. Solaguren-Beascoa[1], K. Bujakowska[3], C. Méjécase[1], L. Emmengger[1], S. Mohand-Said[2], T. D. Leveillard[1], E. A. Pierce[3], H. Dollfus[4], J. A. Sahel[1, 2], S. Bhattacharya[5], C. Zeitz[1]*. [1]Department of Genetics, Inst de la Vision/INSERM/UPMC/CNRS/CHNO; [2]DHU Sight Restore, INSERM-DHOS CIC1423, CHNO des Quinze-Vingts; [3]Department of Ophthalmology, Ocular Genomics Institute, Massachusetts Eye and Ear Infirmary, Harvard Medical School; [4]Centre de Référence pour les Affections Rares en Génétique Ophtalmologique, Hôpitaux Universitaires de Strasbourg; [5]UCL-Institute of Ophthalmology

382 — *A0373* **Recurrent heterozygous missense variants in the PAX6 paired domain cause severe microphthalmia.** *Hildegard Nikki Hall[1], K. A. Williamson[1], I. M. Hanson[1], L. J. Owen[1], H. Bengani[1], V. van Heyningen[1, 2], J. A. Marsh[1], D. R. Fitzpatrick[1]*. [1]MRC Human Genetics Unit, MRC Institute of Genetics and Molecular Medicine; [2]Institute of Ophthalmology, University College London

383 — *A0374* **Analysis of Irish Inherited Retinal Degeneration Patients with _ABCA4_ Gene Mutations.** *Niamh Wynne[1], K. Collins[1], H. Dempsey[1], K. Stephenson[2], D. J. Keegan[2], G. Silvestri[3], A. Dockery[4], G. Farrar[4], P. F. Kenna[4, 1]*. [1]Research Foundation, Royal Victoria Eye and Ear Hospital; [2]Ophthalmology, Mater Misericordiae University Hospital, Dublin, Ireland; [3]Ophthalmology, Department of Ophthalmology, The Royal Victoria Hospital, Belfast, Ireland; [4]Ocular genetics unit, Trinity College Dublin

384 — *A0375* **Mutational analysis of the _PABPN1_ gene in oculopharyngeal muscular dystrophy.** *Cristina Plata, H. Pérez, H. López, G. Graue Moreno, M. Astiazaran*. Hospital Nuestra Señora de la Luz IAP

385 — *A0376* **Whole exome sequencing-based copy number variant detection in inherited retinal disease.** *Frauke Coppieters[1], S. Van de Sompele[2], K. Van Schil[2], T. Van Laethem[2], R. Six[2], S. De Jaegere[1], F. Meire[3], M. De Vries[3], I. Balikova[4], J. De Zaeytijd[4], B. P. Leroy[1, 4], T. Rosseel[1], E. De Baere[2]*. [1]Center for Medical Genetics Ghent, Ghent University Hospital; [2]Center for Medical Genetics Ghent, Ghent University; [3]Department of Ophthalmology, Hôpital Universitaire des Enfants Reine Fabiola; [4]Department of Ophthalmology, Ghent University Hospital

386 — *A0377* **NEI Ocular Proteome Database: A Description of Inherited Eye Disease Proteins and Their Stability Changes by a Computational Global Mutagenesis.** *Claudia Kassouf, C. McCafferty, Y. V. Sergeev, F. Wood Ortiz*. Ophthalmic Genetics and Visual Function Branch, National Eye Institute/National Institute of Health

387 — *A0378* **Novel mutations associated with keratoconus found by a bioinformatic approach.** *Daniela Gomez-Elizondo, M. Lopez-Martinez, J. Zavala, J. Valdez-García, V. Treviño*. Tecnológico de Monterrey

388 — *A0379* **Reduced expression of "normal" _ABCA4_ alleles in iPS-derived RPE cells from Stargardt Disease patients.** *Anna Matynia[1], S. Karumbayaram[2, 3], S. Strom[4], J. Hu[1], N. Kady[1], R. A. Radu[1], M. B. Gorin[1]*. [1]Ophthalmology, Stein Eye Institute; [2]Eli and Edythe Broad Stem Cell Research; [3]Microbiology, Immunology and Molecular Genetics, UCLA; [4]Fulgent Genetics

389 — *A0380* **The number of _RPGR_ cases remains under-represented.** *Elise Heon[1, 2], A. Vig[2], E. Tavares[2], A. Vincent[1, 2]*. [1]Ophthalmology & Vision Sciences, Hospital for Sick Children; [2]Genetics and Genomic Biology, The Hospital for Sick Children **CR*

390 — *A0381* **Improving diagnostic yield in a large inherited retinal dystrophy cohort with high-throughput, NGS-based CNV calling -- a clinical evaluation of detection criteria and limitations.** *Nicholas K. Wang[1], J. Duan[1], C. Kohnert[1], G. Goh[1], W. Zhou[2], J. Chiang[1]*. [1]Molecular Vision Laboratory; [2]Centrillion Technologies **CR*

391 — *A0382* **High myopia with alopecia areata in cranial midline–COL18A1 and LAMA1 mutant.** *Panfeng Wang, X. Xiao, S. Li, X. Jia, Q. Zhang*. Zhongshan Ophthalmic Center

392 — *A0383* **Comprehensive understanding of the phenotype-genotype of Heimler syndrome.** *fengjuan gao, W. Jihong*. ophthalmology, EYE AND ENT hospital

393 — *A0384* **Genome landscape and clinical correlations in retinitis pigmentosa in a large cohort of the Chinese population.** *Wu Jihong, F. Gao*. Ophthalmology, Eye And Ent Hospital

394 — *A0385* **Genetic association of SNPs in corneal remodeling genes – MMP2, MMP9, LOX1, ALDH3A1 and SPARC – with Keratoconus patients in Korean.** *Choun-Ki Joo, J. Mok*. Catholic Institutes of Visual Science, Catholic Univ Korea Coll of Med

395 — *A0386* **Testing for North Carolina Macular Dystrophy (NCMD) Variations.** *Markus N. Preising, M. Platschek, B. Lorenz*. Laboratory of Molecular Ophthalmology, Justus-Liebig University

396 — *A0387* ***CAPN5* genetic inactivation phenotype supports therapeutic inhibition trials.** *Katherine Wert[1], S. F. Koch[2], G. Velez[1], C. Hsu[3], M. Mahajan[1], A. G. Bassuk[4], S. H. Tsang[3], V. B. Mahajan[1]*. [1]Stanford University School of Medicine; [2]Physiological Genomics, Ludwig Maximillians University Munich; [3]Ophthalmology, Columbia University; [4]Pediatrics, University of Iowa

397 — *A0388* **Genetic variations in _Bestrophin-1_ and Related Clinical Findings between Chinese patients with juvenile-onset and adult-onset best vitelliform macular dystrophy.** *Ying Lin, X. Huang, L. Lu*. State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

398 — *A0389* **Report of five families with autosomal recessive Bestrophinopathies (ARB).** *Habibi Imen[1], Y. Falfoul[2], M. Todorova[3], S. Wyrsch[4], D. F. Schorderet[1], L. El Matri[2]*. [1]Institute for Research in Ophthalmology (IRO); [2]Hedi Rais Institute of Ophthalmology (Department B), LR14SP01; [3]Department of Ophthalmology, University of Basel, Basel; [4]Eye Clinic, Lucerne Cantonal Hospital

399 — *A0390* ***CSDE1* haploinsufficiency associated with ocular developmental abnormalities in human and zebrafish.** *Sairah Yousaf, J. Liu, M. R. Ahmed, R. Hufnagel*. Medical Genetics and Ophthalmic Genomics Unit, National Eye Institute, National Institutes of Health

400 — *A0391* **Prevalence and genetic characteristics of *RPE65*-associated retinal disease.** *Tero-Pekka Alastalo[1], K. Kämpjärvi[1], L. Guidugli[1], J. Känsäkoski[1], K. Wells[1], H. Västinsalo[1], L. Sarantaus[1], P. Salmenperä[1], S. Myllykangas[1], E. K. Sankila[2], J. Koskenvuo[1], S. Tuupanen[1]*. [1]Blueprint Genetics; [2]University of Helsinki **CR*

401 — *A0392* **Genetic basis of inherited retinal disease in a UK cohort of over 2900 families.** *Omar A. Mahroo[1, 2], N. PONTIKOS[1, 2], G. Arno[1, 2], R. Ba-Abbad[2, 1], S. Malka[1, 2], G. Wright[1, 2], M. Armengol[1, 2], M. Katz[2], A. Moore[3, 1], M. Michaelides[1, 2], A. Webster[1, 2]*. [1]Ophthalmology, UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital; [3]University of California San Fransisco

402 — *A0393* **Pathogenicity of five new variants of BEST-1 gene among an Italian cohort: a multicentric study.** *Giulia Delledonne[1], A. Salvetti[1], M. Oldani[1], P. Maltese[2], M. Bertelli[2], L. Ziccardi[3], B. Falsini[4], V. Frecer[5], G. Staurenghi[1]*. [1]Department of Biomedical and Clinical Science "Luigi Sacco"; [2]MAGI'S LAB - Medical Genetics Laboratory, MAGI; [3]IRCCS Fondazione G.B. Bietti; [4]Dipartimento per l'assistenza sanitaria di Scienze Oftalmologiche e Otorinolaringoiatriche, Policlinico Universitario "A. Gemelli"; [5]Department of Physical Chemistry of Drugs, Faculty of Pharmacy, Comenius University in Bratislava **CR*

403 — *A0394* **Detection of clinically relevant genetic variants in nanophthalmos by whole genome sequencing.** *Zhigang Fan[1], C. Guo[1], Z. Zhao[1], D. Chen[1], S. He[4], N. Sun[1], Z. Li[1], J. Liu[1], D. Zhang[1], J. Zhang[1], J. Li[1], M. Zhang[1], S. Yu[4], W. Zhao[4], J. Liu[4], X. Zhang[2, 3]*. [1]Zhongshan Ophthalmic Center; [2]Section of Biomedical Genetics, Department of Medicine, Boston University School of Medicine; [3]Department of Biostatistics, Boston University School of Public Health; [4]Guangzhou KingMed Diagnostics

404 — *A0395* **Clinical and genetic characterization of Pseudoxanthoma Elasticum patients.** *Iyar Sheps[1, 2], C. Weiner[2], N. Shoshany[1, 2], E. Pras[1, 2]*. [1]Ophthalmology, Assaf Harofeh Hospital; [2]Matlow's Ophthalmogenetic laboratory, Assaf Harofe Medical Center

405 — *A0396* ***TTR* mutations and clinical characteristics of patients with vitreous amyloidosis.** *Xiaohui Zhang, K. Xu, X. Xu, Y. Li*. Beijing Institute of Ophthalmology, Beijing Tongren Hospital

406 — *A0397* **Investigating the Effect of a *PEX6* Mutation on Peroxisome Structure and Function.** *Matthew D. Benson, I. M. MacDonald*. Ophthalmology and Visual Sciences, University of Alberta

407 — *A0398* **Worldwide Carrier Frequency Analysis of Mutations Causing Autosomal Recessive Inherited Retinal Diseases.** *Mor Hanany[1], S. Meyer[1], C. Rivolta[2, 3], D. Sharon[1]*. [1]Department of Ophthalmology, Hadassah-Hebrew University Medical Center; [2]Department of Computational Biology, Unit of Medical Genetics, University of Lausanne; [3]Department of Genetics and Genome Biology, University of Leicester

408 — *A0399* **Retinal phenotypic characterization of a Brazilian cohort of patients with homozygous ABCA4 alleles.** *Fernanda B. Porto[3], S. A. Sampaio[3], S. T. Renata[4], R. Chen[1], J. Chiang[2]*. [1]Baylor College of Medicine; [2]Molecular Vision Laboratory; [3]INRET Clinica e Centro de Pesquisa; [4]Instituto de Ensino e Pesquisa Santa Casa Belo Horizonte

409 — *A0400* **Genome-wide screening of gene-gene interaction between HLA risk factors and other genes in Behçet's disease.** *Akira Meguro[1], T. Yamane[1], M. Takeuchi[1], M. Ota[1, 2], N. Mizuki[1]*. [1]Department of Ophthalmology, Yokohama City University School of Medicine; [2]Department of Medicine, Division of Hepatology and Gastroenterology, Shinshu University School of Medicine

410 — *A0401* **Novel OPA1 gene mutations in Japanese patients with optic atrophy.** *SHIGERU SATO, N. Hashida, T. Morimoto, K. Hotta, T. Fujikado, K. Nishida*. Osaka University

411 — *A0402* **The Liberfarb syndrome, a multisystem disorder including early-onset retinal degeneration, is caused by a founder mutation in the *PISD* gene in patients from Portugal, Brazil, and the Azores islands.** *Virginie G. Peter[1], M. Quinodoz[1], J. Pinto-Basto[2], S. De Sousa[3, 4], S. Di Gioia[5], G. Soares[6], G. Ferraz Leal[7], E. Silva[8], E. Engle[5, 9], N. Miyake[10], N. Matsumoto[10], S. Unger[11], F. Shapiro[12], B. Campos-Xavier[11], A. Superti-Furga[11], C. Rivolta[1, 13]*. [1]Department. of Computational Biology, University of Lausanne; [2]CGC Genetics; [3]Medical Genetics Unit, Hospital Pediátrico, Centro Hospitalar e Universitário de Coimbra; [4]University Clinic of Genetics, Faculty of Medicine, University of Coimbra; [5]Boston Children's Hospital and Harvard Medical School; [6]Center for Medical Genetics Dr. Jacinto Magalhães, Porto Hospital Center; [7]Fernando Figueira Integral Medicine Institute; [8]Centro Cirúrgico de Coimbra; [9]Howard Hughes Medical Institute; [10]Department of Human Genetics, Graduate School of Medicine, Yokohama City University; [11]Division of Genetic Medicine, Lausanne University Hospital; [12]Department of Medicine/Endocrinology, Stanford University School of Medicine; [13]Dept. of Genetics and Genome Biology, University of Leicester

412 — *A0403* **A novel SVA retrotransposon insertion in *CHM* results in loss of REP-1 protein causing choroideremia.** *Kaylie Webb-Jones[1], a. radziwon[3], D. G. Birch[1, 2], I. M. MacDonald[3]*. [1]Retina Foundation of the Southwest; [2]Dept. of Ophthalmology, UT Southwestern Medical Center; [3]Department of Ophthalmology and Visual Sciences, University of Alberta

413 — *A0404* **Non-penetrance in a family with *PAX6*-related autosomal dominant nystagmus.** *Vijay Tailor[1, 2], C. Way[2], N. Owen[2], M. Theodorou[1], M. Moosajee[1, 2]*. [1]Moorfields Eye Hospital; [2]UCL Institute of Ophthalmology

414 — *A0405* **Mutation Screening of *OPA1* in a cohort Chinese patients with Suspected Autosomal Dominant Optic Atrophy.** *YUE XIE, T. Xiao, K. Xu, X. Zhang, Y. Li*. Beijing institute of Ophthalmology, Beijing tongren hospital

415 — *A0406* **A *CCDC51* frameshift variant as a candidate gene defect for autosomal recessive rod-cone dystrophy.** *Christina Zeitz[2], C. Méjécase[2], S. Mohand-Saïd[1, 2], L. Emmengger[2], A. Schalk[2], M. Neuillé[2], E. Orhan[2], F. Blond[2], C. Prévot[1, 3], S. Sandra Chantot-Bastaraud[4, 5], T. D. Leveillard[2], J. A. Sahel[2, 1], I. S. Audo[2, 1]*. [1]CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DGOS CIC1423; [2]Sorbonne Université, INSERM, CNRS, Institut de la Vision; [3]Fondation Ophtalmologique Adolphe de Rothschild; [4]APHP, Hôpital Armand-Trousseau, Département de Génétique, UF de Génétique Chromosomique; [5]Sorbonne Université, GRC n°19, Pathologies Congénitales du Cervelet-LeucoDystrophies, APHP, Hôpital Armand Trousseau

416 — *A0407* **Retina Has Significant Protective Mechanisms to Eliminate Mitochondria DNA Heteroplasmy SNPs Compared to Blood.** *Cristina Kenney[1, 2], M. Chwa[1], S. Atilano[1]*. [1]Ophthalmology, Gavin Herbert Eye Institute, UC Irvine; [2]Department of Pathology and Laboratory Medicine, University of California Irvine

417 — *A0408* **Dominant optic atrophy (DOA): not only OPA1.** *Giulia Amore[1], C. La Morgia[1, 2], M. Carbonelli[2, 3], L. Caporali[2], F. Tagliavini[2], P. Flavia[2], V. Carelli[1, 2]*. [1]Department of Biomedical and Neuromotor Sciences, University of Bologna; [2]IRCCS Institute of Neurological Sciences of Bologna, Bellaria Hospital.; [3]Studio Oculistico D'Azeglio, Bologna

418 — *A0409* **Pathognomonic clinical features of non-typical cone dystrophy with hearing impairment caused by loss-of-function variants in *CEP250*.** *Suzanne E. de Bruijn[1, 2], L. Haer-Wigman[1, 2], M. J. Tjon-Fo-Sang[3], H. Kremer[4, 2], F. P. Cremers[1, 2], S. Roosing[1, 2], L. I. van den Born[3]*. [1]Department of Human Genetics, Radboud university medical center; [2]Donders Institute for Brain Cognition and Behaviour; [3]The Rotterdam Eye Hospital; [4]Department of Human Genetics and Otorhinolaryngology, Radboud University Medical Center

419 — *A0410* **Digenic triallelic inheritance in cone photoreceptor cyclic nucleotide gated channel associated retinopathies.** *Susanne Kohl[1], M. Burkard[2, 3], T. Kraetzig[2], N. Tanimoto[1], B. Baumann[1], M. Biel[4], R. Lukowski[2], M. W. Seeliger[1], S. Michalakis[4], B. Wissinger[1], P. Ruth[2]*. [1]Centre for Ophthalmology, Inst for Ophthalmic Rsrch Tuebingen; [2]Department of Pharmacology, Toxicology and Clinical Pharmacy, Institute of Pharmacy, University of Tuebingen; [3]Department of Vegetative and Clinical Physiology, University of Tuebingen; [4]Center for Integrated Protein Science Munich CiPSM and Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-University Munich

420 — *A0411* **Identification of splicing defects due to deep-intronic or non-canonical splice site variants in *ABCA4*.** *Zeinab Fadaie[1, 2], M. Khan[1, 2], F. P. Cremers[1, 2], S. Roosing[1, 2]*. [1]Department of Human Genetics, Radboud University Medical Center; [2]Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center

421 — *A0412* **A whole exome sequencing-based panel assay with boosted clinical content generates a high diagnostic yield in patients with inherited eye diseases.** *Kati Kämpjärvi[1], K. Wells[1], M. Mehine[1], J. Känsäkoski[1], L. Sarantaus[1], H. Västinsalo[1], J. Schleit[2], I. Saarinen[1], M. Muona[1], S. Myllykangas[1], T. Alastalo[2], J. Koskenvuo[1], J. Paananen[1], S. Tuupanen[1]*. [1]Blueprint Genetics; [2]Blueprint Genetics **CR*

422 — *A0413* **NMNAT1 is the most frequently mutated gene in Leber congenital amaurosis in South Korea.** *Dongheon Surl, J. Lee, S. Byeon, C. S. Lee, J. Han*. Ophthalmology, Severance hospital

423 — *A0414* **The identification of a RNA splice variant in *TULP1* in two siblings with early-onset photoreceptor dystrophy.** *Susanne Roosing[1, 2], S. K. Verbakel[3, 2], Z. Fadaie[1, 2], J. Klevering[3, 2], M. M. van Genderen[4, 5], I. Feenstra[1, 2], F. P. Cremers[1, 2], C. C. Hoyng[3, 2]*. [1]Department of Human Genetics, Radboud University Medical Center; [2]Donders Institute for Brain, Cognition and Behavior, Radboud University Medical Center; [3]Department of Ophthalmology, Radboud University Medical Center; [4]Bartiméus Diagnostic Center for Complex Visual Disorders; [5]Department of Ophthalmology, University Medical Center Utrecht

424 — *A0415* **Modelling Sorsby's Fundus Dystrophy using patient-derived iPSC-RPE.** *Jennifer Dewing[1], D. R. Christensen[1], H. Hongisto[2], J. Scott[1], B. Jenkins[1], A. J. Cree[1], H. Skottman[2], J. Ratnayaka[1], A. Lotery[1]*. [1]Clinical Neurosciences, University of Southampton; [2]University of Tampere

425 — *A0416* **High myopia and strabismus induced by a deep intronic mutation in *COL2A1*.** *Shirel Weiss[1, 4], N. Orenstein[2], A. Zahavi[3], N. Goldenberg-Cohen[1, 4]*. [1]the Krieger eye research laboratory , Tel Aviv University; [2]Genetics, Schneider Children's medical center; [3]Ophthalmology, Rabin Medical Center; [4]Rapport faculty of medicine, Technion

426 — *A0417* **A frequent variant in the Japanese population determines quasi-Mendelian inheritance of rare retinal ciliopathy.** *Carlo Rivolta[1, 2]*. [1]Department of Computational Biology, University of Lausanne; [2]Department of Genetics and Genome Biology, University of Leicester

427 — *A0418* **microRNAs expression profiling in retinal and choroidal tissues in an oxygen-induced retinopathy (OIR) model.** *michel desjarlais, J. Rivera, i. lahaie, S. Chemtob*. ophtalmology, centre de recherche hopital maisonneuve rosemont (CRHMR)

428 — *A0419* **Transcriptional profiling of pterygium related genes and pathways.** *Yaping Jiang[1], Y. Chen[1], C. Yang[2], Q. Wang[3]*. [1]Yangpu District Central Hospital; [2]Southeast University-Nanjing-210009-China; [3]CAS Key Laboratory of Computational Biology, Collaborative Innovation Center for Genetics and Developmental Biology, CAS-MPG Partner Institute for Computational Biology, Shanghai Institutes for Biological Sciences, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Shanghai 200031, China.

429 — *A0420* **A functional polymorphism in the promoter of CRYAA increases the risk of nAMD.** *Hui Xu, l. huang*. ophthalmology, Peking University People's Hospital

West Exhibition Hall A0421-A0458

Sunday, April 28, 2019 1:00 PM-2:45 PM

Retinal Cell Biology

131 Retinal Degeneration: Animal Models

Moderators: Chloe N. Thomas and Jun Yang

430 — *A0421* **Cyclooxygenase-1 (COX-1) modulates neuroinflammation in the rd10 mouse model of retinitis pigmentosa.** *Bin Lin, W. Yang, M. Cheng, R. Li*. School of Optometry, The Hong Kong Polytechnic University

431 — *A0422* **Mitochondria Defects Constitute an Early Step in Retinal Degeneration.** *Ke Jiang[1], A. Mondal[1], Y. Adlakha[1], M. Brooks[1], L. Gieser[1], J. Gumerson[1], K. Jung-Woong[1], R. Covian Garcia[2], A. Swaroop[1]*. [1]National Eye Institute, National Institutes of Health; [2]National Heart, Lung, and Blood Institute, National Institutes of Health

432 — *A0423* **Minocycline suppresses microglial Ccr2 expression in inherited retinal degeneration.** *Ryo Terauchi, T. Sakai, T. Nakano, H. Kohno*. Ophthalmology, The Jikei University School of Medicine

433 — *A0424* **Fundus autofluorescence abnormalities and microglia/macrophage activation in the *Rpgr*-deficient mouse.** *Federica Staurenghi[1], C. Martinez-Fernandez dela Camara[1, 2], A. R. Barnard[1, 2], R. E. MacLaren[1, 2]*. [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Oxford Eye Hospital, Oxford University Hospitals NHS Trust **CR*

434 — *A0425* **Characterization of adRP-associated rhodopsin missense mutations in transgenic *Xenopus laevis* rod photoreceptors.** *Aaron D. Loewen, B. M. Tam, C. N. Chiu, O. L. Moritz*. Ophthalmology & Visual Sciences, University of British Columbia

435 — *A0426* **Myo/Nog cells increase in areas of stress in a mouse model of retinitis pigmentosa.** *Samantha Murad, M. Woodruff, R. Brahmbhatt, P. Lecker, A. N. McGrath, S. Young, G. Gorski, M. George-Weinstein, A. Bravo-Nuevo*. Philadelphia College of Osteopathic Medicine

436 — *A0427* **Effects of Ca^{2+}-channel blockers on photoreceptor Ca^{2+}-levels and activity of calpains.** *Soumyaparna Das[1, 2], M. Power[1, 2], L. Rogerson[3], T. Euler[3], F. Paquet-Durand[1]*. [1]Institute for Ophthalmic Research, University of tuebingen; [2]Graduate School of Cellular and Molecular Neuroscience; [3]Werner Reichardt Centre for Integrative Neuroscience

437 — *A0428* **Characterization of photoreceptors, RPE, and Müller glia conditional knockouts of AdipoR1.** *Marie-Audrey I. Kautzmann, K. Do, W. C. Gordon, N. G. Bazan*. Neuroscience, LSUHSC

438 — *A0429* **Loss of the Peripherin-2/rds (P/rds) C-terminal Domain Causes Progressive Retinal Degeneration in a New Mouse Model of Human Retinal Disease.** *Breyanna L. Cavanaugh, M. L. Milstein, A. C. Seidel, M. Hanna, S. X. Tan, A. F. Goldberg*. Eye Research Institute, Oakland University

439 — *A0430* **Bright light-induced retinal damage in domestic chicks: the role of iron regulatory proteins.** *Meenakshi Maurya, T. Nag, T. Roy*. Anatomy, All India Institute of Medical Science; Anatomy, All India Institute of Medical Science

440 — *A0431* **Modelling cone-rod dystrophy in genetically-modified African clawed frog (*Xenopus laevis*).** *Brittany J. Carr, P. Stanar, B. M. Tam, O. L. Moritz*. Ophthalmology and Visual Sciences, University of British Columbia

441 — *A0432* **Development of knock in (KI) mouse models of rhodopsin retinitis pigmentosa.** *Kelly Ziaka[1], K. Hau[1], D. Athanasiou[1], R. Guarascio[1], M. Aguilà[1], J. Bellingham[1], S. Agrawal[2], Y. Li[2], R. Chen[2], M. E. Cheetham[1]*. [1]UCL-Institute of Ophthalmology; [2]Baylor College of Medicine One Baylor Plaza

442 — *A0433* **Transplanted photoreceptors exchange proteins to host photoreceptors via neurites.** *Arturo Ortin-Martinez[1], E. Tsai[1], L. Comanita[1], N. Yan[1, 2], N. Tachibana[1], A. Gurdita[1, 2], Z. Liu[1], P. Nickerson[1], S. Lu[4], R. Bremner[4], V. Wallace[1, 3]*. [1]Donald K Johnson Institute, Krembil Research Institute, University Health Network.; [2]Laboratory of Medicine and Pathobiology, University of Toronto; [3]Ophthalmology and Vision Science, University of Toronto; [4]Lunenfeld-Tanenbaum Research Institute Mount Sinai Hospital

443 — *A0434* **Analysis of arrestin knockout in a T4K rhodopsin model of retinitis pigmentosa in X. laevis.** *Beatrice M. Tam, O. L. Moritz*. Ophthalmology and Visual Sciences, University of British Columbia

444 — *A0435* **The phagocytic function of Müller glia in a mouse model of retinitis pigmentosa.** *Sanae Sakami, Y. Imanishi, K. Palczewski*. Pharmacology, Case Western Reserve University

445 — *A0436* **Novel model for blindness generated using inducible genome editing in zebrafish.** *Michael D. Varnum, L. Fang, P. Meighan, O. Canterbury, T. Sherpa*. Integrative Physiology and Neuroscience, Washington State University

446 — *A0437* **Characterization of retinal function, structure, and cell death in the P23H-3 rat model of retinitis pigmentosa.** *Kiana Kakavand, A. I. Jobling, R. De Iongh, E. Lucy Fletcher*. Department of Anatomy and Neuroscience, The University of Melbourne

447 — *A0438* **Development of a *Pde6b* Gene Knockout Rat Model for Studies of Degenerative Retinal Diseases.** *Joonhyung Yeo[1], B. Jung[2], Y. Sung[2], I. Baek[2], J. Lee[1]*. [1]Department of Ophthalmology, Asan Medical Center, Seoul, Korea; [2]Department of Convergence Medicine, Asan Institute for Life Sciences, Asan Medical Center

448 — *A0439* **Steroids and photoreceptor survival in two models of retinal degeneration.** *Melisa Daniela Marquioni Ramella, P. Tate, M. Marazita, A. M. Suburo*. IIMT, CONICET-Austral

449 — *A0440* **REEP6 regulates expression of phototransduction proteins and modulates metabolism in rod photoreceptors.** *Tongdan Zou, H. Zhang*. School of Medicine, University of Electronic Science and Technology of China

450 — *A0441* **Lack of overt pathology in a K42E knock-in mouse model of retinitis pigmentosa (RP59).** *Steven J. Fliesler[1, 2], P. Kotla[3], S. Ramachandra Rao[1, 2], S. J. Pittler[3]*. [1]Research Service, VA Western NY Healthcare System; [2]Ophthalmology, Biochemistry and Neuroscience Program, SUNY-University at Buffalo; [3]Optometry and Vision Science, UAB School of Optometry

451 — *A0442* **Screening tools in zebrafish for modifiers of inherited rod degeneration.** *James M. Fadool*. Florida State University

452 — *A0443* **Stanniocalcin-1 enhances ellipsoid zone intensity and cone function in the P23H rhodopsin transgenic pig.** *Wankun Xie[1], M. Zhao[1], S. Tsai[1], M. Su[2], T. W. Hein[1, 2], L. Kuo[1, 2], R. H. Rosa[1, 2]*. [1]Medical Physiology, Texas A&M University Health Science Center; [2]Ophthalmology, Baylor Scott & White Health

453 — *A0444* **Early Treatment with Mycophenolate Reduces Microglial Migration in rd10 mice.** *Paul Yang[1], H. Titus[1], K. Weller[1], R. Duvoisin[2], R. Weleber[1], C. W. Morgans[2], M. E. Pennesi[1]*. [1]Ophthalmology, Casey Eye Inst, Oregon Hlth & Science Univ; [2]Physiology and Pharmacology, Oregon Health and Science University **CR*

454 — *A0445* **Conditional ablation of NMNAT1 in the murine retina leads to rapid and severe retinal degeneration likely associated with distinct changes in the retinal metabolome.** *David Sokolov[1], E. Sechrest[2, 3], J. Murphy[3, 4], Y. Wang[3, 4], J. Du[3, 4], S. Kolandaivelu[3, 4]*. [1]Biology, West Virginia University; [2]Pharmaceutical Sciences, West Virginia University; [3]Ophthalmology, West Virginia University; [4]Biochemistry, West Virginia University

455 — *A0446* **CRISPR/Cas9 mutagenesis of the *mtnr1a* melatonin receptor gene causes rod photoreceptor dystrophy in premetamorphic *Xenopus tropicalis*.** *Allan F. Wiechmann[1, 2], T. Martin[1], M. E. Horb[3], D. M. Sherry[1]*. [1]Cell Biology, University of Oklahoma Health Sciences Center; [2]Opthalmology, University of Oklahoma Health Sciences Center; [3]National Xenopus Resource, Marine Biological Laboratory

456 — *A0447* **Photoreceptor damage caused by human mutant T8993G ATP6 in a transgenic mouse model of Leigh syndrome and NARP.** *Huijun Yuan, J. Guy*. Bascom Palmer Eye Institute, University of Miami

457 — *A0448* **Pathophysiology of voltage-gated potassium channels in a mouse model of cone-rod dystrophy.** *Xiaotian Jiang[1, 2], D. M. Hunt[1, 2], L. S. Carvalho[1, 2]*. [1]University of Western Australia; [2]Lions Eye Institute

458 — *A0449* **New large animal model for *RDH5*-associated retinopathies.** *Simon M. Petersen-Jones[1], L. Occelli[1], P. Winkler[1], A. Minella[1], K. Sun[1], L. Lyons[3], A. Daruwalla[2], P. Kiser[2], K. Palczewski[2]*. [1]Department of Small Animal Clinical Sciences, Michigan State University; [2]Department of Ophthalmology, University of California, Irvine; [3]Department of Veterinary Medicine & Surgery, University of Missouri - Columbia

459 — *A0450* **Conditional Deletion of *Lamb2*Produces A Novel Progressive Retinal Degeneration.** *William J. Brunken, G. Bachay, Y. Umino, E. C. Solessio, X. Yang, D. D. Hunter*. Ophthalmology, Upstate Medical University

460 — *A0451* **Novel Zebrafish Autosomal Recessive Retinitis Pigmentosa Disease Models Created by CRISPR/Cas9 Gene Editing.** *Liyun Zhang[1], A. Unal Eroglu[1], T. Mulligan[1], J. Dong[1], E. Cheng[1], N. Murugan[1], W. Pei[2], L. Xu[2], S. Burgess[2], M. Saxena[1], J. S. Mumm[1]*. [1]Wilmer Eye Inst-Smith Bldg Rm 4001, Johns Hopkins School of Medicine; [2]National Human Genome Research Institute

461 — *A0452* **Monocyte-derived macrophages exacerbate cone degeneration in a mouse model of retinitis pigmentosa.** *Jun Funatsu[1], Y. Murakami[1], S. Shimokawa[1], S. Nakatake[1], K. Fujiwara[1], T. Hisatomi[1], K. Shibata[1, 2], Y. Ikeda[1], K. Sonoda[1]*. [1]Ophthalmology, Kyushu University; [2]Genomics and Molecular Analysis, Yamaguchi University

462 — *A0453* **Isoform-specific *Rpgr*mutant mice depict distinct roles of the RPGR isoforms in photoreceptors.** *Wei Zhang[1], L. li[1], R. Periasamy[1], L. Moreno Leon[1], M. Anand[1], M. Brodsky[2], H. Khanna[1]*. [1]Ophthalmology, University of Massachusetts Medical School; [2]Department of Molecular, Cell, and Cancer Biology, University of Massachusetts Medical School

463 — *A0454* **In depth characterization of a pig model of photoreceptor degeneration.** *Francesca BARONE[1], L. Muscatello[3], D. Ventrella[3], A. Elmi[3], L. Laghi[4], F. Benfenati[5], G. Pertile[2], M. Bacci[3]*. [1]Ocular and Stem Cell Translational Research Unit, National Eye Institute, NIH; [2]Ophtalmology, Ospedale Sacro Cuore Negrar; [3]Department of Veterinary Medicine, University of Bologna; [4]Department of Agricultural and Food Sciences, University of Bologna; [5]Center for Synaptic Neuroscience and Technology, Italian Institute of Technology

464 — *A0455* **Early-onset inner retina degeneration in a mouse model of retinitis pigmentosa.** *Arpad Palfi, A. Yesmambetov, G. Farrar*. Genetics, Trinity College Dublin

465 — *A0456* **Autosomal recessive night blindness with progressive photoreceptor degeneration in a dog model.** *Luis L. Marinho[1], L. Occelli[1], N. Pasmanter[1], A. T. Somma[2], F. Montiani-Ferreira[2], S. M. Petersen-Jones[1]*. [1]Small Animal Clinical Science, Michigan State University; [2]Universidade Federal do Parana

466 — *A0457* **STAT3 is a potential genetic modifier of photoreceptor gene expression during stress.** *Casey Keuthan[1], C. Santiago[1, 2], J. D. Ash[1]*. [1]University of Florida; [2]Neuroscience, Johns Hopkins University School of Medi

467 — *A0458* **Mouse proteomic analysis demonstrates a critical role for phototransduction in an *RS1*$^{-/y}$ mouse model.** *Lucia Ambrosio[1, 2], J. Akula[1, 2], S. Rockowitz[1], R. M. Hansen[1, 2], A. B. Fulton[1, 2]*. [1]Boston Children Hospital; [2]Ophthalmology, Harvard Medical School

West Exhibition Hall A0459-A0508

Sunday, April 28, 2019 1:00 PM-2:45 PM

Lens

132 Cataract Surgery I

Moderators: Paul Ursell and Hiroshi Sasaki

468 — *A0459* **Post-cataract surgery endophthalmitis: the role of prophylactic antibiotic eye drops.** *Sarmad Akkach, J. Kam, R. Meusemann*. Department of Ophthalmology, The Alfred

469 — *A0460* **Lower Capsular Complication Rates in Pop and Prechop than Divide and Conquer and Pop and Chop in Novice Resident Cataract Surgeons.** *Lawrence D. Flanders[2, 3], F. J. Gross[2, 3], K. Agarwal[2, 3], J. Strawn[3, 2], A. Chebolu[1]*. [1]Eastern Virginia Medical School; [2]Ophthalmology, Eastern Virginia Medical School; [3]Ophthalmology, Hampton VA Hospital

470 — *A0461* **The effects of fine motor hobbies on cataract surgical simulator performance.** *Laura Palazzolo, A. Kozlova, A. E. Rizzuti*. Ophthalmology, SUNY Downstate College of Medicine

471 — *A0462* **Comparison of Delivery Forces and Wound Dimensions of New Smaller Incision Injector for Plate-Haptic Intraocular Lens.** *George Lau[1], S. Muchhala[2], A. Pilon[3], V. Kolesnitchenko[1], E. Sadri[4]*. [1]Medical Affairs, Bausch and Lomb; [2]R&D, Bausch and Lomb; [3]Marketing, Bausch and Lomb; [4]Clinical Research, Atlantis Eyecare **CR*

472 — *A0463* **Australian Experience with Intraocular Lens Product Flaws.** *Zixin Hong[1, 2], E. Chong[1, 3], A. Ioannidis[1], M. Daniell[3], R. C. Symons[1, 2]*. [1]Royal Melbourne Hospital; [2]University of Melbourne; [3]Centre of Eye Research Australia

473 — *A0464* **Analysis of Ocular Surface Situation in Meibomian Gland Dysfunction Patients After Cataract Surgery.** *Dongju QIN*. Ophthalmology, Shanghai Aier Eye Hospital

474 — *A0465* **Comparison of Ocular Biometry and Refractive Outcomes Using 3 Different Devices: IOL Master 500, IOL Master 700 and Lenstar LS900.** *JAE SHIN SONG, D. Yoon, J. Hyon, H. Jeon*. Department of Ophthalmology, Seoul National University College of Medicine, Seoul National University Bundang Hospital

475 — *A0466* **Crowdsourcing to assess resident surgical skill proficiency in cataract surgery.** *Grace L. Paley, J. Chen, B. Wilson, M. O. Gordon, S. M. Culican*. Department of Ophthalmology and Visual Sciences, Washington University School of Medicine

476 — *A0467* **Sutureless Intrascleral Fixation of Intraocular Lenses: Three-Year Clinical Outcome Review.** *Nathan Farley[1], E. Marlow[1], M. Gappy[2], H. Omar[2], J. Wolfe[1]*. [1]Associated Retinal Consultants - William Beaumont Hospital; [2]Oakland University William Beaumont School of Medicine

477 — *A0468* **Reliability and reproducibility of a new semi automated evaluation method for intraocular lens rotation – Rotix.** *Daniel Schartmüller, S. Schriefl, L. Schwarzenbacher, C. Leydolt, R. Menapace*. Department of Ophthalmology, Medical University of Vienna

478 — *A0469* **Expression profile of inflammatory cytokines in congenital cataract after Lensectomy and Anterior Vitrectomy.** *Yinying Zhao, Y. Zhao, Z. Li, P. Chang*. The Eye Hospital Affiliated Wenzhou Medical University

479 — *A0470* **Optimizing prediction of refractive outcomes after cataract surgery using a biometry-based scoring rubric.** *Diane Haeji Jang[1], A. Luo[1], J. Quillen[2], T. O'Rourke[2], I. U. Scott[2, 3], S. Pantanelli[2]*. [1]Penn State College of Medicine; [2]Ophthalmology, Penn State Milton S. Hershey Medical Center; [3]Public Health Sciences, Penn State College of Medicine **CR*

480 — *A0471* **Preoperative topical prostaglandin use and the incidence of postoperative cystoid macular edema and persistent inflammation after cataract surgery.** *Alina Lou[1], D. Vollman[2, 3], M. K. Daly[4], Q. Chen[5], A. Chomsky[6, 1]*. [1]Vanderbilt Eye Institute; [2]Department of Ophthalmology and Visual Sciences, Washington University School of Medicine; [3]Department of Ophthalmology, St. Louis VA Healthcare System; [4]Department of Ophthalmology, VA Boston Healthcare System; [5]Department of Biostatistics, Vanderbilt University; [6]Department of Ophthalmology, VA Tennessee Valley Healthcare System

481 — *A0472* **Risk factors for postoperative visual impairment in congenital ectopia lentis patients.** *Jin Guangming, D. Zheng*. State Key Laboratory of Ophthalmology–Zhongshan Ophthalmic Center

482 — *A0473* **Intraocular Lens Power Prediction for Cataract Surgery in Eyes with Corneal Ectasia.** *Kendrick Wang, D. Srikumaran, A. S. Jun*. Wilmer Eye Institute at Johns Hopkins Hospital **CR*

483 — *A0474* **Outcomes of resident performed cataract surgery with toric intraocular lens implantation.** *Kari Fossum[1], N. Farivari[2], E. N. Brown[2, 3], J. Lindsey[2, 3]*. [1]Vanderbilt University School of Medicine; [2]Ophthalmology, Vanderbilt University Medical Center; [3]Ophthalmology, VA Tennessee Valley Healthcare System

484 — *A0475* **Axial Length Measurement by Immersion B-Scan.** *Suzanne Daly, D. Coleman, D. Trief, R. H. Silverman*. Ophthalmology, Columbia University Medical Center

485 — *A0476* **Three Cases of Scleral Sutured EnVista Intraocular Lens Dislocation and Determination of the EnVista Eyelet Tensile Strength Under Two Different Suturing Methods.** *John Lippincott, B. Tieu*. Ophthalmology, University of Mississippi Medical Center

486 — *A0477* **Intraoperative optical coherence tomography during cataract surgery in the DISCOVER study.** *Rachel C. Chen, M. E. Millstein, S. K. Srivastava, J. L. Reese, J. P. Ehlers*. Cole Eye Institute, The Cleveland Clinic Foundation **CR*

487 — *A0478* **Visual acuity from time of cataract surgery to Nd: YAG laser capsulotomy.** *Carson Petrash, J. Patnaik, J. Petrash, A. Lynch, M. Taravella, R. Davidson, K. Christopher*. Department of Ophthalmology, University of Colorado

488 — *A0479* **Is preoperative tropicamide required when using Mydrane?** *Ivan Sychev, M. Fenech, R. Vellaniparambil, D. Nguyen, P. Muel-Gonzalez***.** Ophthalmology, Mid Cheshire Hospitals NHS Foundation Trust

489 — *A0480* **Impact of Video Coaching on Ophthalmology Resident Capsulorhexis Performance in Cataract Surgery**. *Danielle Lo, M. Main, P. Patel, H. Ahmad***.** NYU School of Medicine

490 — *A0481* **Intraocular Lens Implantation Performed First to Protect The Posterior Capsule in Morgagnian Cataracts during Phacoemulsification**. *Dong YongXiao[1], X. Hua[2], J. Du[1], X. Yuan[3]*. [1]Ophthalmology, the First People's Hospital of Xianyang; [2]he Second Hospital of Tianjin Medical University; [3]Tianjin Eye Hospital

491 — *A0482* **Complications in resident-performed phacoemulsification cataract surgery at an ophthalmology center in Mexico City: Results of 7 years**. *Ruben Espino Icazbalceta, D. PULIDO LONDON, D. Alanis Cabrera, F. SOLORIO, E. CHAVEZ MONDRAGON***.** Instituto de Oftalmolog a Conde de Valenciana

492 — *A0483* **Preoperative factors causing refractive errors after cataract surgery**. *Kwang Hyun Kim***.** ophthalmology, Hallym sacred heart hospital

493 — *A0484* ***Retinal detachment in high myopia after cataract surgery : retrospective study about 365 cas.*** *Zerin HEKALO, Z. Mohamed, L. Lhuillier, A. Schaut, G. Hayek, S. Stoebener, C. Gisquet, c. goetz, J. Perone*. ophtalmology, CH Metz-Thionville

494 — *A0485* **Investigation of postoperative refractive error of intraocular lens suturing and intrascreral fixation.** *Masashi Kakinoki, O. Sawada, Y. Saishin, Y. Ichiyama, S. Obata, M. Ohji*. Ophthalmology, Shiga University of Medical Science **CR*

495 — *A0486* **Using topographical axis as an indicator for sub-clinical dry eye in patients undergoing cataract surgery.** *Pathmanathan Pathmaraj*. Vision Eye Institute

496 — *A0487* **Predictors of Non-adherence to Follow-up after Cataract Surgery: Results from the PCIOL Study.** *Giannis A. Moustafa[1], D. S. Borkar[1, 2], E. A. Eton[3], N. Koulisis[4], C. E. Kloek[1]*. [1]Massachusetts Eye and Ear Infirmary; [2]Retinal Service, Wills Eye Hospital; [3]Harvard Medical School; [4]University of Southern California Roski Eye Institute, Keck School of Medicine

497 — *A0488* **A novel device for secondary intraocular lens placement: Design and Ex Vivo Evaluation.** *David Buickians[1], D. Myung[1, 2], M. S. Blumenkranz[1], F. Brodie[1]*. [1]Ophthalmology, Stanford University; [2]Chemical Engineering, Stanford University **CR*

498 — *A0489* **Comparison of predicted refractive outcomes between different methods of toric IOL calculating methods.** *Shinichiro Nakano[1], T. Hiraoka[2], T. Oshika[2]*. [1]Ryugasaki Saiseikai Hospital; [2]Tsukuba Univercity

499 — *A0490* **Glaucoma as a risk factor for early pseudophakic macular edema – an analysis of 1000 cataract surgeries.** *Robert Hoerster[1], C. von Netzer[1], L. Schulze[1], J. Obstmayer[1], E. Tahmaz[1], L. M. Heindl[2]*. [1]Center of Ophthalmology, Augencentrum Erkelenz; [2]Center of Ophthalmology, University of Cologne

500 — *A0491* **Visual Function And Quality Of Life In Patients Submitted To Cataract Surgery With Bilateral Implant Of Extended Range Of Vision Intraocular Lens.** *Erick Rebolledo Enríquez[1], A. Cáceres Marín[2], E. Chavez Mondragón[2], D. PULIDO LONDON[2], D. Zamora de la Cruz[2], M. Garzón[2]*. [1]Retina and vitreous, Instituto Nacional de Rehabilitación; [2]Anterior Segment, Instituto de oftalmología Fundación Conde de Valenciana I.A.P.

501 — *A0492* **A web-based evaluation tool to assess surgical skill proficiency during ophthalmology residency – a multicenter longitudinal study.** *Hui Zhao, G. L. Paley, S. M. Culican*. Department of Ophthalmology & Visual Sciences, Washington Univ in St. Louis/Barnes-Jewish Hospital

502 — *A0493* **Incidence of postoperative complications after cataract surgery with intraoperative floppy iris syndrome.** *Frini Makadia[1], M. K. Daly[2], D. Vollman[3, 4], Q. Chen[5], A. Chomsky[6, 1]*. [1]Vanderbilt Eye Institute; [2]Department of Ophthalmology, VA Boston Healthcare System; [3]Department of Ophthalmology, VA St. Louis Healthcare System; [4]Department of Ophthalmology and Visual Sciences, Washington University School of Medicine; [5]Department of Biostatistics, Vanderbilt University; [6]Department of Ophthalmology, VA Tennessee Valley Healthcare System

503 — *A0494* **Impact of Pre-operative Spectacle Prescription on Accuracy of Holladay2 IOL Power Predictions.** *Rishi Singhal, E. Schlosser, A. Luo, D. Jang, J. Quillen, T. O'Rourke, I. U. Scott, S. Pantanelli*. Ophthalmology, Penn State Eye Center **CR*

504 — *A0495* **Comparison of 4 intraocular lens power calculations for Japanese eyes with short and long axial length.** *Yosai Mori, T. Tokunaga, K. Kinoshita, K. Minami, K. Miyata*. Miyata Eye Hospital

505 — *A0496* **Influence of the posterior corneal surface in the residual astigmatism in patients undergoing phacoemulsification and implant of toric intraocular lens.** *Luis J. Resendiz Najera, C. Solís Hernández, C. Palacio Pastrana*. Anterior Segment, Hospital de la Luz

506 — *A0497* **Impact of tear osmolarity in the biometric pre-assessment for phacoemulsification surgery.** *Laura A. Gonzalez Dibildox[1], G. Cervantes Coste[2], M. Cantu Treviño[2], A. Avendaño Dominguez[2], C. Corredor Ortega[2], C. Velasco Barona[2], J. Villaseñor Diez[2], R. Gonzalez-Salinas[2]*. [1]cornea, Asociacion para Evitar la Ceguera en Mexico; [2]Anterior segment, Asociacion para Evitar la Ceguera en Mexico

507 — *A0498* **Incidence and Associated Risk Factors of Suspected Glaucoma and Glaucoma after Congenital Cataract Surgery: A Longitudinal Follow-up Study in China.** *Jinghui Wang, W. Chen, Y. Liu, H. Lin***.** Cataract, Zhongshan Ophthalmic Center

508 — *A0499* **A Cost Analysis of an Expedited Pre-operative Anesthesia Pathway for Cataract Surgery.** *Cory Hoeferlin[1], J. Park[1], L. Daskivich[1], P. Prasad[1, 2]*. [1]Harbor UCLA Medical Center; [2]Jules Stein - UCLA

509 — *A0500* **Cyclorotation and docking induced rotation of the eye with Femto-second cataract laser.** *David Dewey, T. Wang, N. Friedman, J. Gonzalez, K. Dhamdhere, S. Kasthurirangan, J. Tarrant, A. Jonas***.** R&D, Johnson and Johnson Vision **CR*

510 — *A0501* **Measuring resident competency in cataract surgery using phacoemulsification unit generated output parameters.** *Parker Faith[1], J. Lee[2], H. C. Jung[1]*. [1]University of Washington; [2]Penn State

511 — *A0502* **The financial burden of activity restrictions following cataract surgery.** *Darren C. Hill, J. Conklin, E. Higgins***.** Ophthalmology, University of Kentucky

512 — *A0503* **Visual Outcomes of Patients with Posterior Capsule Complications In Early Resident Cataract Surgery.** *Kanika Agarwal[1, 2], L. D. Flanders[1, 2], J. Strawn[2, 1], S. Tyson[2, 1], F. J. Gross[1, 2]*. [1]Ophthalmology, Eastern Virginia Medical School; [2]Ophthalmology, Hampton Veterans Affairs Medical Center

513 — *A0504* **Comparison of Different Methods for Photopic and Scotopic Pupil Diameter Measurement and Clinical Analysis on the Pupil diameter changes of cataract patients.** *Yong Wang***.** Aier Eye Hospital, CSU

514 — *A0505* **Predicitive Factors of Cystoid Macular Edema After Sutured Lens Implants.** *Mark Barakat***.** Retinal Consultants of Arizona **CR*

515 — *A0506* **The Cataract Quality Outcome Initiative: assessing visual acuity and vision function before and after cataract surgery in Ontario, Canada.** *Wendy Hatch[1], V. Leung[2], N. Omali[1], K. McReelis[4], K. Pope[3], I. Ahmed[1], M. Schlenker[1], S. El Defrawy[1]*. [1]Kensington Eye Institute, University of Toronto; [2]Ophthalmology, University of Toronto; [3]Applied Health Research Centre, St Michael's Hospital; [4]Ophthalmology, Peterborough Regional Health Centre **CR*

516 — *A0507* **Angle Kappa In Myopes And Hyperopes And Its Role In Multifocal Lens Implantations.** *Saraswati Sivakumar[1], R. Sivakumar[2]*. [1]ophthalmology, private office; [2]student

517 — *A0508* **Pilot study of aspheric, hydrophobic, acrylic intraocular lens (IOL) design with uniques optic holes.** *Shruti Mahajan, R. Om Parkash, t. om parkash***.** Dr Om Parkash Eye Institute, Amritsar

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West Exhibition Hall A0651-A0671

Sunday, April 28, 2019 1:00 PM-2:45 PM

Eye Movements/Strabismus/Amblyopia/ Neuro-Ophthalmology

133 Eye Movements and Nystagmus

Moderator: Vallabh E. Das

518 — *A0651* **To look or not to look: study of reflexive eye movements.** *PremNandhini Satgunam, E. Kurni***.** L V Prasad Eye Institute

519 — *A0652* **Characteristics of saccades when testing the near point of convergence.** *Clara Mestre[1], J. Gautier[2], H. E. Bedell[3], F. Diaz Douton[1], J. Pujol[1]*. [1]Centre for Sensors, Instruments and Systems Development (CD6), Universitat Politècnica de Catalunya; [2]School of Optometry, University of California; [3]College of Optometry, University of Houston

520 — *A0653* **Microvergence fixational eye movements.** *Daria Ivanchenko[1], F. Schaeffel[1], Z. Hafed[2]*. [1]Neurobilogy of the Eye, Ophthalmic Research Institute; [2]Physiology of Active Vision, Werner Reichardt Centre for Integrative Neuroscience

521 — *A0654* **Reliability of oculomotor kinematics, visual attention, and vehicle operation in driving simulation.** *Hayden M. Green[1], V. M. Borges[1], C. W. Connell[1], D. Newcombe[1], B. Thompson[2], N. Gant[1]*. [1]The University of Auckland; [2]University of Waterloo **CR*

522 — *A0655* **Validation of a novel gaze-contingent perimeter with high-speed eye tracking.** *Nikita Thomas, J. H. Acton, J. T. Erichsen, M. J. Dunn***.** School of Optometry and Vision Sciences, Cardiff University

523 — *A0656* **Saccades in Parkinson's disease: hypometric, slow, or maladaptive?** *Aasef Shaikh[1], F. F. Ghasia[2]*. [1]Neurology, Case Western Reserve University; [2]Ophthalmology, Cleveland Clinic

524 — *A0657* **Fixation Stability Before and After Amblyopia Therapy.** *William H. Ridder, R. A. Patel, A. Karsolia, D. Duan, L. Centeno***.** Basic & Visual Science, Southern California Coll of Optometry

525 — *A0658* **Age-related inhibitory deficits in cognitive control of eye movements.** *Rui Jin, L. A. Abel***.** Department of Optometry & Vision Science, University of Melbourne

526 — *A0659* **Student eye movements to optic nerves.** *Amanda Douglass[1], L. A. Abel[2], J. Armitage[1]*. [1]Deakin University; [2]The University of Melbourne

527 — *A0660* **Decrease in task performance associated with changes in fixations in optically misaligned binocular night vision systems.** *Larry A. Abel[1], A. Douglass[2], R. Karas[3], M. Gavrilescu[3], P. Gibbs[3]*. [1]Optometry & Vision Sciences, University of Melbourne; [2]Department of Optometry & Vision Sciences, Deakin University; [3]Aerospace Division, Defence Science and Technology Group **CR*

528 — *A0661* **The Effect of Modified Anderson Procedure for Abnormal Head Position in Infantile Nystagmus.** *SangCheol Yang, H. JEON, H. Choi***.** Ophthalmology, Pusan National Univ Hospital, Busan, Korea(the Republic of)

529 — *A0662* **Characterization of the retinal phenotype of the C57BL/6-c2J mouse model of human oculocutaneous albinism: implications for treatment development.** *Jennifer A. Scott, A. Sanchez-Bretano, H. Griffiths, J. Ward, C. Dibigbou, F. Soubigou, J. E. Self, A. Lotery, J. Ratnayaka, H. Lee***.** Medicine, University of Southampton

530 — *A0663* **Proof of concept for oral Levodopa treatment in rescuing retinal morphology and visual function in a murine model of human albinism.** *Helena Lee, J. Scott, H. Griffiths, J. E. Self, A. Lotery***.** Clinical and Experimental Sciences, University of Southampton

531 — *A0664* **Intelligentized functional electrical stimulation can treat congenital nystagmus.** *Lejin Wang, Z. Miao***.** Peking University People's Hospital

532 — *A0665* **Repeatability of Contrast Sensitivity in Patients with Infantile Nystagmus Syndrome Using the CSV-1000^{R}.** *ABIGAIL R. KRAFT[1], A. M. Gehring[1], R. W. Hertle[1], T. L. Roberts[2]*. [1]Ophthalmology, Akron Children's Hospital; [2]Byers Eye Institute, Stanford University

533 — *A0666* **Two surgical techniques for correction of vertical abnormal head position in infantile nystagmus syndrome – clinical characteristics and outcomes.** *James J. Law[1], D. Holt[2], Y. Zheng[1], D. Morrison[3], S. Donahue[3]*. [1]School of Medicine, Vanderbilt University; [2]Vision Care Center; [3]Department of Ophthalmology and Visual Sciences, Vanderbilt University Medical Center

534 — *A0667* **Feasibility of a home-based visual training app for youth with infantile nystagmus.** *Steven Ligthert[1], J. Goossens[1], B. Huurneman[1, 2]*. [1]Department of Cognitive Neuroscience, Donders Institute for Brain, Cognition and Behaviour; [2]Royal Dutch Visio ↗

535 — *A0668* **Torsional nystagmus in pediatric patients with cerebellar hypoplasia.** *James Phillips[1, 2], A. H. Weiss[2, 5], M. Brodsky[3, 4], J. P. Kelly[2, 5]*. [1]Otolaryngology-HNS, University of Washington; [2]Ophthalmology - Roger Johnson Lab, Seattle Children's Hospital; [3]Ophthalmology, Mayo Clinic; [4]Neurology, Mayo Clinic; [5]Ophthalmology, University of Washington

536 — *A0669* ***In search of an objective measure of visual vertigo - eye movement responses to balance provoking stimulation*****.** *Tobias Wibble, T. Pansell***.** Clinical Neuroscience, Karolinska Institutet

537 — *A0670* ***The sensory specific effects of prescription-free motion sickness medication - eye movement responses to balance provoking stimulation*****.** *Tony Pansell[1, 2], J. Engström[1], T. Wibble[1]*. [1]Clnical Neuroscience, Karolinska Institutet; [2]Neuro Ophthalmology, St Erik Eye Hospital

538 — *A0671* **Measurement of visual acuity using optokinetic nystagmus elicited by a vanishing disk optotype.** *Jason Turuwhenua[1, 2], B. Thompson[3], M. Sangi[1], P. Guo[1], L. Chang[1, 2]*. [1]Auckland Bioengineering Institute, University of Auckland; [2]School of Optometry and Vision Science, University of Auckland; [3]University of Waterloo **CR*

West Exhibition Hall B0001-B0019

Sunday, April 28, 2019 1:00 PM-2:45 PM

Visual Neuroscience

134 Inner Retinal Circuits

Moderator: Michael B. Manookin

539 — *B0001* **The distribution of nNOS amacrine cells in the guinea pig retina.** *Sally A. McFadden[1, 2], J. M. Hombrebueno[3, 1], G. Zeng[4, 1], D. Fuchs[1], E. Lee[5]*. [1]Faculty of Science, University of Newcastle; [2]Hunter Medical Research Institute; [3]Centre for Experimental Medicine, Queen's University Belfast; [4]Department of Ophthalmology, General Hospital of Daqing Oilfield; [5]MDA Vision Research, USC Roski Eye Institute, Department of Ophthalmology, Keck School of Medicine, University of Southern California **CR*

540 — *B0002* **Anatomical and molecular characterization of CRH (corticotropin-releasing hormone) receptor 1-expressing cell populations in the mouse retina.** *Hannah Walsh[1], P. Rahmani[1], K. Zhang[2], I. Kim[1, 3], N. J. Justice[4], J. B. Demb[1, 5], J. Pottackal[2]*. [1]Department of Ophthalmology and Visual Science, Yale University; [2]Interdepartmental Neuroscience Program, Yale University; [3]Department of Neuroscience, Yale University; [4]Institute of Molecular Medicine, University of Texas Health Science Center; [5]Department of Cellular and Molecular Physiology, Yale University

541 — *B0003* **Gbx2 identifies and regulates the development of an atypical amacrine cell in the mouse retina.** *Patrick C. Kerstein[1], J. Leffler[2, 3], B. Sivyer[4, 5], W. R. Taylor[2, 3], K. M. Wright[1]*. [1]Vollum Institute, Oregon Health and Science University; [2]School of Optometry, University of California-Berkeley; [3]Helens Wills Neuroscience Institute, University of California-Berkeley; [4]Ophthalmology, Oregon Health and Science University; [5]Casey Eye Institute, Oregon Health and Science University

542 — *B0004* **Axon-bearing amacrine cells labelled in transgenic GlyT2 mice.** *Ben Sivyer[1], M. A. Meadows[2], P. C. Kerstein[2], K. M. Wright[2, 1], H. Von Gersdorff[2, 1]*. [1]Ophthalmology, Casey Eye Institute, Oregon Health & Sciences Univ; [2]Vollum Institute, Oregon Health & Science University

543 — *B0005* **Modulation Of VIP-1 Amacrine Cell Coupling By Dopamine In The Mouse Retina.** *Luis Perez de Sevilla Muller, J. de los Santos, N. Brecha***.** Neurobiology, UCLA

544 — *B0006* **The presence of recombinase activity in just one type of wide-field ON-OFF amacrine cells in a DAT-Cre mouse line.** *Yu-Jiun Chen, H. Tu, Y. Chen, A. Shay, A. Zhang, C. J. Chen***.** Ophthalmology, Baylor College of Medicine

545 — *B0007* **Glycinergic inhibition tunes direction selectivity in the mammalian retina.** *Varsha Jain, L. Hanson, G. B. Awatramani***.** University of Victoria

546 — *B0008* **Synaptic mechanisms underlying direction selectivity in starburst amacrine cell dendrites.** *Laura Hanson, G. B. Awatramani*. University of Victoria

547 — *B0009* **Regulation of neurotransmitter release during crossover inhibition.** *Marc A. Meadows, V. Balakrishnan, X. Wang, H. Von Gersdorff*. Vollum Institute, Oregon Health and Science University

548 — *B0010* **Comparative anatomy and connectivity of the Aii amacrine cell in mouse and rabbit retina.** *Selena Wirthlin, C. Sigulinsky, J. Anderson, D. Emrich, C. Rapp, J. Dahal, R. L. Pfeiffer, K. Rapp, J. Yang, C. Watt, R. Marc, B. W. Jones*. Ophthamology & Visual Sciences, University of Utah **CR*

549 — *B0011* **Proton-mediated inhibition of L-type Ca^{2+} currents in AII amacrine cells.** *Katherine Thanyamongkhonsawat, M. A. Meadows, H. Von Gersdorff*. Vollum Institute

550 — *B0012* **CaBP5 and Munc13-2 regulate rod bipolar cell to AII amacrine cell synaptic transmission.** *Maxim Kozhemyakin, R. Heidelberger*. Dept. of Neurobio. and Anat., McGovern Med. Sch. of the Univ. of Texas Hlth. Sci. Ctr. at Houston (UTHealth)

551 — *B0013* **Aii Amacrine Cell Connectivity in Degenerating Retina.** *Jeebika Dahal[1], R. L. Pfeiffer[1], C. Sigulinsky[1], J. Anderson[1], D. Emrich[1], H. Morrison[1], J. Garcia[1], K. Rapp[1], J. Yang[1], C. Watt[1], M. Kondo[3], H. Terasaki[2], R. Marc[1], B. W. Jones[1]*. [1]Ophthalmology , Moran Eye Center University of Utah; [2]Ophthalmology, School of Medicine Nagoya University; [3]Ophthalmology, Graduate School of Med Mie University **CR*

552 — *B0014* **Functional divergence at the mouse type 6 bipolar cell terminal.** *David I. Swygart[1], G. Schwartz[1], R. O. Wong[2], W. Yu[2]*. [1]Opthamology, Northwestern University; [2]Biological Structure, University of Washington

553 — *B0015* **AMPA receptor plasticity of On α RGCs revealed by optogenetic stimulation of inputs.** *Scott A. Nawy, A. L. Cahill*. Ophthalmology and Visual Sciences, University of Nebraska Medical Center

554 — *B0016* **Changes in Inhibitory Retinal Circuits Following Partial Cone Loss.** *Joo Yeun Lee[1], R. Care[1, 2], F. Dunn[1]*. [1]Department of Ophthalmology, University of California San Francisco; [2]Graduate Program in Neuroscience, University of California San Francisco

555 — *B0017* **OFF-layer Branches of ON Cone Bipolar Cells in Early Retinal Degeneration.** *Jessica Garcia[1], R. L. Pfeiffer[1], C. Sigulinsky[1], J. Anderson[1], D. Emrich[1], J. Dahal[1], H. Morrison[1], K. Rapp[1], J. Yang[1], C. Watt[1], M. Kondo[2], H. Terasaki[3], R. Marc[1], B. W. Jones[1]*. [1]Ophthamology, Moran Eye Center University of Utah; [2]Mie University, Graduate School of Med; [3]Nagoya University, School of Medicine **CR*

556 — *B0018* **Contacts between axon terminals of rod bipolar cells and somas of ganglion cells in the mouse retina.** *Ji-Jie Pang, S. M. Wu*. Ophthalmology, Baylor College of Medicine

557 — *B0019* **Dopamine decreases excitatory inputs to ON sustained ganglion cells via both D1 and D4 receptor-dependent pathways.** *Michael Flood[1], E. D. Eggers[2, 3]*. [1]Physiological Sciences, University of Arizona; [2]Physiology, University of Arizona; [3]Biomedical Engineering, University of Arizona

West Exhibition Hall B0020-B0050

Sunday, April 28, 2019 1:00 PM-2:45 PM

Visual Neuroscience

135 Outer Retinal Function

Moderators: Stuart C. Mangel and Vickie H. Wong

558 — *B0020* **The effect of arrestin-1 self-association on its distribution in rods.** *Vsevolod V. Gurevich, S. A. Samaranayake, S. A. Vishnivetskiy*. Pharmacology, Vanderbilt University

559 — *B0021* **Divergent conformations of the arrestin-rhodopsin complex in solution.** *Sergey A. Vishnivetskiy[1], M. Elgeti[2], N. Van Eps[3], N. A. Perry[1], W. Hubbell[2], V. V. Gurevich[1]*. [1]Pharmacology, Vanderbilt University; [2]Chemistry and Biochemistry, Jules Stein Eye Institute, University of California; [3]Biochemistry, University of Toronto

560 — *B0022* **Arrestin-1 in rod synaptic terminals.** *Eugenia V. Gurevich, S. A. Samaranayake, S. A. Vishnivetskiy, V. V. Gurevich*. Pharmacology, Vanderbilt University

561 — *B0023* **Thyroid hormone receptor beta mutations alter or eliminate the signals of long-wavelength cones in zebrafish retina.** *Ciana Deveau[1], A. Krishnakumar[1], x. jiao[2], S. Suzuki[3], T. Yoshimatsu[4], J. Hejtmancik[2], R. O. Wong[3], R. F. Nelson[1]*. [1]NINDS, National Institutes of Health; [2]NEI, National Institutes of Health; [3]Department of Biological Structure, University of Washington; [4]University of Sussex

562 — *B0024* **Cone sensitivity is diminished, but not absent, in *Cpfl3* mice.** *Natalie S. Chen[1], N. T. Ingram[2, 3], G. L. Fain[2, 3], J. Chen[1]*. [1]Department of Physiology and Neuroscience, Zilkha Neurogenetic Institute, Keck School of Medicine, University of Southern California; [2]Department of Ophthalmology, Stein Eye Institute, David Geffen School of Medicine at UCLA; [3]Department of Integrative Biology and Physiology, UCLA

563 — *B0025* **Light-Dependent Recovery Of Sensitivity After Bleaching By Photoisomerization Of Rgr In Mouse Cones.** *Ala Morshedian, R. Frederiksen, A. P. Sampath, J. J. Kaylor, G. H. Travis, G. L. Fain*. Stein Eye Institute, University of California Los Angeles

564 — *B0026* **Ablation of cAMP-dependent GRK1 phosphorylation suppresses dark adaption of rod photoreceptors.** *Alexander V. Kolesnikov[1], J. Chrispell[2], V. Kefalov[1], E. R. Weiss[2]*. [1]Ophthalmology and Visual Sciences, Washington University in St Louis; [2]Cell Biology and Physiology, The University of North Carolina at Chapel Hill

565 — *B0027* **Cone mitochondria shape cytosolic Ca^{2+} transients and recovery of the photoresponse.** *Rachel Hutto[1], F. Abbas[2], C. Bisbach[1], J. Hurley[1], F. Vinberg[2], S. Brockerhoff[1]*. [1]Biochemistry, University of Washington; [2]John A. Moran Eye Center, University of Utah

566 — *B0028* **Mitochondrial Biogenesis in Zebrafish Cone Photoreceptors.** *Daniel C. Brock[1], M. Giarmarco[1], W. Cleghorn[1], K. Tsantilas[1], W. Ge[1], S. Brockerhoff[1, 2]*. [1]Biochemistry, University of Washington; [2]Ophthalmology, University of Washington

567 — *B0029* **Modeling Cone Aerobic Glycolysis.** *Erika T. Camacho[1], D. Brager[2], G. Elachouri[3], T. Korneyeva[1], G. Millet-Puel[3], J. A. Sahel[3], T. D. Leveillard[3]*. [1]School of Mathematical & Natural Sciences, Arizona State University; [2]School of Mathematicl & Statistical Sciences, Arizona State University; [3]Genetics, Institut de la Vision

568 — *B0030* **Modulation of mouse rod signaling by llama-derived transducin nanobody.** *Guhan Iyer[1], S. Gulati[2], K. Palczewski[2], V. Kefalov[1]*. [1]Department of Ophthalmology and Visual Sciences, Washington University School of Medicine; [2]Department of Ophthalmology, Gavin Herbert Eye Institute, University of California Irvine

569 — *B0031* **Mathematically Assessing the Contributions of Key Processes in Cone Aerobic Glycolysis.** *Danielle Brager[1], E. T. Camacho[2], G. Elachouri[3], T. Korneyeva[2], G. Millet-Puel[3], J. A. Sahel[3], T. D. Leveillard[3]*. [1]School of Mathematical and Statistical Sciences, Arizona State University; [2]School of Mathematical & Natural Sciences, Arizona State University; [3]Genetics, Institut de la Vision

570 — *B0032* **The role of constitutively active RAC1 in rod out segment formation in mouse rhodopsin-null rods.** *Hongman Song[1], Y. Zeng[1], R. Bush[1], R. Petralia[1], Y. Wang[1], R. Fariss[2], C. Vijaysarathy[1], P. Sieving[3]*. [1]NIDCD, NIH; [2]NEI, NIH; [3]NEI and NIDCD, NIH

571 — *B0033* **Multiquantal release from rod ribbons is facilitated by syntaxin3B.** *Cassandra Hays[1, 2], J. J. Grassmeyer[1, 3], R. Janz[4], R. Heidelberger[4], W. B. Thoreson[1, 3]*. [1]Ophthalmology and Visual Sciences, University of Nebraska Medical Center; [2]Cellular & Integrative Physiology, University of Nebraska Medical Center; [3]Pharmacology & Experimental Neuroscience, University of Nebraska Medical Center; [4]Neurobiology and Anatomy, McGovern Medical School, Univeristy of Texas Health Science Center

572 — *B0034* **EML1 modulates phototransduction in mouse rod photoreceptors.** *Deepak Poria[1], O. G. Kisselev[2], V. Kefalov[1].* [1]Washington University in Saint Louis; [2]Department of Ophthalmology, Saint Louis University

573 — *B0035* **Peripherin-2/rds functions for photoreceptor disk morphology by bending membranes.** *Andrew F. Goldberg[1], M. L. Milstein[1], B. L. Cavanaugh[1], S. Volland[2], D. S. Williams[2].* [1]Eye Research Institute, Oakland University; [2]Stein Eye Institute, UCLA School of Medicine

574 — *B0036* **Dendritic voltage-gated K^+ currents stabilize response amplitude and speed on a computational model of the rod-driven ON bipolar cell.** *Kae Leopoldo[1, 3], M. Kamermans[2], C. Joselevitch[1, 3].* [1]Psicologia Experimental, Instituto de Psicologia da Universidade de São Paulo; [2]Retinal Signal Processing, The Netherlands Institute for Neuroscience; [3]Núcleo de Neurociências e Comportamento, Universidade de São Paulo

575 — *B0037* **Vesicular Ca^{2+} sensor Synaptotagmin-1 mediates neurotransmission from mammalian rods and cones.** *Wallace B. Thoreson[1, 2], J. J. Grassmeyer[2, 1], C. L. Hays[3, 1], A. L. Cahill[1], N. Babai[4].* [1]Ophthalmology and Visual Sciences, Univ of Nebraska Medical Ctr; [2]Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center; [3]Cellular and Integrative Physiology, University of Nebraska Medical Center; [4]Department of Biology, Friedrich Alexander Universitat Erlangen-Nurnberg

576 — *B0038* **AMPA-DART silencing of horizontal cells in mouse retinal slices.** *Nicholas Brecha[1, 2], S. Purohit[1], J. C. Grove[3], J. de los Santos[1], A. A. Hirano[1, 2], M. R. Tadross[6], S. A. Barnes[4, 5].* [1]Neurobiology, Univ of California-Los Angeles; [2]Veterans Administration, VAGLAHS; [3]Neurobiology Graduate Program, UCSF; [4]Doheny Eye Institute; [5]Ophthalmology, UCLA; [6]Biomedical Engineering, Duke University

577 — *B0039* **AAV2/6 transduce to cone photoreceptors.** *Tesshu Hori[1], M. Fukutome[2], C. Maejima[1], S. Moritoh[1], K. Kobayashi[3], C. Koike[2, 4].* [1]Pharmaceutical sciences, Ritsumeikan University; [2]Life Sciences, Ritsumeikan University; [3]National Institute for Physiological Sciences; [4]Center for Systems Vision Science, Organization of Science and Technology

578 — *B0040* **Identification of PKCα-dependent phosphoproteins in mouse retina.** *Catherine W. Morgans[1], C. M. Wakeham[1], P. A. Wilmarth[2], G. Ren[1], j. E. Klimek[2], J. M. Cunliffe[2], L. L. David[3, 2].* [1]Physiology & Pharmacology, Oregon Health & Science University; [2]Proteomics Shared Resource, Oregon Health & Science University; [3]Biochemistry & Molecular Biology, Oregon Health & Science University

579 — *B0041* **TPBG: A PKCα-dependent phosphoprotein in rod bipolar cells plays a role in the light response.** *Colin M. Wakeham, T. L. Haley, G. Ren, C. W. Morgans***.** Physiology and Pharmacology, Oregon Health and Science University

580 — *B0042* **Contributions of cones to retinal adaptation to naturalistic visual inputs.** *Fred Rieke, J. Freedland, P. Mardoum***.** University of Washington

581 — *B0043* **A dark decrement for enhancement of incremental sensitivity in vertebrate photoreceptors.** *Richard L. Chappell[1, 2], S. Hu[3], M. Slaughter[4].* [1]Physiology and Biophysics, State University of New York at Buffalo; [2]Bell Center, Marine Biological Laboratory; [3]Neuroscience Program, State University of New York at Buffalo; [4]Physiology and Biophysics, State University of New York at Buffalo

582 — *B0044* **Structural and Functional Alterations in Tuberous Sclerosis Complex 1 (*Tsc1*)-Deficient Mouse Retina.** *SHARON JIYOON JUNG[1, 2], J. Choi[3], S. Lee[1, 2], S. Paik[1, 2], H. Kim[4], J. Kim[3], I. KIM[1, 2].* [1]Dept.of anatomy, College of Medicine, The Catholic University of Korea; [2]Catholic Neuroscience Institute, College of Medicine, The Catholic University of Korea; [3]Department of Biological Sciences, Korea Advanced Institute of Science and Technology (Kaist); [4]Catholic Integrative Research Support Center, College of Medicine, The Catholic University of Korea

583 — *B0045* **Age-related changes in flicker sensitivity with rod- and cone-enhanced stimuli.** *Amithavikram R. Hathibelagal[1, 2], S. R. Bharadwaj[1, 2], A. Subramanian[3], J. Sadler[3, 4], J. L. Barbur[3].* [1]Brien Holden Institute of Optometry and Vision Science, L V Prasad Eye Institute; [2]Prof. Brien Holden Eye Research Center, L V Prasad Eye Institute; [3]Centre for Applied Vision Research, School of Health Sciences, City, University of London; [4]Human Performance, QinetiQ, Cody Technology Park **CR*

584 — *B0046* **Isolation of pure S-cone responses in the ultraviolet-elicited photopic electroretinograms under a bright middle-wave background.** *Rumi Kawashima[1], K. Matsushita[1], K. Kuniyoshi[2], K. Nishida[1].* [1]Ophthalmology, Osaka University Hospital; [2]Kindai University **CR*

585 — *B0047* **S-cone function in Blue Cone Monochromacy.** *Jennifer R. Chao, X. Jiang, J. A. Kuchenbecker, A. Doebley, M. Neitz, J. Neitz, R. Sabesan***.** Ophthalmology, University of Washington

586 — *B0048* **UV-cones differentially encode contrast *in vivo* to support distinct visual functions across visual space.** *Takeshi Yoshimatsu[1], C. Schröder[3], P. Berens[2, 3], T. Baden[1, 3].* [1]Neuroscience, University of Sussex; [2]Bernstein Centre for Computational Neuroscience; [3]Institute for Ophthalmic Research, University of Tübingen

587 — *B0049* **Rod and cone photoresponsivity in the developing mouse retina.** *Paul Bonezzi[1], M. Tarchick[1], M. Stabio[2], J. M. Renna[1].* [1]Biology, The University of Akron; [2]Cell and Developmental Biology, University of Colorado School of Medicine

588 — *B0050* **Light induced changes of the outer temporal retina observed with optical coherence tomography.** *Alina Messner[1], R. M. Werkmeister[1], G. Seidel[3], H. Stegmann[1], L. Schmetterer[1, 2], V. Aranha dos Santos[1].* [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]Singapore Eye Research Institute, Singapore National Eye Centre; [3]Department of Ophthalmology, Medical University of Graz

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West Exhibition Hall B0067-B0090

Sunday, April 28, 2019 1:00 PM-2:45 PM

Visual Psychophysics/Physiological Optics

136 Aberrations, Ocular Optics, and Retinal Image Quality

Moderator: Juan Tabernero

589 — *B0067* **Computational model of sclerotic scatter.** *Fiona Johnston[1], A. Ho[2], M. T. Coroneo[1].* [1]Department of Ophthalmology, University of New South Wales; [2]School of Optometry & Vision Science, University of New South Wales

590 — *B0068* **A Novel 3D-Printed Eye Model for Practicing Indirect Ophthalmoscopy and Retinal Laser Photocoagulation.** *Danny Diaz, M. Dahrouj, T. Begaj, J. A. Kylstra***.** Ophthalmology, Massachusetts Eye and Ear Infirmary

591 — *B0069* **Automated Eye Model for Refraction and Vision.** *Noam Sapiens, P. TanPiengco, J. Serri***.** EyeQue Corporation **CR*

592 — *B0070* **Optical performance of phase-step contact lenses in the Arizona model eye.** *Karen Lahav-Yacouel[1, 2], A. Ho[1, 2], R. C. Bakaraju[1, 2].* [1]Brien Holden Vision Institute; [2]School of Optometry & Vision Science, University of New South Wales

593 — *B0071* **Clinical Measurement of Posterior Corneal Astigmatism in Normal Corneas.** *George Asimellis***.** Kentucky College of Optometry, University of Pikeville

594 — *B0072* **Simulated optical and visual impact of wavefront-guided scleral lens misalignment.** *Sujata Rijal, G. D. Hastings, L. C. Nguyen, M. J. Kauffman, R. A. Applegate, J. D. Marsack***.** Optometry, University of Houston **CR*

595 — *B0073* **A comparison of refraction data from Hartmann-Shack wavefront and adaptive optics visual simulator to other established methods of refraction.** *Carles Otero, J. Tabernero, J. Kidd, S. Pardhan***.** Anglia Ruskin University

596 — *B0074* **Influence of Wavefront Aberration Order on Vision Prediction and Correction.** *Kathryn L. Kosteva[1], R. A. Lilienthal[1], J. J. Rozema[2, 3], C. Taylor[1], D. Rio[1].* [1]New England College of Optometry; [2]Volantis, Department of Ophthalmology, Antwerp University Hospital; [3]Faculty of Medicine and Health Sciences, University of Antwerp

597 — *B0075* **Optical adaptation to spherical aberration.** *Fan Yi, M. J. Collins, B. A. Davis***.** School of Optometry and Vision Science, Queensland Univ of Technology

598 — *B0076* **Isolated human crystalline lens spherical aberration: Experimental measurements and predictions from OCT-based geometry.** *Ashik Mohamed[1, 2], S. Williams[3, 4], E. Martinez-Enriquez[5], A. De Castro[5], M. Ruggeri[3], B. Maceo Heilman[3, 4], Y. Chang[3, 4], N. Sravani[1], C. Rowaan[3], A. Gonzalez[3], S. S. Durgam[1], A. Ho[2, 6], R. C. Augusteyn[2, 6], J. Parel[3, 6], S. Marcos[5], F. Manns[3, 4].* [1]Ophthalmic Biophysics, L V Prasad Eye Institute; [2]School of Optometry and Vision Science, The University of New South Wales; [3]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [4]Department of Biomedical Engineering, University of Miami College of Engineering; [5]Visual Optics and Biophotonics Lab, Institute of Optics, Consejo Superior de Investigaciones Científicas; [6]Brien Holden Vision Institute **CR*

599 — *B0077* **Comparison of curvature-based and biometry-based methods for *in vivo* crystalline lens power calculation.** *Gabrielle Monterano Mesquita[1, 2], Y. Chang[1, 2], F. Cabot[1, 3], S. Williams[1, 2], G. Gregori[5], A. Ho[1, 4], M. Ruggeri[1], S. H. Yoo[1, 3], J. Parel[1, 4], F. Manns[1, 2].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Department of Biomedical Engineering, University of Miami College of Engineering; [3]Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [4]Brien Holden Vision Institute; [5]Quantitative Imaging Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine **CR*

600 — *B0078* **Inter-subject variability of through-focus visual acuity with induced spherical aberration.** *Eloy A. Villegas[1], L. Hervella[2, 1], P. Artal[1].* [1]Laboratorio de Óptica, Universidad de Murcia; [2]Voptica, SL **CR*

601 — *B0079* **Testing the effect of ocular aberrations on perceived Transverse Chromatic Aberration.** *SARA AISSATI, M. Vinas, C. Benedi-Garcia, C. Dorronsoro, S. Marcos***.** Visual Optics & Biophotonics Lab, Instituto de Optica, CSIC

602 — *B0080* **Towards better visual image quality metrics for real world conditions.** *Gareth Hastings, J. D. Marsack, R. A. Applegate***.** College of Optometry, University of Houston, College of Optometry **CR*

603 — *B0081* **Extremely high resolution ocular aberrometry up to 2.4 million points.** *Sergio Bonaque-González[1], J. M. Rodríguez-Ramos[1], J. M. Trujillo-Sevilla[1], O. Casanova-González[1], D. Carmona-Ballester[2], M. J. Sicilia-Cabrera[1].* [1]Wooptix S.L.; [2]Departamento de Ingeniería Industrial, Universidad de La Laguna **CR*

604 — *B0082* **Objective determination of visual acuity from a single wavefront measurement.** *Daniel R. Neal, T. D. Raymond, W. Xiong, D. Nankivil***.** Research and Development, Johnson and Johnson Vision **CR*

605 — *B0083* **Adaptive-optics vision simulation of multifocal lenses for myopia progression.** *Shrilekha Vedhakrishnan, M. Vinas, S. AISSATI, C. B. Garcia, M. Romero, A. Gonzalez-Ramos, C. Dorronsoro, S. Marcos***.** Visual optics and Biophotonics Lab, Instituto de Optica, CSIC

606 — *B0084* **Phase perception altered by long-term neural adaptation to habitual optics reduces neural binocular summation.** *Geunyoung Yoon[1, 2], C. J. Ng[1, 2], D. Tadin[2, 1], R. Blake[4], M. Banks[3].* [1]Flaum Eye Institute, University of Rochester; [2]Center for Visual SCience, University of Rochester; [3]School of Optometry, UC Berkeley; [4]Department of Psychology, Vanderbilt University

607 — *B0085* **Aberration estimation by computational adaptive optics to improve the quality of images containing structured illumination.** *Jyoti Paul, A. Lambert***.** School of Engineering and IT, The University of New South Wales

608 — *B0086* **Wavelength Optimization of the Retinal Image Quality.** *Jesson Martin, S. Nunez***.** Kentucky College of Optometry, University of Pikeville

609 — *B0087* **The rabbit lens – a bionic extended depth of focus device?** *Thomas Stahnke[1, 2], S. Bohn[1, 2], H. Stolz[3], R. F. Guthoff[1, 2], O. Stachs[1, 2], K. Sperlich[1, 2].* [1]Department of Ophthalmology, Rostock University Medical Center; [2]Department Life, Light & Matter, University Rostock; [3]Institute of Physics, University Rostock

610 — *B0088* **Crystalline lens Gradient Index Profile in the guinea pig myopia model.** *Susana Marcos[1], A. De Castro[1], E. Martinez-Enriquez[1], P. Perez-Merino[1], M. Velasco-Ocana[1], L. Revuelta[2], S. A. McFadden[3].* [1]Instituto de Optica, CSIC; [2]Facultad de Veterinaria, Universidad Complutense de Madrid; [3]University of Newcastle **CR*

611 — *B0089* **Applying Retinal Image Simulations to the Marmoset Eye for Emmetropization Studies.** *Mateusz T. Jaskulski[1], R. Nieu[2], X. Zhu[2], A. Benavente-Perez[2].* [1]School of Optometry, Indiana University; [2]College of Optometry, SUNY

612 — *B0090* **Preliminary Analysis of a Novel Software-Based Method of Quantifying Metamorphopsia: A Pilot Study.** *Jacob Lifton[1], A. A. Moshfeghi[2].* [1]Keck School of Medicine of USC; [2]Ophthalmology, USC Roski Eye Institute

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West Exhibition Hall B0091-B0124

Sunday, April 28, 2019 1:00 PM-2:45 PM

Glaucoma

137 Neuroprotection

Moderator: Daniel Sun

613 — *B0091* **Enhanced Retinal Ganglion Cell Axon Sparing in Mouse Ocular Hypertension Through RNA 3'-terminal Phosphate Cyclase (Rtca) Suppression.** *David Sretavan[1], Y. Song[2], J. Du[1].* [1]University of California San Francisco; [2]Pathology & Laboratory Medicine, Children's Hospital of Philadelphia

614 — *B0092* **Protection of retinal ganglion cells by kynurenic acid.** *Rooban Nahomi[1], M. Nam[1], J. Rankenberg[1], S. Rakete[1, 2], M. B. Pantcheva[1], D. L. Stankowska[4], J. Houck[3], G. Johnson[3], P. MacLean[3], R. H. Nagaraj[1].* [1]Ophthalmology, University of Colorado; [2]Social and Environmental Medicine, University Hospital LMU Munich; [3]Division of Endocrinology, Metabolism and Diabetes, University of Colorado; [4]Department of Pharmacology and Neuroscience, University of North Texas Health Science Center

615 — *B0093* **IGFBPL1 protects against the neuronal and vision loss in *IGFBPL1*$^{-/-}$ mice with ocular hypertension.** *Kin-Sang Cho[1, 2], X. Wei[3, 1], D. F. Chen[1].* [1]Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear; [2]Geriatric Research Education and Clinical Center, Office of Research and Development, Edith Nourse Rogers Memorial Veterans Hospital; [3]Ophthalmology, West China Hospital, Sichuan University **CR*

616 — *B0094* **Upregulation of retinal gap junction protein Cx36 expression in glaucoma is mediated by reducing LNX2 degradation of Cx36.** *Xinbo Li[1], Y. Wang[3], X. Zhao[2].* [1]Ophthalmology, Casey Eye Institute, OHSU; [2]Institute of Pharmacology, Taishan Medical University; [3]School of Optometry, Taishan Medical University

617 — *B0095* **Conditional TRPV4 ablation inhibits pressure-induced retinal inflammation in mouse glaucoma.** *Monika Lakk, F. Vazquez-Chona, O. Yarishkin, D. Krizaj***.** John A. Moran Eye Institute, University of Utah

618 — *B0096* **Treatment with p38 Inhibitor BIRB 796 is Neuroprotective in Models of Glaucoma.** *Wendi S. Lambert, S. Pasini, C. R. Formichella, P. Ghose, V. Vest, B. Carlson, V. Yao, D. J. Calkins***.** Vanderbilt Eye Institute, Vanderbilt University Med Center **CR*

619 — *B0097* **PKA inhibition protects optic nerve head astrocytes by modulating Akt/Bax phosphorylation and Mfn1/2 oligomerization against oxidative stress.** *Wonkyu Ju[1], M. Shim[2], K. Kim[3]*. [1]Hamilton Glaucoma Center/Ophthalmology, Univ of California San Diego; [2]Ophthalmology, Duke University; [3]Neuroscience, University of California San Diego

620 — *B0098* **The Lipoxin LXB_4 Reduces Mitochondrial Oxidative Stress in Retinal Ganglion Cells.** *izhar Livne-bar[1], J. G. Flanagan[2], K. Gronert[2], J. M. Sivak[1]*. [1]University Health Network-Krembil Discovery Inst.; [2]School of Optometry, University of California at Berkeley

621 — *B0099* **Analysis of extracellular vesicles released by Müller glial cells *in vitro*.** *William Lamb[1, 2], K. Eastlake[2, 1], G. Williams[3], P. T. Khaw[2], G. Limb[2, 1]*. [1]University College London; [2]NIHR Biomedical Research Centre for Ophthalmology; [3]School of Pharmacy, UCL

622 — *B0100* **Upregulation of monocarboxylate transporter 2 protects retinal ganglion cells in glaucoma.** *Nate Pappenhagen[1, 2], M. Harun-Or-Rashid[3], A. Jassim Jaboori[2], D. M. Inman[2]*. [1]College of Biomedical Sciences, Kent State University; [2]College of Pharmacy, Northeast Ohio Medical University; [3]Case Western Reserve University

623 — *B0101* **Effect of ripasudil on NMDA-induced retinal damage in mouse eye.** *Reiko Yamagishi[1, 2], M. Honjo[1], M. Aihara[1], C. Ku[2, 1]*. [1]Dept of Ophthalmology Sch of Med, University of Tokyo; [2]Southern Specialist Eye Centre

624 — *B0102* **The effect of GDF15 on the neurite outgrowth in retinal ganglion cells.** *Yuki Iwata, S. Inagaki, W. Morozumi, S. Nakamura, M. Shimazawa, H. Hara***.** Molecular Pharmacology, Department of Biofunctional Evaluation, Gifu Pharmaceutical University

625 — *B0103* **Adenosine A3 receptor agonist prevents the loss of retinal ganglion cells in a glaucoma model.** *Raquel Boia[1, 2], M. Salinas-Navarro[3, 4], A. Gallego-Ortega[3, 4], C. Galindo-Romero[3, 4], M. Agudo-Barriuso[3, 4], A. F. Ambrosio[1, 2], M. Vidal-Sanz[3, 4], A. Santiago[1, 2]*. [1]Coimbra Institute for Clinical and Biomedical Research (iCBR), Faculty of Medicine, University of Coimbra; [2]CNC.IBILI Consortium, University of Coimbra; [3]Departamento de Oftalmología, Facultad de Medicina, Universidad de Murcia; [4]Instituto Murciano de Investigación Biosanitaria-Virgen de la Arrixaca (IMIB-Arrixaca), Murcia, Spain

626 — *B0104* **Donepezil, an anti-Alzheimer's disease drug has the neuroprotective effect on RGCs derived from familial glaucoma patients' iPS cells.** *Satoshi Inagaki[1, 2], M. Funato[2], S. Nakamura[1], M. Shimazawa[1], H. Kaneko[2], H. Hara[1]*. [1]Gifu Pharmaceutical University; [2]Department of Clinical Research, National Hospital Organization, Nagara Medical Center

627 — *B0105* **Telmisartan, an angiotensin II type 1 receptor blocker, reduces IOP and prevents axon loss in mice with experimental glaucoma.** *Ralph J. Hazlewood[1], J. Kuchtey[1], R. W. Kuchtey[1, 2]*. [1]Ophthalmology and Visual Sciences, Vanderbilt University Medical Center; [2]Molecular Physiology and Biophysics, Vanderbilt University

628 — *B0106* **FK506 treatment promotes neuroprotection in organ transplanted glaucoma patients: a retrospective chart review.** *Valentina Reffatto, T. Williams, M. Schmitz-Brown, P. Gupta, G. Vizzeri***.** Ophthalmology and Visual Sciences, The University of Texas Medical Branch

629 — *B0107* **Proteomic Approaches to Study Cell Death Mechanisms in Human Stem Cell-Derived Retinal Ganglion Cells.** *Joseph L. Mertz[1], X. Chamling[1], D. J. Clark[2], K. C. Cho[2], C. Berlinicke[1], H. Zhang[2], D. J. Zack[1]*. [1]Wilmer Eye Institute, Johns Hopkins Medical School; [2]Department of Pathology, Johns Hopkins University

630 — *B0108* **The effect of mobile zinc on retinal ganglion cells death after glaucomatous optic nerve injury.** *zhe liu, L. Yangjiani, Y. Wei, J. Xue, Y. Zhuo, Y. Li***.** Zhongshan Ophthalmic Center, SYSU

631 — *B0109* **Evaluating iron chelation for retinal ganglion cell protection in mouse models of glaucoma.** *Albert Bargoud, Q. Cui, A. G. Ross, Y. Song, J. L. Dunaief***.** F.M. Kirby Center for Molecular Ophthalmology, Scheie Eye Institute, Perelman School of Medicine, University of Pennsylvania

632 — *B0110* **Sub-lethal hypoxic damage promotes primary retinal ganglion cell survival and VEGF may play an essential role.** *Wungrak Choi[1], A. Hwang[1], H. Bae[1], J. Lee[2], G. Sung[1], C. Y. Kim[1]*. [1]ophthalmology, Institute of Vision Research, Department of Ophthalmology, Yonsei University College of Medicine, Seoul, Korea; [2]Siloam Eye Hospital, Seoul, Korea

633 — *B0111* **Deficiency of ALX/FPR2 Deteriorates Inner Retinal Injury in Experimental Chronic Ocular Hypertension.** *John G. Flanagan[1], K. Gronert[1], J. M. Sivak[3, 4], P. Cullen[1], H. Liu[2, 1]*. [1]Vision Science, School of Optometry, University of California Berkeley; [2]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [3]Department of Vision Science, University Health Network, Krembil Research Institute; [4]Ophthalmology and Vision Science, University of Toronto, Vision Science Research Program

634 — *B0112* **Human Umbilical Cord Mesenchymal Stem Cells protect against ocular hypertension induced retinal injury via toll-like receptor 4 (TLR4) pathway.** *Shangli Ji[1, 2], J. Xiao[3], Z. LI[3], S. Tang[2, 1]*. [1]Aier Eye Institute; [2]Aier School of Ophthalmology, central south university; [3]central south university

635 — *B0113* **Novel Modulation of Endogenous Tau protein by Shp2 tyrosine Phosphatase in the Retina.** *Vivek Kumar Gupta[1], N. Chitranshi[1], K. Pushpitha[1], M. Mirzaei[2, 1], S. L. Graham[1]*. [1]Faculty of Medicine and Health Sciences, Macquarie University; [2]Faculty of Science and Engineering, Macquarie University

636 — *B0114* **siRNA Downregulation of RhoA Expression Reduces Apoptosis of Oxidative Retinal Ganglion Cells.** *Qian Liu, H. Li, C. Liu***.** Henan Eye Institute; Henan Eye Hospital; Henan Provincial People's Hospital

637 — *B0115* **Creating Gene Therapy With SIRT1 Signaling for Neuro-protection in Optic Nerve Disease.** *Ahmara G. Ross[1, 2], D. McDougald[1], R. Sulaimankutty[1], K. Dine[1], K. S. Shindler[2]*. [1]Ophthalmology, University of Pennsylvania; [2]Neurology, Hospital of University of Pennsyvania

638 — *B0116* **Ocular Hypertension Model Induced by Episcleral Vein Cauterization for Screening Retinal Ganglion Cells Neuroprotection Therapies in Brown Norway Rats.** *Lichun Zhong***.** Ocular Science Department, Toxikon Corporation

639 — *B0117* **A novel model of experimental glaucoma in the marmoset.** *Stewart A. Bloomfield, S. Kumar, A. Benavente-Perez, S. Viswanathan, A. Akopian***.** Graduate Center for Vision Research, State University of New York College of Optometry **CR*

640 — *B0118* **Highly Accurate, Fully-Automated Batch Processing of Retinal Ganglion Cell Counts from Retinal Flatmounts.** *Robert J. Casson[1], C. Guymer[1], G. Chidlow[1], J. P. Wood[1], L. Damp[2]*. [1]Ophthalmic Research Laboratories, University of Adelaide; [2]Southern Launch

641 — *B0119* **Melanopsin-Containing Subpopulation Analysis of Retinal Ganglion Cells in Culture.** *Suqian Wu, X. Chen, X. Mo***.** Eye, Ear, Nose & Throat Hospital, Fudan University

642 — *B0120* **Protects effects of edible plant, *Lithospermum erythrorhizon* on oxidative stress-induced retinal degeneration in vitro and in vivo.** *Sang Hoon Jung[1, 2], T. Kang[1], K. Kim[1, 2], W. Lee[1], Y. Kim[1], J. Jung[1], S. Yang[3], T. Kim[4]*. [1]Natural Products Research Center, Korea Inst of Sci & Techn; [2]Division of Bio-Medical Science &Technology, KIST School, Korea University of Science and Technology; [3]J's Retina Clinic; [4]Department of Biological Sciences, Pusan National University

643 — *B0121* **The Effects of KR-67607 on Intraocular Pressure and Glaucomatous Optic Neuropathy.** *Jee Young Kim[2], Y. Kang[2], Y. Shin[2], E. Park[2], J. Lee[1], J. Yang[2, 3]*. [1]BIONETIX, INC; [2]T2B infrastructure Center for Ocular Disease, Inje University Busan Paik Hospital; [3]Department of Ophthalmology, Inje University College of Medicine

644 — *B0122* **Electical Fields Direct Retinal Ganglion Cell Axon Growth.** *Kimberly Gokoffski[1], M. Zhao[2]*. [1]University of Southern California; [2]Ophthalmology and Dermatology, University of California Davis

645 — *B0123* **Optimization of trabecular meshwork laser strategy to achieve sustained 2-3X intraocular pressure elevation and glaucomatous optic neuropathy in primates.** *Wenzheng Hu, C. Patel, J. Martin, V. Woodley, J. Attwood, T. Corey, M. O'connor, M. S. Lawrence***.** RxGen Inc **CR*

646 — *B0124* **Activity-dependent molecular programs for optic nerve regeneration.** *Qing Wang[1], I. Harutyunyan[2], S. Carmichael[2]*. [1]Ophthalmology, UCLA Stein Eye Institute; [2]Neurology, UCLA

West Exhibition Hall B0125-B0161

Sunday, April 28, 2019 1:00 PM-2:45 PM

Glaucoma

138 Neurodegeneration

Moderator: Alejandra Bosco

647 — *B0125* **Survival of αRGC and ipRGC in a mouse model of glaucoma.** *Sari Miyachi[1, 2], K. Namekata[1], A. Kimura[1], X. Guo[1], A. Matsuda[2], A. Murakami[2], T. Harada[1]*. [1]The Visual Research Project, Tokyo Metropolitan Institute of Medical Science; [2]Department of Ophthalmology , Juntendo University School of Medicine **CR*

648 — *B0126* **All classes of melanopsin-expressing retinal ganglion cells are protected from degeneration in early ocular hypertension.** *Yang Zhang[1, 2], A. Bhandari[2], A. Stothert[2], J. C. Smith[2], M. J. Van Hook[2]*. [1]Creighton University School of Medicine; [2]Department of Ophthalmology & Visual Sciences, University of Nebraska Medical Center, Truhlsen Eye Institute

649 — *B0127* **Timeline of retinal ganglion cell loss and complement response in βb1-CTGF glaucoma mice.** *Sabrina Reinehr[1], J. Dörner[1], D. Koch[1], C. Voss[1], R. Fuchshofer[2], B. Dick[1], S. C. Joachim[1]*. [1]Experimental Eye Research Institute, University Eye Hospital; [2]Institute of human anatomy and embryology, University Regensburg

650 — *B0128* **POU6F2 modulates corneal thickness and susceptibility to injury in directionally selective on-off retinal ganglion cells.** *Eldon E. Geisert, R. King, Y. Li, J. Wang***.** Ophthalmology, Emory University

651 — *B0129* **Exploring the Role of BAX in the Degeneration of Retinal Ganglion Cell Axons and Dendritic Arbors.** *Ryan J. Donahue, B. N. Ebbinghaus, M. Hoon, R. W. Nickells***.** Ophthalmology and Visual Sciences, University of Wisconsin - Madison

652 — *B0130* **Methods to improve and quantify retinal integration of transplanted stem cell-derived retinal ganglion cells for optic nerve regeneration.** *Thomas V. Johnson, C. Tuffy, J. L. Mertz, H. A. Quigley, D. J. Zack***.** Wilmer Eye Institute, Johns Hopkins University

653 — *B0131* **mTOR Signaling and Human Retinal Ganglion Cell Development and Function.** *Pooja Teotia, M. J. Van Hook, I. Ahmad***.** Ophthalmology & Visual Sciences, University of Nebraska Medical Center

654 — *B0132* **Switching from the proteasomal to the lysosomal pathway for MQC during human RGC differentiation is essential for RGC survival.** *Arupratan Das[1], C. Wenger[1], C. Berlinicke[1], N. Marsh-Armstrong[2], D. J. Zack[1]*. [1]Ophthalmology, Johns Hopkins School of Medicine; [2]Ophthalmology and Vision Sciences, University of California

655 — *B0133* **Deletion of *Aqp9* in mice enhances retinal ganglion cell death after optic nerve injury.** *Sotaro Mori, T. Kurimoto, A. Miki, S. Kusuhara, M. Nakamura***.** Ophthalmology, Kobe University Graduate School of Medicine **CR*

656 — *B0134* **Downstream transcriptional control of retinal ganglion cell apoptosis after axonal injury.** *Stephanie B. Syc-Mazurek[1], H. Yang[2], G. R. Howell[2], R. T. Libby[1]*. [1]Ophthalmology, University of Rochester; [2]The Jackson Laboratory

657 — *B0135* **Neuronal Nogo-A upregulation promotes retinal ganglion cell axon dystrophy: a new mechanism underlying glaucoma-induced optic nerve axonopathy?** *Léa Rodriguez[1], S. Joly[1], J. B. Mdzomba[1], D. Dalkara[2], V. Pernet[1]*. [1]Ophthalmology, Universite Laval - CHUL; [2]Institut de la vision

658 — *B0136* ***Wld[S]* gene protects against deficits in visual acuity and axonal transport caused by ocular hypertension.** *Silvia Pasini, M. L. Risner, M. Cooper, W. S. Lambert, K. B. D'Alessandro, D. J. Calkins***.** Ophthalmology and visual sciences, Vanderbilt University Medical Center

659 — *B0137* **Loss of mature oligodendrocytes after chronic intraocular pressure elevation in the PTP-Meg2 glaucoma mouse model.** *Jacqueline Reinhard[1], S. Wiemann[1], M. Wulf[1], S. C. Joachim[2], A. Faissner[1]*. [1]Cell Morphology and Molecular Neurobiology, Ruhr-University Bochum; [2]Experimental Eye Research Institute, University Eye Hospital, Ruhr-University Bochum

660 — *B0138* **Mechanisms underlying early-stage changes in cellular function of optic nerve head astrocytes and retinal ganglion cells during oxidative stress as novel targets for neuro- and glioprotection.** *Peter Koulen[2, 1], J. Means[2], R. Duncan[2]*. [1]Biomedical Sciences, University of Missouri-Kansas City, School of Medicine; [2]Ophthalmology/Vision Research Center, University of Missouri-Kansas City, School of Medicine

661 — *B0139* **Endothelin Signaling in Glaucomatous Neurodegeneration.** *Olivia J. Marola[1], S. B. Syc-Mazurek[1], G. R. Howell[2], R. T. Libby[1]*. [1]Ophthalmology, University of Rochester; [2]The Jackson Laboratories

662 — *B0140* **Extracellular Matrix Tissue Content of the Neuroretinal Rim differs in Healthy and Glaucomatous Eyes.** *Nimesh B. Patel, L. Carter-Dawson, R. S. Harwerth***.** University of Houston

663 — *B0141* **Loss of optineurin disrupts mitochondrial networks and morphology.** *Henry Tseng, E. Sun, J. Powers, C. Chen***.** Duke Eye Center

664 — *B0142* **Developmental Regulation of Mitochondrial Axonal Transport in Rat Retinal Ganglion Cells.** *Satoshi Yokota[1], S. Shah[1, 2], J. L. Goldberg[1]*. [1]Byers Eye Institute, Stanford University; [2]School of Medicine, University California, San Diego

665 — *B0143* **Mice with mutation of the mitochondrial gene cytochrome c oxidase 1 have impaired visual function and retinal ganglion cell loss.** *Qi N. Cui[1], A. Bargoud[1], Y. Song[1], K. N. Keller[2], D. G. Murdock[2], J. L. Dunaief[1], D. C. Wallace[2]*. [1]University of Pennsylvania; [2]Children's Hospital of Philadelphia

666 — *B0144* **Short-term Cerebrospinal Fluid Pressure Reduction Model Mimic Optic Neuropathy Disease ——Beijing Intracranial and Intraocular Pressure (iCOP) Study.** *Ningli Wang[1], X. Li[2]*. [1]Ophthalmology, Beijing Tongren Eye Center; [2]Department of Ophthalmology, Beijing Shijitan Hospital, Capital Medical University

667 — *B0145* **Glaucoma-associated E50K-optineurin mutation impairs mitochondrial-derived vesicle trafficking.** *James Powers[1], K. Trautman-Buckley[2], E. Sun[1], C. Chen[1], D. M. Inman[2], H. Tseng[1]*. [1]Ophthalmology, Duke Eye Center; [2]Northeast Ohio Medical University

668 — *B0146* **Human primary retinal cells as an in-vitro cell culture model for investigating defective signalling caused by OPTN mutants associated with glaucoma.** *Zuberwasim Sayyad[1], S. Vishwakarma[2], T. V. Dave[2], I. Kaur[2], R. Vegesna[1], G. Swarup[1]*. [1]CSIR-Centre for Cellular and Molecular Biology; [2]L.V. Prasad Eye Institute

669 — *B0147* **Pre-degenerative Accumulation of Superoxide and Hydroxide in a Chronic Mouse Model of Glaucoma.** *Assraa H. Jassim, D. M. Inman***.** Pharmaceutical Sciences, Northeast Ohio Medical University

670 — *B0148* **Frequent non-intact axons and extensive extracellular debris in the optic nerve head at very early stages of non-human primate experimental glaucoma.** *Nicholas Marsh-Armstrong[1], C. Hou[1], C. Stowell[2, 3], I. Williams[2, 3], E. Bushong[4], H. Lockwood[2, 3], J. Reynaud[2, 3], M. Ellisman[4], C. F. Burgoyne[2, 3]*. [1]Ophthalmology, University of California Davis; [2]Optic Nerve Head Research Laboratory, Devers Eye Institute; [3]Legacy Research Institute; [4]National Center for Microscopy and Imaging Research, University of California

671 — *B0149* **Live imaging of debris clearance in the optic nerve of *Xenopus laevis*.** *Lindsay Fague, A. Mikhailova, N. Marsh-Armstrong*. Ophthalmology, University of California, Davis

672 — *B0150* **Microglial activation and interaction at synaptic sites in experimental glaucoma.** *Alfred K. Yu, K. Mai, E. Choe, A. Tran, L. Della Santina, Y. Ou*. Ophthalmology, University of California, San Francisco

673 — *B0151* **Neuro-inflammation and degeneration in the Optic Nerve Head (ONH) in a Genetic Feline Model of Glaucoma.** *Kazuya Oikawa[1, 2], J. A. Kiland[1], N. Ellinwood[3], G. J. McLellan[1, 2]*. [1]Ophthalmology and Visual Sciences, University of Wisconsin-Madison; [2]Surgical Sciences, University of Wisconsin-Madison; [3]Animal Sciences, Iowa State University

674 — *B0152* **Increased infiltration of immune cell subsets and altered soluble factor profile in aqueous humor of glaucoma patients correlates with disease severity.** *Archana P. Nair[1, 2], G. R. Sahu[1], S. Tejwani[3], A. Ghosh[1], S. Sethu[1]*. [1]GROW Research Laboratory, Narayana Nethralaya Foundation; [2]Manipal Academy of Higher Education; [3]Glaucoma Services, Narayana Nethralaya

675 — *B0153* **Elevated Intraocular Pressure (IOP) Induced Optic Nerve Head (ONH) Gene Expression Responses: Two Experimental Models and Two Analysis Platforms.** *Diana C. Lozano[1], H. Jayaram[2, 1], T. Choe[1], W. Cepurna[1], S. Tehrani[1], E. Johnson[1], J. C. Morrison[1]*. [1]Ophthalmology, Oregon Health & Science University; [2]NIHR Moorfields Biomedical Research Centre

676 — *B0154* **Correlation between RGC loss and optic nerve crush force impulse in mice established with an instrumented forceps.** *Xiaorong Liu[4, 1], L. Feng[4], I. Shindi[3], J. B. Troy[2], L. Saggere[3]*. [1]Biology, University of Virginia; [2]Biomedical Engineering, Northwestern University; [3]Mechanical and Industrial Engineering, University of Illinois at Chicago; [4]Ophthalmology, Northwestern University

677 — *B0155* **A novel inducible and reversible mouse glaucoma model: Silicone Oil-Induced Ocular Hypertension Under-detected (SOHU).** *Jie Zhang[1, 2], L. Li[1], H. Huang[1], H. Webber[1], S. Li[2], P. H. Tang[1], V. B. Mahajan[1], Y. Sun[1], M. Zhang[2], Y. Hu[1]*. [1]Ophthalmology, Stanford School of Medicine; [2]Ophthalmology, Union Hospital, Tongji Medical College,Huazhong University of Science and Technology

678 — *B0156* **Strain associated responses to experimental glaucoma induced by injection of microspheres into the anterior chamber of the rat eye.** *Karen Eastlake, H. Jayaram, W. Wang, W. Lamb, C. Murray-Dunning, P. T. Khaw, G. Limb*. Institute of Ophthalmology, University College London

679 — *B0157* **Automated analysis of axons and glia in a Brown Norway rat model of glaucoma, comparison of QuPath to AxonJ.** *Barbara A. Mysona[1, 3], S. Segar[2], J. Zhao[2, 3], K. E. Bollinger[2, 3]*. [1]Cell Biology and Anatomy, Augusta University; [2]Ophthalmology, Medical College of Georgia; [3]James and Jean Culver Vision Discovery Institute ↗

680 — *B0158* **Serum autoantibody biomarkers of neuroinflammation and neurodegeneration in glaucoma.** *Daniel M. Vu[1], M. V. Brahmajothi[2], M. B. Abou-Donia[2], H. Tseng[1]*. [1]Department of Ophthalmology, Duke University Eye Center; [2]Department of Pharmacology and Cancer Biology, Duke University School of Medicine

681 — *B0159* **Drebrin plasma levels elevated with RGCs axonopathy in glaucoma patients.** *GAN YIJING, Z. CHI, J. QU*. Wenzhou Medical University

682 — *B0160* **Role of Central Insulin Resistance in Glaucoma.** *Muneeb A. Faiq[1, 2], T. Dada[2], T. Sengupta[3], M. Nath[4], T. Velpandian[4], K. Chan[1, 5]*. [1]Department of Ophthalmology, New York University School of Medicine; [2]Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences; [3]Department of Physiology, All India Institute of Medical Sciences; [4]Department of Ocular Pharmacology, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences; [5]Department of Radiology, New York University School of Medicine

683 — *B0161* **Glucocorticoid-induced glaucomatous neurodegeneration is associated with demyelination of optic nerve axons and infiltration of immune cells.** *prabhavathi maddineni, R. Kasetti, P. D. Patel, G. Zode*. University of North Texas Health Science Center

West Exhibition Hall B0162-B0187

Sunday, April 28, 2019 1:00 PM-2:45 PM

Glaucoma

139 Laser Therapy

Moderator: Albert S. Khouri

684 — *B0162* **Prediction for Effectiveness of Unilateral Selective Laser Trabeculoplasty for the Untreated Fellow Eye of Primary Open-angle Glaucoma Patients.** *Xiang Fan, L. Wu*. Peking University Eye Center, Peking University Third Hospital

685 — *B0163* **Do Concurrent Topical Medications Influence the Extent of IOP Reduction with SLT?** *Madeleine Puig[1], M. Montelongo[2, 3], W. E. Sponsel[4, 5]*. [1]University of Texas Health Science Center San Antonio; [2]School of Medicine, Universidad Autonoma de Guadalajara; [3]International Fellow, Sponel Foundation; [4]Glaucoma, WESMDPA; [5]Vision Sciences/Biomedical Engineering, UIW/UTSA

686 — *B0164* **Withdrawal_Control efficacy on 24-hour intraocular pressure in primary open-angle glaucoma using selective laser trabeculoplasty and prostaglandin analogue.** *Xiaobin Xie, J. Feng, M. Wang*. Eye Hospital, China Academy of Chinese Medical Sciences

687 — *B0165* **Outcomes of selective laser trabeculoplasty after prior incisional surgery for open-angle glaucoma.** *Connie M. Wu, B. Kuley, C. X. Zheng, M. Lin, S. J. Moster, C. Schmidt, M. Moster, M. J. Pro, D. Lee*. Glaucoma Research Center, Wills Eye Hospital **CR*

688 — *B0166* **West Indies Glaucoma Laser Study (WIGLS) 6. Factors Associated With 3-Year Treatment Success Using Selective Laser Trabeculoplasty in Afro-Caribbean Patients with Open-Angle Glaucoma.** *Balasubramani K. Goundappa[1], D. Burt[2], H. Shillingford-Ricketts[3], T. Realini[4]*. [1]University of Pittsburgh; [2]Eye Care St. Lucia; [3]Harlsbro Medical Center; [4]Ophthalmology and Visual Sciences, West Virginia University Eye Institute ↗

689 — *B0167* **Outcomes of repeat selective laser trabeculoplasty for open-angle glaucoma.** *Saumya Copparam[1, 2], B. Kuley[1, 2], C. X. Zheng[1], M. Lin[1], S. J. Moster[1], C. Schmidt[1], M. Moster[1], D. Lee[1], M. J. Pro[1]*. [1]Glaucoma, Wills Eye Hospital; [2]Thomas Jefferson University **CR*

690 — *B0168* **Is Capacity for Normalization of Optic Nerve Function After Selective Laser Trabeculoplasty Dependent on Degree of Retinal Nerve Fiber Layer thinning, Optic Nerve Head Cupping, or Hypertension?** *Sabrina Chen[1, 2], L. Nguyen[1], A. Brahmbhatt[1], K. Narain[1]*. [1]South Bay Retina; [2]Johns Hopkins University

691 — *B0169* **Is Severity of Glaucomatous Visual Field Loss Associated with Short-term IOP Lowering Effect of SLT?** *Mario Montelongo[1], R. Trevino[2], W. E. Sponsel[4, 3]*. [1]School of Medicine, Universidad Autonoma de Guadalajara; [2]UIW Rosenberg School of Optometry; [3]Biomedical Engineering, UTSA; [4]Vision Sciences, University of the Incarnate Word

692 — *B0170* **A Retrospective Chart Review Comparing Efficacy of Selective Laser Trabeculoplasty applied to 360 degrees vs 180 degrees of the angle.** *Abraham Nirappel, D. Sola-Del Valle***.** Glaucoma, Mass Eye & Ear

693 — *B0171* **Comparison between nasal and temporal 180-degree selective laser trabeculoplasty in open-angle glaucoma: short-term results.** *Jayter S. Paula[1], C. Senger[1], C. De Moraes[2], M. Rodrigues[1]*. [1]Ophthalmology, Ribeirão Preto Medical School - University of São Paulo; [2]Ophthalmology, Edward S. Harkness Eye Institute, Department of Ophthalmology, Columbia University Medical Center, New York

694 — *B0172* **Laser in Glaucoma and Ocular Hypertension Trial (LIGHT) in China -An Unmasked, Pragmatic Randomized Controlled Trial: Design and Baseline Characteristics.** *Yangfan Yang[1], Y. Jiang[2], M. Lin[1], X. Liu[1], Y. Fan[1], N. Nathwani[2], P. Liu[1], J. Huang[1], Y. Ling[1], Y. Zhong[1], X. Zhang[1], Y. Zhuo[1], G. Gazzard[2], M. Yu[1]*. [1]Zhongshan Ophthalmic Center, Sun Yat-sen U.; [2]Moorfields Eye Hospital ↗

695 — *B0173* **Assessing the effectiveness of PASCAL Laser Trabeculoplasty in the management of glaucoma.** *Syed N. Ahmed[1], S. M. Shahid[2], S. Kanavati[1], S. Ahmed[1], J. Hickman-Casey[1]*. [1]Ophthalmology , East Sussex Healthcare Trust; [2]Ophthalmology, Moorfields Eye Hospital

696 — *B0174* **Efficacy of Micropulse Laser Trabeculoplasty in Open Angle Glaucoma.** *antonella clemente[1], C. Toma[1], S. Vujosevic[1], c. padovan[2], s. de cillà[1, 2]*. [1]Eye Unit, University Hospital Maggiore della Carità, Novara; [2]science of healt, Universita del Piemonte Orientale

697 — *B0175* **Post-operative one hour intraocular pressure spikes and long term pressure efficacy in micropulse laser trabeculoplasty (MLT) vs selective laser trabeculoplasty (SLT).** *Catherine Thomas[1], D. Darwish[2], M. Giovingo[1], A. Mannina[1]*. [1]Ophthalmology, Cook County Hospital; [2]University of Illinois **CR*

698 — *B0176* **Efficacy and safety of transscleral micropulsed laser in the treatment of glaucoma refractory to treatment.** *Lucia Delgadillo[1], G. Diez[2], J. Ortega[2]*. [1]Consulta de Especialidad, Fundación Hospital Nuestra Señora de la Luz; [2]Glaucoma, Fundación Hospital Nuestra Señora de la Luz

699 — *B0177* **Short-term outcomes of MicroPulse Trans-scleral Cyclophotocoagulation in Korean patients.** *Jaekeun Chung, J. Jung, Y. Yoo***.** Department of Ophthalmology, Kim's Eye Hospital

700 — *B0178* **Micropulse Transscleral Cyclophotocoagulation in Refractory Glaucoma. 6 month follow-up.** *Clarisa Del Hierro, D. Alvarez Ascencio, C. Prado Larrea, J. Jiménez Román***.** Asociacion Para Evitar la Ceguera en Mexico

701 — *B0179* **Pilot Study Comparing Transscleral Cyclophocoagulation in Chinese using Short and Long Duration Protocol.** *Jonathan Chan[1], I. Chow[2]*. [1]Department of Ophthalmology, University of Hong Kong; [2]University of Hong Kong

702 — *B0180* **Outcomes of MicroPulse Cyclophotocoagulation in Adult Glaucoma Patients.** *Eric Grisham[1], S. Hooshmand[1], J. A. An[1, 2]*. [1]University of Missouri; [2]Ophthalmology, Mason Eye Institute

703 — *B0181* **The Efficacy and Safety of Micropulse Photocyclophotocoagulation in the Treatment of Refractory Advanced Pediatric Glaucomas.** *Bibiana Jin J. Reiser***.** Ophthalmology, USC Eye Institute/Children's Hosp **CR*

704 — *B0182* **Three-Year Retrospective Study of Treatment with Micropulse Cyclophotocoagulation as a Primary Procedure for Neovascular Glaucoma.** *Brett Breshears[1], T. D. Patrianakos[2], M. Giovingo[2]*. [1]Midwestern University; [2]John H. Stroger, Jr. Hospital of Cook County

705 — *B0183* **Intraocular pressure reduction profile in patients with refractory glaucoma submitted to micropulse transscleral cyclophotocoagulation.** *Larissa Ibrahim[2], A. Chaves[2], T. Kanadani[2], S. Dorairaj[3], T. Prata[1], F. Kanadani[2]*. [1]Hospital Medicina dos Olhos; [2]Instituto de Olhos Ciências Médicas; [3]Mayo Clinic

706 — *B0184* **Pars plicata versus pars plana application of micropulse transscleral cyclophotocoagulation.** *Sören Waibel, R. Herber, L. E. Pillunat, K. R. Pillunat***.** Universitatsaugenklinik Dresden ↗

707 — *B0185* **Efficacy of Transcleral Diode Cyclophotocoagulation in a sub-Saharan Rural Population with Severe Glaucomatous Ocular Hypertension.** *vincent M. saka[2, 1], R. Chitedze[2, 1], S. Sullivan[3], A. Amin[3], M. Montelongo[4], W. E. Sponsel[5, 1]*. [1]Sponsel Foundation/Child Legacy International; [2]Ophthalmology, Eyes of Africa Clinic, Child Legacy Hospital; [3]Ophthalmology, New York Medical College; [4]School of Medicine, Universidad de Guadalajara; [5]Visual Sciences/Biomedical Engineering, UIW/UTSA

708 — *B0186* **Effectiveness of Laser Goniopuncture as an Adjuvant Therapy to Non-Penetrating Deep Sclerectomy for Lowering Intraocular Pressure.** *Scott Sullivan[1], A. Amin[1], M. Montelongo[2], W. E. Sponsel[3, 4]*. [1]Ophthalmology, New York Medical College; [2]School of Medicine, Universidad Autonoma de Guadalajara; [3]Glaucoma, WESMDPA; [4]Vision Sciences/Biomedical Engineering, UIW/UTSA

709 — *B0187* **Bubble-Free Gonioscopy II.** *Frederick M. Kapetansky, N. B. Dusseau***.** Ophthalmology, The Ohio State University

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West Exhibition Hall B0188-B0206

Sunday, April 28, 2019 1:00 PM-2:45 PM

Anatomy and Pathology/Oncology

140 Clinical Melanoma. Therapy and Complications

Moderator: Dan Gombos

710 — *B0188* **Incidence and features of uveal melanoma in a closed, managed care USA population.** *Gena Damento[1], R. B. Melles[2], I. Phan[2], M. I. Seider[2]*. [1]Ophthalmology, California Pacific Medical Center; [2]Kaiser Permanente Northern California

711 — *B0189* **Scope of Retinal Disease-Related Inpatient Ophthalmology Consultations at a National Cancer Institute Designated Comprehensive Cancer Center.** *M. Ali Khan, P. P. Le, A. Huang, O. L. Lee, J. A. Irvine***.** Ophthalmology, Doheny Eye Institute / UCLA

712 — *B0190* **Clinicopathologic Features of Rare Non-Pigmented Ciliary Body Adenomas: a case series and literature review.** *Richard K. Lee[1], E. Han[1], P. Lu[2], J. Ma[2], P. Monsalve[1], S. Dubovy[1]*. [1]Bascom Palmer Eye Institute; [2]Lanzhou University Second Hospital

713 — *B0191* **Clinicopathological evaluation of eye removal procedures: a 13-year evaluation.** *Vinicius C. Lima, G. Cavalieri, A. T. Dias, C. Mastromonaco, S. Bergeron, J. Burnier, M. N. Burnier***.** The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

714 — *B0192* **A numerical model to calculate the role of the vitreous humor viscosity in laser-induced thermal damage in choroidal melanomas.** *Alcides Fernandes[1], O. P. Garcia[2], V. L. Torres[2], P. R. Lyra[2], R. F. Lima[2]*. [1]Ophthalmology, Emory University; [2]DEMEC, UPFE

715 — *B0193* **Fractionated Stereotactic Radiosurgery for Very Large (T4) Posterior Uveal Melanoma(UM): 1-year and 2-year Results.** *Alexander de Castro-Abeger[1, 2], D. Ayala-Peacock[2], G. Luo[2], G. Twork[2], A. Daniels[1, 2]*. [1]Vanderbilt Eye Institute; [2]Vanderbilt University Medical Center

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

716 — *B0194* **Treatment of uveal melanoma located at the ciliary body using a robotic assisted linear accelerator.** *Raffael Liegl[1], C. Fuerweger[2], M. Schmeinck[1], J. Siedlecki[1], A. Muacevic[2], U. Schaller[1, 3], S. Priglinger[1], P. Foerster[1]*. [1]Dpt. of Ophthalmology, Ludwig-Maximilians-University; [2]European Cyberknife Center; [3]Herzog Carl Theodor Eye Hospital

717 — *B0195* **"Doughnut" shaped braquitherapy plaque for the treatment of Iris melanoma.** *Vidal Soberón[1, 2], Y. Yang[3], J. Lamb[3], P. E. Chow[3], T. A. McCannel[2]*. [1]Retina, Asociacion para evitar la ceguera en mexico; [2]Retina/Oncology, Jules Stein Eye Institute; [3]Radiation Oncology, UCLA

718 — *B0196* **Risk factors for chronic pain following plaque brachytherapy for uveal melanoma and impact of chronic postoperative pain on quality of life.** *David A. Edwards[1, 3], J. Burris[2], A. Daniels[2, 3]*. [1]Anesthesiology, Vanderbilt; [2]Ophthalmology & Visual Sciences, Vanderbilt; [3]Vanderbilt-Ingram Cancer Center, Vanderbilt **CR*

719 — *B0197* **Two year results of a phase 1b/2 open-label clinical trial of AU-011 for the treatment of small to medium choroidal melanoma.** *Tara A. McCannel[1], A. Bhavsar[2], A. Capone[3], H. Demirici[4], I. K. Kim[5], B. Marr[6], C. Rich[9], A. C. Schefler[8], C. L. Shields[7]*. [1]Ophthalmology, Stein Eye and Doheny Eye Institutes; [2]The Retina Center; [3]Beaumont Hospital; [4]Kellogg Eye Center; [5]Massachusetts Eye and Ear Infirmary; [6]Columbia; [7]Wills Eye; [8]Texas Retina; [9]Aura Biosciences **CR*, ↗

720 — *B0198* **Blue wave fundus autofluorescence imaging following ruthenium-106 brachytherapy for choroidal melanoma.** *Almut Bindewald-Wittich[1, 2], T. Swenshon[3], E. Carasco[3], G. D. Willerding[3]*. [1]AugenAllianz-Zentren Heidenheim; [2]Department of Ophthalmology, University of Bonn; [3]Department of Ophthalmology, DRK Kliniken Berlin Westend

721 — *B0199* **Prophylactic Intravitreal Bevacizumab after Plaque Radiotherapy for Uveal Melanoma: Analysis of 1311 Eyes of 1310 Patients by Age.** *Michael Chang[1], L. A. Dalvin[1, 2], L. S. Lim[1], M. Mazloumi[1], A. Yaghy[1], A. Mashayekhi[1], C. L. Shields[1]*. [1]Ocular Oncology, Wills Eye Hospital; [2]Ophthalmology, Mayo Clinic

722 — *B0200* **Randomized Trial of Monthly versus PRN intravitreal injection of ranibizumab with and without PRN targeted panretinal photocoagulation (TRP) for radiation-induced macular edema: RRR Two year Anatomic Outcomes.** *Amy C. Schefler[1, 2], R. Anand[3], T. Fuller[3], D. Fuller[3], R. S. Kim[1, 4]*. [1]Ophthalmology, Retina Consultants of Houston; [2]Ophthalmology, Blanton Eye Institute; [3]Texas Retina Associates; [4]University of Texas Health Sciences Center at Houston **CR*, ↗

723 — *B0201* **Randomized Trial of Monthly versus PRN intravitreal injection of ranibizumab with and without PRN targeted panretinal photocoagulation (TRP) for radiation-induced macular edema: RRR 2-year Visual Acuity Outcomes.** *Ryan Kim[1, 2], R. Anand[3], D. Fuller[3], T. Fuller[3], M. Bretana[2], A. C. Schefler[2, 4]*. [1]McGovern Medical School, University of Texas Health Science Center; [2]Retina Consultants of Houston; [3]Texas Retina Associates; [4]Blanton Eye Institute, Houston Methodist Hospital **CR*, ↗

724 — *B0202* **Serous Pigment Epithelial Detachments Associated with Choroidal Nevi.** *Kirk K. Hou, V. Soberón, T. A. McCannel***.** Jules Stein Eye Institute

725 — *B0203* **Photoreceptor Morphology and Correlation with Subretinal Fluid Chronicity Associated with Choroidal Nevus.** *Antonio Yaghy[1], L. A. Dalvin[1, 2], M. Yu[1], M. Mazloumi[1], C. L. Shields[1]*. [1]Ocular Oncology Service, Wills Eye Hospital; [2]Ophthalmology, Mayo Clinic

726 — *B0204* **Decreased retinal sensitivity overlying melanocytic choroidal lesions evaluated by microperimetry.** *Rodrigo Jorge[1], M. Labarrere[1], A. Messias[1], Z. Correa[2]*. [1]Ophthalmology, Ribeirao Preto Medical School, University of Sao Paulo; [2]Ophthalmology, Wilmer Eye Institute, Johns Hopkins Medicine

727 — *B0205* **Quantitative autofluorescence characteristics of choroidal nevi.** *Marco Mazzola[1, 2], E. Semenova[2], W. Wei[2], R. Smith[3], P. T. Finger[2]*. [1]Department of Medicine and Surgery, University of Insubria Varese-Como; [2]New York Eye and Ear Infirmary of Mount Sinai; [3]Ichan School of Medicine at Mount Sinai

728 — *B0206* **The SON Study: preliminary results from the Italian series.** *Veronica Forlani[1], C. Preziosa[1], A. T. Fung[2, 3], G. Staurenghi[1], A. Invernizzi[1], M. Pellegrini[1]*. [1]Eye Clinic, Department of Ophtalmology, Luigi Sacco Hospital; [2]Ophalmology, Westmead Hospital; [3]Faculty of Medicine and Health Sciences, Macquarie UniversityHospital **CR*

West Exhibition Hall B0207-B0240

Sunday, April 28, 2019 1:00 PM-2:45 PM

Anatomy and Pathology/Oncology

141 Melanoma: Immunotherapy, Genomics, New Strategies

Moderators: LATA SINGH and Julia Burnier

729 — *B0207* **Phenotypic plasticity in uveal melanoma spheroids.** *Helen Kalirai, L. Djirackor, S. E. Coupland***.** Molecular and Clinical Cancer Medicine, University of Liverpool

730 — *B0208* **A 3D spheroid model of Uveal Melanoma (UM).** *Luna Djirackor[1], H. Shahidipour[2, 1], S. E. Coupland[1], H. Kalirai[1]*. [1]Molecular and Clinical Cancer Medicine, University of Liverpool; [2]School of Medicine, Western Sydney University

731 — *B0209* **Characterization of uveal melanoma cell lines grown in three-dimensional culture systems.** *Alicia A. Goyeneche, J. Lasiste, P. Bustamante, J. Burnier, M. N. Burnier***.** The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

732 — *B0210* **The effect of spliceosome inhibitor E7107 on SF3B1^{mut} uveal melanoma cell lines.** *Wojtek Drabarek[1], J. van Riet[2, 3], H. van de Werken[2, 3], A. de Klein[4], E. Kilic[5]*. [1]Clinical genetics/ Ophthalmology, Erasmus Medical Center; [2]Urology, Erasmus Medical Center; [3]Cancer Computational Biology Center, Erasmus Medical Center; [4]Clinical Genetics, Erasmus Medical Center; [5]Ophthalmology, Erasmus Medical Center

733 — *B0211* **Blockade of MDM2 Nuclear Localization Signal as a Novel Anti-Metastatic Therapeutic Approach.** *Andrew Irvine[1], Z. K. Goldsmith[1], C. Awh[1], V. M. Morales[1, 2], M. W. Wilson[1, 3]*. [1]Hamilton Eye Institute, Ophthalmology, UTHSC; [2]Microbiology, Immunology, and Biochemistry, UTHSC; [3]Surgery, St. Jude Children's Research Hospital

734 — *B0212* **Infectious knockdown of CREB and HIF-1 for the treatment of metastatic uveal melanoma.** *Shahar Frenkel[1], A. Voropaev[1, 2], M. Gimmelshein[1, 2], D. Shneor[1, 2], A. Honigman[2]*. [1]Ophthalmology, Hadassah-Hebrew Univ Med Ctr; [2]Biochemistry and Molecular Biology, IMRIC, The Hebrew University-Hadassah Medical School **CR*

735 — *B0213* **Cell population having a resistance to melanoma antigen specific T cell in uveal melanoma.** *Kinya Tsubota, Y. Usui, H. Goto***.** opthalmology, Tokyo Medical University

736 — *B0214* **Inflammatory profile of human choroidal nevi.** *Melissa T. Wegkamp[1, 2], M. J. Jager[1], M. Vader[1], M. C. Madigan[3, 2]*. [1]Ophthalmology, Leiden University Medical Centre; [2]Save Sight Institute, Uni Sydney; [3]Optometry and Vision Science, UNSW

737 — *B0215* **Clinical relevance of c-Rel/p50 heterodimer in the tumour microenvironment of uveal melanoma.** *Seema Kashyap[1], M. K. Singh[1], L. SINGH[2], N. PUSHKER[3], S. Sen[1], S. Bakhshi[4], R. Meel[3], B. Chawla[3], K. Chosdol[5]*. [1]Ocular Pathology, Dr.R.P. Centre for Ophthalmic Sciences, All India Institute of Medical Sciences; [2]Biosciences, Jamia Millia Islamia; [3]Ophthalmology, Dr.R.P.Centre for Ophthalmic Sciences; [4]Medical Oncology, AII India Institute of Medical Sciences; [5]Biochemistry, AII India Institute of Medical Sciences

738 — *B0216* **Co-expression of p65 and p50 proteins with the inflammatory parameters and its association with patient outcome in Uveal Melanoma.** *Mithalesh K. Singh[1], S. Kashyap[1], L. Singh[2], N. PUSHKER[3], S. Sen[1], R. Meel[3], K. Chosdol[4], S. Bakhshi[5], J. Kaur[6], B. Chawla[3].* [1]Ocular Pathology, Dr.R.P.Centre for Ophthalmic Sciences, AIIMS; [2]Biosciences, Jamia Millia Islamia; [3]Ophthalmology, Dr.R.P.Centre for Ophthalmic Sciences, AIIMS; [4]Biochemistry, All India Institute of Medical Sciences; [5]Medical Oncology, IRCH, AII India Institute of Medical Sciences; [6]Ocular Biochemistry, Dr.R.P.Centre for Ophthalmic Sciences, AIIMS

739 — *B0217* **Influence of *GNAQ* or *GNA11* mutations on HLA expression in Uveal Melanoma.** *Christiaan Weeghel, A. P. Wierenga, M. Versluis, G. P. Luyten, M. J. Jager***.** Opthalmology, Leiden University Medical Center

740 — *B0218* **Soluble HLA in the aqueous humour as risk factor or a marker of inflammation in uveal melanoma.** *Annemijn P. Wierenga[1], G. Gezgin[1], E. van Beelen[3], M. Eikmans[3], M. Versluis[1], R. M. Verdijk[2], S. van Duinen[2], M. Marinkovic[1], G. P. Luyten[1], M. J. Jager[1].* [1]Ophthalmology, Leiden University Medical Center; [2]pathology, Leiden University Medical Center; [3]Immunohematology, Leiden University Medical Center

741 — *B0219* **Regulation of PD-L1 in uveal melanoma.** *Zahra Souri[1], A. P. Wierenga[1], M. Spruyt-Gerritse[2], M. Eikmans[2], M. J. Jager[1].* [1]Ophthalmology, Leiden University Medical Center; [2]Department of Immunhematology and Blood Transfusion, Leiden University Medical Center

742 — *B0220* **Efficacy of immune checkpoint inhibitors for treating uveal melanoma metastases.** *Monica Oxenreiter[1], A. Lane[1], J. V. Cohen[2], R. J. Sullivan[2], I. K. Kim[1], E. S. Gragoudas[1].* [1]Massachusetts Eye and Ear Infirmary; [2]Massachusetts General Hopsital **CR*

743 — *B0221* **Intraocular metastases development in patients undergoing cancer immunotherapy: a cautionary tale.** *Martina Angi***.** Ocular Oncology Unit, Fondazione IRCCS Istituto Nazionale Tumori

744 — *B0222* **Beta-blocker: a potential adjuvant therapy for Uveal Melanoma.** *Eva Jin[1], P. Bustamante[1], D. Miyamoto[2], J. Lasiste[3], A. A. Goyeneche[4], M. N. Burnier[3], J. Burnier[1].* [1]Cancer Research Program, McGill University; [2]Medical school Dermatology, Sao Paulo University; [3]MUHC McGill University Ocular Pathology & Translational Research Laboratory, McGill University; [4]Pathology, McGill University

745 — *B0223* **The Role of Cytosine-5 RNA Methylation in Regulating Uveal Melanoma Cell Proliferation and Migration.** *Dongsheng Yan[1], G. Luo[1], Y. Zhao[1], D. Hu[2].* [1]School of Ophthalmology and Optometry, Wenzhou Medical University; [2]The New York Eye and Ear Infirmary, New York Medical College

746 — *B0224* **Cancer stem cells markers in primary uveal melanoma.** *Isabela V. Valle, M. Kondoff, A. Laskaris, T. Ferrier, S. Parent, J. Burnier, M. N. Burnier***.** The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

747 — *B0225* **Validation of Choroid from Uveal Melanoma Eyes as Control Tissue for Proteomic Studies.** *Geeng-Fu Jang[1], J. S. Crabb[1], B. Hu[4], B. Willard[2], H. Kalirai[3], A. D. Singh[5], S. E. Coupland[3], J. W. Crabb[1, 6].* [1]Department of Ophthalmic Research, Cole Eye Institute, Cleveland Clinic; [2]Lerner Research Institute, Cleveland Clinic; [3]Molecular and Clinical Cancer Medicine, University of Liverpool; [4]Quantitative Health Sciences, Lerner Research Institute, Cleveland Clinic; [5]Department of Ophthalmology, Cole Eye Institute, Cleveland Clinic; [6]Department of Ophthalmology and Molecular Medicine, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University

748 — *B0226* **Using Mass-Cytometry approach for the characterisation of the microenvironment of primary uveal melanoma.** *Carlos R. De Figueiredo, H. Kalirai, J. Sacco, J. Coulson, S. E. Coupland***.** Molecular and Clinical Cancer Medicine, University of Liverpool

749 — *B0227* **Prognostication of uveal melanoma patients: are exosomes the solution?** *Emine Kilic[1], K. Smit[1], N. van Poppelen[1], T. Lunavat[2], J. Vaarwater[1], S. Jang[2], R. M. Verdijk[1], J. Lötvall[2], A. de Klein[3].* [1]Dept of Ophthalmology, Erasmus Medical Center; [2]. Krefting Research Centre, Institute of Medicine, University of Gothenburg; [3]Clinical Genetics, Erasmus MC

750 — *B0228* **BAP1 Immunoreactivity correlates with gene expression class in uveal melanoma.** *Hans E. Grossniklaus, T. R. See, G. Stalhammar, S. S. Phillips***.** Dept of Ophthal, School of Med, Emory University

751 — *B0229* **Digital image analysis of BAP-1 accurately predicts uveal melanoma metastasis.** *Gustav Stålhammar[1, 2], T. See[3], S. S. Phillips[3], H. E. Grossniklaus[3].* [1]Oncology and Pathology service, St. Erik Eye Hospital; [2]Department of Clinical Neuroscience, Karolinska Institutet; [3]Department of Ophthalmology and Pathology, Emory University School of Medicine

752 — *B0230* **Next-generation sequencing of uveal melanoma for detection of genetic alterations predicting metastasis.** *Armin R. Afshar[1, 2], B. E. Damato[1, 3], J. M. Stewart[1], R. Roy[4, 2], A. Olshen[4, 2], B. Bastian[5, 2].* [1]Ophthalmology, University of California, San Francisco; [2]Helen Diller Family Comprehensive Cancer Center, University of California, San Francisco; [3]Oxford Eye Hospital and the Nuffield Department of Clinical Neurosciences, University of Oxford; [4]Epidemiology & Biostastics, University of California, San Francisco; [5]Dermatopathology, University of California, San Francisco **CR*

753 — *B0231* **Transcriptomic analysis reveals genes and miRNAs dysregulated in high risk primary uveal melanoma.** *Karen Aughton[1], S. L. Lake[1], L. Takeshita[2], F. Falciani[2], H. Kalirai[1], S. E. Coupland[1].* [1]Molecular and Clinical Cancer Medicine, University of Liverpool; [2]Functional and Comparative Genomics, University of Liverpool

754 — *B0232* **MiR-34a regulates the migration and invasion of Uveal Melanoma cells through modulating LGR4.** *Qiang Hou, L. Tu***.** Wenzhou Medical University

755 — *B0233* **Promoter methylation of RASSF1 is common in non-tumor choroid tissue.** *Sabrina Y. Bulas[3], S. Pancholi[3], J. Massengill[1, 4], F. Davidorf[1, 2], C. M. Cebulla[1, 2], M. H. Abdel-Rahman[1, 4].* [1]The Ohio State University Wexner Medical Center; [2]Department of Ophthalmology and Visual Science, Havener Eye Institute; [3]Department of Molecular Genetics, The Ohio State University; [4]Department of Ophthalmology and Visual Science; Division of Human Genetics, Havener Eye Institute

756 — *B0234* **Methylation Clustering in Uveal Melanoma.** *Tadhg Ferrier[2, 1], P. Bustamante[2], T. Tsering[2], E. Jin[2], P. Garcia de Alba Graue[2], J. Burnier[2].* [1]MUHC Ocular Pathology Laboratory; [2]Cancer Research Program, RI-MUHC

757 — *B0235* **Expression of cysteinyl leukotriene receptors 1 and 2 in uveal melanoma.** *Paulina Garcia de Alba Graue, A. Goyeneche, J. Coblentz, T. Ferrier, M. N. Burnier***.** The MUHC-McGill University Ocular Pathology & Translational Research Laboratory.

758 — *B0236* **Addressing Disparities in Hispanic Patients with Uveal Melanoma Using Global and Local Ancestry Analysis.** *Daniel Rodriguez, M. I. Sanchez, C. Decatur, J. Harbour***.** Bascom Palmer Eye Institute, Sylvester Comprehensive Cancer Center and Interdisciplinary Stem Cell Institute, University of Miami Miller School of Medicine **CR*

759 — *B0237* **Clinical, tumour, and family characteristics of uveal melanoma patients referred for analysis of potential underlying *BAP1*-tumour predisposition syndrome.** *Cindy Chau, K. Afanasieva, M. J. Jager, G. P. Luyten***.** Ophthalmology, Leiden University Medical Center

760 — *B0238* **Does BAP1 and DNA damage response pathway play a synergistic role in uveal melanoma?** *Jayanti Jha[1], S. Kashyap[1], M. K. Singh[1], S. Sen[1], L. Singh[2], N. PUSHKER[3], J. Kaur[4].* [1]Department of Ocular Pathology, All India Institute of Medical Sciences; [2]Department of Biosciences, Jamia Millia Islamia; [3]Department of Ophthalmology, All India Institute of Medical Sciences; [4]Ocular Biochemistry, Dr.R.P.Centre for Ophthalmic Sciences, AIIMS

761 — *B0239* **Frequency of Mismatch Repair Gene Mutations in Uveal Melanoma.** *Christopher B. Toomey[1], S. Phou[2], K. Fraser[2], M. Bakhoum[1], J. A. Thorson[2], B. S. Korn[1], D. O. Kikkawa[1], M. H. Goldbaum[1], J. H. Lin[2, 1]*. [1]Shiley Eye Insitute, UC, San Diego; [2]Pathology, University of California, San Diego

762 — *B0240* **Secondary primary cancers in patients with uveal melanoma.** *Jens F. Kiilgaard[1], V. Albieri[3], K. Wadt[2], K. K. Andersen[3], M. M. Bagger[1]*. [1]Dept of Ophthalmology, Rigshospitalet; [2]Department of Clinical Genetics, Rigshospitalet; [3]Statistics and Pharmaco-Epidemiology, Danish Cancer Society Research Center

West Exhibition Hall B0241-B0300

Sunday, April 28, 2019 1:00 PM-2:45 PM

Immunology/Microbiology

142 Mechanistic and translational studies of retinal degeneration and uveitis

Moderators: Kathryn L. Pepple and Elisabeth Andriessen

763 — *B0241* **cGAS-STING pathway activation in murine retina.** *Miao Tang, S. Pavlou, H. Xu, M. Chen***.** Queen's University Belfast, Centre for Experimental Medicine, WWIEM

764 — *B0242* **TNF-a induced complement factor C3 is suppressed by AICAR in RPE cells.** *Nikolaos Efstathiou, G. A. Moustafa, E. Konstantinou, D. Maidana, J. W. Miller, D. Vavvas***.** Ophthalmology, Massachusetts Eye and Ear

765 — *B0243* **Multifarious evidence for NLRP3 inflammasome expression and activation in retinal pigment epithelium.** *Ivana Apicella, S. Fukuda, S. Hirahara, S. Wang, S. Narendran, N. Kerur, B. Gelfand, J. Ambati***.** Ophthalmology, University of Virginia **CR*

766 — *B0244* **Elevation of miR-155 induces a non-canonical inflammasome activation pathway in human retinal pigment epithelium (hRPE).** *Congxiao Zhang[1], A. Maminishkis[1], K. miyagishima[1], G. Liang[2], F. Ruchi[2], S. S. Miller[1]*. [1]OGVFB/SERPD, NEI; [2]OGVFB/OSCTRU, NEI

767 — *B0245* **Nod2 limits autoimmunity to the neuroretina through a T cell-intrinsic mechanism.** *Ellen J. Lee[2, 1], R. Napier[2, 1], E. Vance[2, 1], K. Samson[2, 1], S. Lashley[2, 1], M. J. Mattapallil[3], J. R. Smith[4], R. R. Caspi[3], H. L. Rosenzweig[2, 1]*. [1]Molecular Microbiology & Immunology, Oregon Health & Science University; [2]VA Portland Health Care System; [3]Laboratory of Immunology, NEI, NIH; [4]College of Medicine and Public Health, Flinders University

768 — *B0246* **The inflammasome pathway is activated in the retina of type 2 but not type 1 diabetic mice.** *Kevin Harkin, M. Chen, H. Xu, S. Pavlou***.** Queen's University Belfast

769 — *B0247* **Application of the anti-inflammatory ocular neuropeptide alpha-melanocyte stimulating hormone (α-MSH) suppresses damage in retinas with ischemia/reperfusion.** *Andreas A. Towers[1], N. Sanjiv[1], T. Ng[1], A. C. Lo[2], A. W. Taylor[1]*. [1]Boston University School of Medicine; [2]University of Hong Kong **CR*

770 — *B0248* **miRNA profiles in exosomes from activated microglia – implication in retinal neuroinflammation.** *Chang Luo[1], X. Tang[1], J. Liu[1], S. Tang[1], H. Xu[1, 2]*. [1]AIER Eye Institute; Aier School of Ophthalmology, Central South University; [2]Centre for Experimental Medicine, School of Medicine, Dentistry & Biological Sciences, Queen's University Belfast

771 — *B0249* **Kinetics of the retinal microglial response to optic nerve injury.** *James Walsh, R. N. Weinreb, D. Skowronska-Krawczyk***.** Ophthalmology, University of California San Diego

772 — *B0250* **Evaluation of the immune-microenvironment in retinal degeneration disease of RCS rat.** *Yuan Gao, Z. Yin***.** School of Optometry, Southwest Eye Hospital, Third Military Medical Sch

773 — *B0251* **Programmed Death Ligand 1 Protects Against Experimental Laser-Induced Choroidal Neovascularization in Mice.** *Xiaohong Wang, H. Yan, Y. Huang***.** Tianjin Medical University

774 — *B0252* **Latent Ocular Murine Cytomegalovirus (MCMV) exacerbates the development of Choroidal Neovascularization (CNV) in VEGF-A^{hyper} mice.** *jinxian Xu, X. Liu, B. Marshall, Z. Dong, M. Zhang***.** Cellular Biology and Anatomy, Augusta university

775 — *B0253* **Age-related macular degeneration (AMD) like pathology in murine cytomegalovirus (MCMV) latently infected eyes of BALB/c mice following systemic neonatal infection.** *Ming Zhang, X. Liu, j. Xu, B. Marshall, Z. Dong***.** Augusta University

776 — *B0254* **Changes of cytokine patters in the aqueous humor of neovascular age-related macular degeneration after 2 months of aflibercept treatment.** *Tomohito Sato[1], M. Takeuchi[1], Y. Karasawa[1], A. Tanaka[2], T. Enoki[2]*. [1]National Defense Medical Collage; [2]Enoki Eye Clinic

777 — *B0255* **Complement activation product levels in aqueous humor of patients with age-related macular degeneration.** *Yutaka Kato[1], T. Sekiryu[1], Y. Oguchi[1], T. Omori[2], T. Machida[2], H. Sekine[2]*. [1]Ophthalmology, Fukushima Medical University; [2]Immunology, Fukushima Medical Univercity **CR*

778 — *B0256* **Exploring the Role of the Gut Microbiome in Multiple Models of RP.** *Victoria Woytowicz[1, 2], Z. Yin[3, 6], L. Cox[4, 6], H. Weiner[3, 6], O. Butovsky[3, 6], M. M. DeAngelis[5], N. B. Haider[1, 2]*. [1]Opthamology, Harvard Medical School; [2]Massachusetts Eye and Ear, Schepens Eye Research Institute; [3]Neuroscience, Harvard Medical School; [4]Microbiology, Harvard Medical School; [5]Opthamology, University of Utah School of Medicine; [6]Brigham and Women's Hospital

779 — *B0257* **Novel epitopes for anti-bestrophin autoantibodies in vitelliform macular dystrophy.** *Grazyna Adamus[1], S. Yang[1], S. Andreasson[2], E. Wittstrom[2]*. [1]Ophthal-Casey Eye Inst, Oregon Health Sciences University; [2]Ophthalmology, University of Lund

780 — *B0258* **Beclin-1 is Not Stimulated During Development of Experimental Murine Cytomegalovirus (MCMV) Retinitis in Mice with Retrovirus-Induced Immunosuppression (MAIDS).** *Judee Grace Nemeño[1], J. Carter[1, 2], R. D. Dix[1, 2]*. [1]Georgia State University; [2]Ophthalmology, Emory University

781 — *B0259* **Uveitic Retinal Pigment Epithelial cells do not suppress the phagocytic antigen processing pathways in antigen presenting cells.** *Tat Fong Ng[1], I. J. Benque[1], B. S. Lee[1], J. Muus[2, 1], A. W. Taylor[1]*. [1]Department of Ophthalmology, Boston University School of Medicine; [2]The Medical University of South Carolina

782 — *B0260* **Increased Sodium Iodate-Induced Retinal Degeneration in the Presence of Systemic Inflammation Caused by Collagen-Induced Arthritis.** *Gloriane Schnabolk[1], E. Obert[1], N. Banda[2], B. Rohrer[1, 3]*. [1]Department of Ophthalmology, Medical University of South Carolina; [2]Division of Rheumatology, Department of Medicine, University of Colorado Anschutz Medical Campus; [3]Division of Research, Ralph H. Johnson VA Medical Center

783 — *B0261* **The upregulation of GPR3 during experimental autoimmune uveitis (EAU) and inhibition of pathogenic uveitogenic T cells by GPR3 ligand cannabidiol (CBD).** *Zhao-Hui Song[1], J. Wang[2], A. S. Laun[1], D. Sun[3], H. J. Kaplan[2], H. Shao[2]*. [1]Pharmacology and Toxicology, University of Louisville; [2]Ophthalmology and Visual Sciences, University of Louisville; [3]Doheny Eye Institute, University of California Los Angeles

784 — *B0262* **Upregulation of CX3CR1 on CD4+ T cells during Experimental Autoimmune Uveoretinitis.** *Amy Ward[1], O. H. Bell[1], L. Scott[1], D. Copland[1, 2], A. D. Dick[1, 2], L. B. Nicholson[1]*. [1]Academic Unit of Ophthalmology, University of Bristol; [2]Institute of Ophthalmology, University College London

785 — *B0263* **A role of Th1/17 cells migrating across the blood-retinal-barrier in experimental autoimmune uveitis.** *Yi hsing Chen[1, 2], M. Eskandarpour[1], M. Chaudhry[1], X. Zhang[1], S. Lightman[1], V. L. Calder[1]*. [1]Ophthalmology department, Institute of Ophthalmology, UCL; [2]Department of ophthalmology, Chang Geng Memorial Hospital

786 — *B0264* **Parabiosis Shows That Interplay of Donor Effector and Regulatory T cells Influences the Outcome of Disease Induction in the Partner Mouse.** *Scott W. McPherson, N. D. Heuss, M. Abedin, M. Pierson, D. S. Gregerson*. Department of Ophthalmology, University of Minnesota

787 — *B0265* **Fecal microbiota transplantation from Behcet's disease patients exacerbates experimental autoimmune uveitis activity.** *Qingfeng Wang, S. Yi, Z. Du, P. Yang*. Chongqing Key Laboratory of Ophthalmology, The First Affiliated Hospital of Chongqing Medical University

788 — *B0266* **Metagenome sequencing identifies unique microbiome associated with post fever retinitis in the vitreous body.** *Arunasri K.[1], M. Malleshwarapu[1], S. Gumpili[1], M. Tyagi[2], R. Pappuru[2], S. Sharma[1], S. Sisinthy[1]*. [1]Prof. Brien Holden Eye Research Centre, LV Prasad Eye Institute; [2]Smt. Kanuri Santhamma Center for Vitreoretinal Diseases, LV Prasad Eye Institute

789 — *B0267* **Effects of growth hormone-releasing hormone receptor antagonist in experimental autoimmune intraocular inflammation.** *WAI KIT CHU[1], J. Li[1], J. He[1], W. Yip[1], L. Guo[2], O. Wong[3], C. C. Pang[1]*. [1]Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong; [2]The Chinese University of Hong Kong; [3]Hong Kong Eye Hospital

790 — *B0268* **Topical application of Cyclosporine-A-MiDROPS™ for treatment of Autoimmune Uveitis.** *Terry G. Coursey, P. A. Vanlandingham, A. K. Sparkes, D. Wassel, A. B. Quiambao, D. J. Nuno, R. Farjo*. EyeCRO **CR*

791 — *B0269* **A specific IKKβ inhibitor suppresses experimental autoimmune uveoretinitis in mice.** *Ye Liu[1], N. Kitaichi[1, 2], D. Wu[1], K. Hase[1], D. Iwata[1], K. Namba[1], A. Kanda[1], K. Noda[1], S. Ishida[1]*. [1]Laboratory of Ocular Cell Biology and Visual Science, Department of Ophthalmology Hokkaido University,Faculty of Medicine and Graduate School of Medicine, Hokkaido University; [2]Department of Ophthalmology, Health Sciences University of Hokkaido

792 — *B0270* **Laquinimod effectively inhibits development of EAU and its associated immune effector responses.** *Biying Xu, X. Jia, J. Tang, R. R. Caspi, I. Gery*. Laboratory of Immunology, NEI/NIH

793 — *B0271* **Tofacitinibhas preventive and therapeutic effects for uveitis in mice model.** *YICHEN XIAO, W. Su*. 1. Zhongshan Ophthalmic Center at Sun Yat-sen University, The State Key Laboratory of Ophthalmology–People's Republic of China

794 — *B0272* **Targeting PEDF for the treatment of experimental autoimmune uveitis.** *Xiaomin Zhang[1], Z. Zhang[1], S. Chen[1], N. Chen[1], J. Ma[2], X. Li[3]*. [1]Uveitis & Ocular Immunology, Tianjin Medical University Eye Hospital, Eye Institute & School of Optometry and Ophthalmology; [2]Department of Cell Biology, University of Oklahoma Health Sciences Center; [3]Retina, Tianjin Medical University Eye Hospital, Eye Institute & School of Optometry and Ophthalmology

795 — *B0273* **Induced pluripotent stem cells-derived suppressor cells ameliorate experimental autoimmune uveoretinitis in mice.** *Keitaro Hase[1], K. Namba[1], N. Kitaichi[2], D. Iwata[1], H. Tsuji[3], H. Wada[3], K. Seino[3], S. Ishida[1]*. [1]Department of Ophthalmology, Faculty of Medicine and Graduate School of Medicine, Hokkaido University; [2]Department of Ophthalmology, Health Sciences University of Hokkaido; [3]Division of Immunobiology, Institute for Genetic Medicine **CR*

796 — *B0274* **The Anti-inflammatory Effect of Tectorigenin in a Mouse Experimental Autoimmune Uveitis (EAU) Model.** *Hyungbin Hwang[1], S. Kim[2], K. Kang[1]*. [1]Ophthalmology, The Catholic University of Korea; [2]Ophthalmology, YonSei Eye Hospital

797 — *B0275* **Targeting the leukotriene B4 pathway and/or complement C5 via dual-functional recombinant rVA576 (Coversin) in Experimental Autoimmune Uveitis (EAU).** *Mali Eskandarpour[1], X. Zhang[1], G. Galatowics[1], M. Nunn[2], W. Weston-Davies[2], V. L. Calder[1]*. [1]Ocular Immunology, UCL Institute of Ophthalmology; [2]Akari Therapeutics plc **CR*

798 — *B0276* **Vitreal cytokine profile in rats innoculated with bovine insoluble Melanin Associated Antigen, type 1 collagen, and type 2 collagen, and the influence of age and sex on uveitis.** *Stephanie Osinchuk[2], T. Wilson-Gerwing[1], A. Rosenberg[1], B. Grahn[2]*. [1]Pediatrics, University of Saskatchewan; [2]Small Animal Clinical Sciences, University of Saskatchewan

799 — *B0277* **The protective effect of low dose of lipopolysaccharide pretreatment on EIU rats was related to down-regulation of CSF-1 and up-regulation of LRR-1.** *Hong Lu, Y. Ling*. Department of Ophthalmology, Beijing Chao-Yang Hospital, Capital Medical University

800 — *B0278* **Chronic model of uveitis in rabbit - Efficacy of Triamcinolone Acetonide.** *Yann Quentric, S. Antonelli, V. Mauro, N. Cimbolini, L. Feraille, E. Pierre-Paul*. Iris Pharma **CR*

801 — *B0279* **Characterization of a Chronic Panuveitis Model in the Rabbit.** *David Culp[1], J. Prater[1], A. Moser[1], B. C. Gilger[2, 1]*. [1]Powered Research, LLC; [2]Clinical Sciences, North Carolina State University **CR*

802 — *B0280* **Monkey acute uveitis induced by a TLR2 agonist.** *Ke Mu, Y. Feng, C. Zhang, P. Liao, H. Hou, J. Zhao, F. Wang, Y. Wang, H. Zhang*. Chengdu Center for safety Evaluation of Drugs

803 — *B0281* **P-glycoprotein expression in patients with non-infectious uveitis on non-steroidal immunosuppressive therapy.** *Soumyava Basu, R. Tagirasa, K. Rana*. LV Prasad Eye Institute

804 — *B0282* **MicroRNAs as biomarkers for ocular involvement in juvenile idiopathic arthritis.** *Michal Kramer[1, 2], S. Pillar[3, 2], N. Pillar[2], G. Amarilyo[4, 2], L. Harel[4, 2], N. Shomron[2]*. [1]Ophthalmology, Rabin medical center; [2]Sackler Faculty of Medicine, Tel Aviv University; [3]Ophthalmology, Meir medical center; [4]Pediatric Rheumatology, Rabin medical center

805 — *B0283* **Single cell molecular analysis of remnant vitreous from cytology-proven vitreoretinal lymphoma allows additional genetic information for diagnosis and prognostication.** *Anita S. Chan[1, 2], W. Tan[3, 2], M. M. Wang[2], S. Chee[1], P. Castagnoli[3], T. Lim[3]*. [1]Opthalmology;, Singapore National Eye Center/ SERI; [2]Translational Ophthalmic Pathology, SERI; [3]Menarini biomarkers Pte Ltd **CR*

806 — *B0284* **Identification of candidate variants in patients with Juvenile idiopathic arthritis-associated uveitis.** *Yuqin Wang*. Uveitis Disease, Wenzhou Medical University

807 — *B0285* **Effects of lipopolysaccharides (LPS) on cytokines excreted by PBMC in uveitis associated with juvenile idiopathic arthritis.** *Huiru WU[1], J. Wang[2], H. Jia[1], H. Lu[2]*. [1]The First Clinical Medical College of Lanzhou University; [2]Chaoyang Hospital,Capital Medical University

808 — *B0286* **Phenotype of innate immune cells in uveitis associated with axial spondyloarthritis-versus juvenile idiopathic arthritis- associated uveitis.** *Maren Kasper[1, 2], K. Walscheid[1, 2], B. Laffer[1], D. Bauer[1], M. Busch[1], K. Loser[3], T. Vogl[4], T. Langmann[5], G. Ganser[6], T. Rath[7], A. Heiligenhaus[1, 8]*. [1]Department of Ophthalmology and Ophtha-Lab at St. Franziskus Hospital; [2]Department of Ophthalmology, University Hospital Essen; [3]Department of Dermatology - Experimental Dermatology and Immunobiology of the Skin, University Münster; [4]Institute of Immunology, University of Münster; [5]Experimental Immunology of the Department of Ophthalmology, University of Cologne; [6]Department of Pediatric Rheumatology, St. Josef Stift; [7]Department of Nephrology, Immunology and Osteology, St. Franziskus Hospital; [8]University of Duisburg-Essen

809 — *B0287* **Analysis of peripheral inflammatory T-cell subsets and their effector functions in patients with Birdshot Retinochoroiditis.** *Dominika Pohlmann[1], J. Trombke[2], L. Loyal[3], J. Braun[3], U. Pleyer[1], A. Thiel[3]*. [1]Department of Ophthalmology, Charité – Universitätsmedizin Berlin,corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Berlin, Germany; [2]Max-Delbrück-Center for Molecular Medicine, Berlin, Germany.; [3]Regenerative Immunology and Aging, BCRT, Charité Universitätsmedizin Berlin, Berlin.

810 — *B0288* **Serum Biomarker Levels and Their Correlation with Disease Activity in Patients with Uveitis.** *MEHMET YAKIN, B. Chaigne-Delalande, J. Lee, H. Sen***.** National Eye Institute, National Institutes of Health

811 — *B0289* **Flow Cytometry In Intraocular Samples of Human Uveitis. Is There a Cellular Signature?** *Ester Carreno, C. Serrano, N. Muñoz, O. Sánchez-Pernaute, N. Alejandre***.** Hospital Universitario Fundacion Jimenez Diaz

812 — *B0290* **Comparison of cytokine concentrations in vitreous fluids among uveitis diseases.** *Toshikatsu Kaburaki[1], H. Ono[1], R. Tanaka[1], T. Sato[2], M. Takeuchi[2], H. Tozawa[3], M. Katsura[3], W. Youichiro[3], S. Shirahama[1], H. Soga[1], H. Kawashima[4], M. Aihara[1]*. [1]Ophthalmology, Univ of Tokyo School of Medicine; [2]Ophthalmology, National Defense Medical College Hospital; [3]Isotope Science Center; [4]Ophthalmology, Jichi Medical University **CR*

813 — *B0291* **Single immune-cell based diagnosis of ocular liquid biopsies with small volume and sample size using DEPArray technology.** *TongSeng Lim[1], W. Tan[1], M. M. Wang[2], P. Ricciardi-Castagnoli[1], A. S. Chan[2]*. [1]Menarini Biomarkers Singapore; [2]Translational Ophthalmic Pathology, Singapore Eye Research Institute **CR*

814 — *B0292* **Validation Study of ISOLD score in classifying Primary Vitreoretinal Lymphoma vs. Uveitis.** *David Kuo[1, 2], M. Wei[2], H. Sen[2]*. [1]Shiley Eye Institute, University of California, San Diego; [2]National Eye Institute

815 — *B0293* **Autoimmune retinopathy in two patients with stiff-person syndrome with anti-GAD65 autoantibodies.** *Mauricio E. Vargas, H. Vasconcelos Junior, S. Yang, G. Adamus, P. Yang***.** Ophthalmology , Casey Eye **CR*

816 — *B0294* **Detection of autoantibodies against TRPM1 in cutaneous metastatic melanoma.** *Robert Duvoisin, G. Ren, T. L. Haley, M. Taylor, C. W. Morgans***.** Oregon Health and Science University

817 — *B0295* **How the genetic evolution happened in Bechet's diseases along the Silk Route: China, Turkery and United Kingdom?** *Yuan Tian[2, 1], A. P. Gallego[1, 3], M. Shamdas[1], H. Javidi[1], S. Rauz[1], P. I. Murray[1], P. Yang[2], G. R. Wallace[1]*. [1]Academic Unit of Ophthalmology, Institute of Inflammation and ageing, University of Birmingham, UK; [2]Ophthalmology department, The First Affiliated Hospital of Chongqing Medical University; [3]School of Dentistry, University of Birmingham

818 — *B0296* **Positivity of rubella virus in steroid-resistant intermediate uveitis of unknown etiology.** *Hiroshi Takase, M. Ide, K. Ohno-Matsui***.** Tokyo Medical & Dental Univ

819 — *B0297* **Outcomes of diagnostic anterior chamber tap in uveitis patients.** *Safa Arfeen[1], P. Bhat[2], A. Lobo[2]*. [1]Rush University; [2]Ophthalmology, University of Illinois at Chicago

820 — *B0298* **The effect of PCR testing on the clinical course in herpetic uveitis.** *Eri Matsumoto, K. Maruyama, Y. Oie, T. Soma, N. Hashida, M. Tsujikawa, K. Nishida***.** Osaka University

821 — *B0299* **High-dimensional immune cell profiling characterizes features of peripheral NK cell repertoires in CMV anterior uveitis.** *Nobuyo Yawata[1, 4], J. Siak[5, 2], K. Woon[5], X. Lim[5], S. Chee[5, 2], M. Yawata[3], Y. Kawano[1], K. Sonoda[4]*. [1]Fukuoka Dental College; [2]Singapore National Eye Centre; [3]National University of Singapore; [4]Kyushu University; [5]Singapore Eye Research Institute

822 — *B0300* **Human Leukocyte Antigen B*51:01 and C*14:02 Indicates Susceptibility towards Recurrent Cytomegalovirus Anterior Uveitis.** *Owen Png[2], N. Yawata[2, 3], X. Lim[2], K. Woon[2], A. Jansen[1], S. Waduthantri[1], S. Chee[2, 4], J. Siak[1, 5]*. [1]Singapore National Eye Centre; [2]Ocular Inflammation and Immunology, Singapore Eye Research Institute; [3]Kyushu University and Fukuoka Dental College; [4]Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore; [5]Laboratory of Immunology, National Eye Institute, National Institutes of Health

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West Exhibition Hall B0301-B0360

Sunday, April 28, 2019 1:00 PM-2:45 PM

Immunology/Microbiology

143 Clinical and epidemiological aspects of infection

Moderators: Sandamali Amarasingha Ekanayaka and Kazuichi Maruyama

823 — *B0301* **Polymerase Chain Reaction for the Diagnosis of Chorioretinal Infections: Comparative Study of Testing in a Single Institution.** *Janet L. Davis, S. Alhumaid***.** Ophthalmology, Bascom Palmer Eye Institute **CR*

824 — *B0302* **Polymerase Chain Reaction in the Diagnosis of *Toxoplasma gondii* Chorioretinitis.** *JOHN W. HINKLE, S. Alhumaid, D. Miller, J. L. Davis, T. A. Albini***.** Ophthalmology, Bascom Palmer Eye Institute

825 — *B0303* **Nanopore Sequencing for Rapid Diagnosis of Microbial Keratitis.** *Liying Low[1, 2], R. Patel[2], G. Begum[1], P. Fuentes-Utrilla[3], G. R. Wallace[1], P. I. Murray[1, 2], S. Rauz[1, 2]*. [1]Academic Unit of Ophthalmology, Institute of Inflammation and Ageing, University of Birmingham; [2]Inflammatory Eye Disease Service, Birmingham & Midland Eye Centre; [3]MicrobesNG, School of Biosciences, University of Birmingham

826 — *B0304* **T2 magnetic resonance assay and detection of ocular candidiasis.** *SHRAVANI MIKKILINENI[1], R. Komati[1], N. Shah[2], H. Gao[1]*. [1]Ophthalmology, Henry Ford Hospital; [2]Medical School, Wayne State University

827 — *B0305* ***Mycobacterium tuberculosis (M.tb)* antibody and antigen biomarkers for rapid diagnosis of intra-ocular tuberculosis.** *Kamaljit Kaur[1], M. B. Ryndak[2], A. Agarwal[1], I. Verma[3], V. Gupta[1], S. Laal[2]*. [1]Ophthalmology, Postgraduate Institute of Medical Education and Research; [2]Pathology, New York University School of Medicine; [3]Biochemistry, Postgraduate Institute of Medical Education and Research

828 — *B0306* **Phenotypic microarray analysis of *Moraxella* keratitis isolates.** *Cholappadi V. Sundar-Raj, N. A. Stella, R. P. Kowalski, R. M. Shanks***.** Ophthalmology, University of Pittsburgh

829 — *B0307* **High Throughput Sequencing reveals predominantly fungal pathogens in the vitreous of patients with presumed infectious, culture negative endophthalmitis in Southern India with implication for diagnostics.** *Joveeta Joseph Ruben[1], R. Jayasudha[1], J. Gandhi[1], S. Sharma[1], V. P. Dave[2]*. [1]Jhaveri Microbiology Centre, L V Prasad Eye Institute; [2]Smt. Kannuri Santhamma Centre for vitreoretinal diseases, L V Prasad Eye Institute

830 — *B0308* **Interest of QuantiFERON®-TB Gold Plus as a diagnostic test in patients with ocular inflammation (OI).** *amelie Amara[1], A. Guihot[2], S. Trad[3], C. Fardeau[1], P. Lehoang[1], V. Touitou[1], B. Bodaghi[1]*. [1]ophthalmology, la pitié salpêtrière hospital; [2]Immunology, Pitie-Salpêtrière Hospital; [3]Internal Medicine, Ambroise-Paré Hospital

831 — *B0309* **Fluorescence Imaging of Biofilm on Eyelashes.** *Michael B. Choi[2], D. B. Stolz[3], E. D. Donnenfeld[1, 2], H. D. Perry[1, 2]*. [1]Department of Ophthalmology, Nassau University Medical Center; [2]Ophthalmic Consultants of Long Island; [3]Department of Cell Biology, University of Pittsburgh

832 — *B0310* **Clinical Utility of beta-D-glucan Testing for Detecting Fungal Chorioretinitis and/or Endophthalmitis.** *Michael Ammar[1], R. Carroll[1], A. M. Kolomeyer[1], G. Ying[2], G. Whitehead[1], A. J. Brucker[1], B. J. Kim[1].* [1]Scheie Eye Institute, University of Pennsylvania; [2]Center for Preventative Ophthalmology and Biostatistics

833 — *B0311* ***Non-liquefaciens* and *osloensis* are the Predominant *Moraxella* species of Ocular Infections as Determined by DNA sequencing, MALDI-TOF MS, and Biolog ID System.** *Regis P. Kowalski[1], S. LaCroce[1], M. Wilson[2], J. Romanowski[1], J. Newman[3], R. M. Shanks[1], V. Jhanji[1].* [1]Ophthalmology/Microbiology, Univ of Pittsburgh; [2]Microbiology, University of Pittsburgh Medical Center; [3]Biology, Lycoming College

834 — *B0312* **Application of Metagenomic Deep Sequencing (MDS) to Identify an Infectious Etiology for Iridocorneal Endothelial (ICE) Syndrome.** *Plern Sutra, J. Rose-Nussbaumer, J. A. Gonzales, K. Wang, A. Hinterwirth, G. Seitzman, N. Acharya, T. Doan***.** Ophthalmology, Proctor Foundation/UCSF

835 — *B0313* **Different Concentrations of Topical Fortified Vancomycin Produce Differences in Antibacterial Efficacy in an Experimental Model of MRSA Keratitis.** *Eric G. Romanowski, J. Romanowski, K. A. Yates, A. Mammen, D. K. Dhaliwal, V. Jhanji, R. P. Kowalski***.** The Charles T. Campbell Laboratory, UPMC Eye Center, University of Pittsburgh

836 — *B0314* ***In vitro* susceptibility of *Staphylococcus aureus* and *Pseudomonas aeruginosa* to a novel fluoroquinolone.** *Alejandro Arboleda[1], H. Durkee[1], J. Maestre-Mesa[2], M. Hernandez[2], M. Aguilar[1], H. Flynn[3], J. Parel[1, 3], D. Miller[2, 3].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine; [2]Ocular Microbiology Laboratory, Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine; [3]Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine

837 — *B0315* **In Vitro Susceptibilities of Methicillin-Susceptible and Resistant Staphylococci to Traditional Agents Compared to a Novel Fluoroquinolone.** *James Lin, K. Fan, N. Pirakitikulr, D. Miller, H. Flynn***.** Ophthalmology, University of Miami

838 — *B0316* **Changes in Staphylococcus aureus Virulence Factors and Host Immune Response Following Rose Bengal Photodynamic Antimicrobial Therapy.** *Heather Durkee[1], A. Arboleda[1], J. Maestre-Mesa[2], M. Aguilar[1], G. Amescua[3], J. Parel[1], D. Miller[2].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Ocular Microbiology Laboratory, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Anne Bates Leach Eye Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine

839 — *B0317* **Inference of netilmicin resistance rate for *Staphylococci* ocular isolates in France.** *Andrea Sudano Roccaro[1], C. Soussy[2], F. Giuliano[1], M. Mazzone[3].* [1]Research and Preclinical Development, SIFI S.p.A.; [2]Paris-Creteil Medical School; [3]Business and Portfolio Development, SIFI S.p.A. **CR*

840 — *B0318* **Rock-Scissor-Paper-Rules of Engagement in Interspecies Interactions and Outcomes in Contact lens Associated Microbial Communities.** *Darlene Miller, J. Maestre-Mesa, E. Alfonso***.** Ophthalmology, Bascom Palmer Eye Institute

841 — *B0319* **Medication burden for patients with bacterial keratitis.** *Maria A. Woodward[1], D. Ballouz[1], J. Errickson[2], N. Maganti[1], M. Tuohy[1].* [1]Ophthalmology, University of Michigan; [2]Consulting for Statistics, Computing & Analytics Research, University of Michigan **CR*

842 — *B0320* **Excimer-Laser and mitomycin C 0.02% to treatment acanthamoeba keratitis.** *Navid Ardjomand[1, 2], L. Daas[3], J. Walochnik[4], K. Kaiser[2], M. Anticic[1], B. Seitz[3], Y. El-Shabrawi[2].* [1]FA fuer Augenheilkunde, Sehzentrum fur Augenlaser; [2]Department of Ophthalmology, Medical University Graz; [3]Department of Ophthalmology, University of Saarland; [4]Institut für Spezifische Prophylaxe und Tropenmedizin, Medical University Vienna

843 — *B0321* **Outcomes of Cytomegalovirus Retinitis–Related Retinal Detachment in Acquired Immune Deficiency Syndrome (AIDS) Patients Following Pars Plana Vitrectomy in Southern Thailand.** *Virintorn Prapakornkovit, W. Sittivarakul, M. Ratanasukon, P. Bhurayanontachai, P. Jirarattanasopa***.** Ophthalmology, Prince of Songkla University

844 — *B0322* **Clinical-Microbiological profile and antibiotic sensitivity in microbial keratitis in elderly patients.** *Eduardo J. Polania, E. O. Graue-Hernandez, A. Navas, A. J. Ramirez-Miranda, V. M. Bautista-de Lucio***.** Cornea, Instituto de Oftalmologia Conde de Valenciana

845 — *B0323* **Clinical Findings and Outcome of *Nocardia* Keratitis.** *Khalid F. Tabbara[1, 2], L. M. Aljurf[1], F. Aljassar[1], S. Shoughy[1].* [1]Ophthalmology, The Eye Center and The Eye Foundation For Research in Ophthalmology; [2]Department of Ophthalmology, College of Medicine, King Saud University

846 — *B0324* **Gram-negative endophthalmitis; microbiology, clinical associations and visual outcomes in Victoria, Australia.** *Louis Stevenson[1], R. C. Dawkins[1, 2], H. Sheorey[3], A. Hurley[2], P. J. Allen[1, 2].* [1]Royal Victorian Eye and Ear Hospital; [2]Centre for Eye Research Australia; [3]Department of Pathology, St Vincent's Hospital Melbourne

847 — *B0325* **The German keratomycosis registry - results of a multi-center study.** *Gerd Geerling***.** University Eye Clinic Düsseldorf

848 — *B0326* **Microbial keratitis following corneal transplantation.** *Pauline Khoo[1], M. P. Cabrera Aguas[1], S. L. Watson[1, 2].* [1]The University of Sydney, Save Sight Institute; [2]Ophthalmology, Sydney Eye Hospital

849 — *B0327* **Microbial keratitis resulting in evisceration and enucleation in Sydney, Australia.** *Maria P. Cabrera Aguas[1, 2], P. Khoo[1, 2], S. L. Watson[1, 2].* [1]University of Sydney, Save Sight Institute; [2]Sydney Eye Hospital

850 — *B0328* **Colistin resistance in gram negative ocular infections: prevalence, clinical outcome and antibiotic susceptibility patterns.** *Sanchita Mitra[1], S. Basu[2], S. Rath[2], S. K. Sahu[2].* [1]Ocular Microbiology, L V Prasad Eye Institute; [2]L V Prasad Eye Institute

851 — *B0329* **Clinical presentations, microbiology, management outcomes of endogenous endophthalmitis and a comparison with similar cohorts worldwide.** *Avinash Pathengay[1], V. Dave[1], T. Das[1], B. Panchal[1], S. Sharma[2], R. R. Pappuru[1].* [1]Vitreoretina, LV Prasad Eye Institute; [2]Jhaveri Microbiology Center, LV Prasad Eye Institute

852 — *B0330* **Lesions of the Vitreous, Choroid, and Retina in Injection Drug Users (IDUs) Hospitalized with Bloodstream Infections.** *Kathy Tsamis[1], J. Weinstein[1], E. Barnes[2], J. Peacock[2], M. Greven[1].* [1]Ophthalmology, Wake Forest; [2]Infectious Disease, Wake Forest

853 — *B0331* **Longitudinal Trends in Antibiotic Resistance Among Staphylococci Collected in the ARMOR Study.** *Penny A. Asbell[1], C. M. Sanfilippo[2], H. H. DeCory[2].* [1]Ophthalmology, University of Tennessee Health Science Center; [2]Medical Affairs, Bausch + Lomb **CR*

854 — *B0332* ***Asia Cornea Society Infectious Keratitis Study: Pseudomonas aeruginosa* infectious keratitis.** *Roger W. Beuerman[2, 3], A. Mishra[1], A. Tan[5], M. Periayah[1], X. Lian[1], R. Sultana[6], S. Saffari[6], W. Khor[4], J. Mehta[4], D. Tan[4].* [1]AMOP, Singapore Eye Research Institute; [2]AMOP, Singapore Eye esearch Institute; [3]Neuroscience, Duke-NUS; [4]Singapore National Eye Center; [5]Microbiology, Singapore General Hospital; [6]Duke-NUS Medical School **CR*, ↗

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

855 — *B0333* **Trends in pathogens and antibiotic resistance of corneal culture isolates in infectious keratitis in Sao Paulo, Brazil, over a 5-year period.** *Luiza M. Oliveira, T. Tanaka, J. M. Kato, F. Rossi, J. N. Almeida Junior, T. R. Sabato di Gioia, V. B. Giglio, M. R. Alves, R. M. Santo***.** University of Sao Paulo

856 — *B0334* **The Resurgence of Ocular Syphilis in British Columbia: 2013-2016 A Retrospective Chart Review.** *Maryam Eslami[1], G. Noureddin[1], S. Warner[1], T. Grennan[3, 2]*. [1]Ophthalmology and Visual Sciences, University of British Columbia; [2]Infectious Disease, University of British Columbia; [3]BC Centre for Disease Control

857 — *B0335* **Ocular syphilis: clinical manifestations and visual outcomes.** *Merav Koschitzky, K. Xu, S. Kiss***.** Ophthalmology, Weill Cornell Medicine

858 — *B0336* ***Candida* keratitis: epidemiology, management, and clinical outcomes.** *Grace L. Qiao[1], J. Ling[1], T. Wong[2], S. Yeung[1], A. Iovieno[1]*. [1]Ophthalmology & Visual Sciences, University of British Columbia; [2]Pathology, University of British Columbia

859 — *B0337* **Singapore Ocular Tuberculosis Immunity Study (SPOTIS).** *Ae Ra Kee[1], P. E. Hutchinson[2], J. E. Connolly[3], N. Yawata[4], J. Siak[5], R. V. Agrawal[1]*. [1]Ophthalmology, Tan Tock Seng Hospital, National Healthcare Group; [2]Microbiology and Immunology, National University of Singapore; [3]Translational Immunology, Institute of Molecular and Cellular Biology; [4]Ocular Inflammation & Immunology, Singapore Eye Research Institute; [5]Singapore National Eye Centre

860 — *B0338* **Collaborative Ocular Tuberculosis Study (COTS) Consensus guidelines on initiating antitubercular therapy in presumed tubercular choroiditis.** *Vishali Gupta[1], R. V. Agrawal[2, 3], I. Testi[4], S. Mahajan[5], D. Raje[6], A. Agarwal[1], D. Gunasekeran[2], J. H. Kempen[7], Q. D. Nguyen[5], C. Pavesio[8]*. [1]Post Graduate Institute of Medical Education and Research, Chandigarh, India.; [2]Tan Tock Seng Hospital; [3]Nanyang Technological University; [4]Department of Ophthalmology, University of Padova; [5]Byers Eye Institute, Stanford Medical School; [6]MDS Bioanalytics; [7]Massachusetts Eye and Ear Harvard Medical School; [8]Moorfields Eye Hospital

861 — *B0339* **Collaborative Ocular Tuberculosis Study (COTS) consensus guidelines on initiating antitubercular therapy in presumed tubercular retinal vasculitis.** *Rupesh V. Agrawal[1, 2], I. Testi[3], S. Mahajan[4], D. Raje[5], A. Agarwal[6], D. Gunasekeran[7], J. H. Kempen[9], Q. D. Nguyen[4], C. Pavesio[8], V. Gupta[6]*. [1]Ophthalmology, Tan Tock Seng Hospital; [2]Nanyang Technological University; [3]University of Padova; [4]Byers Eye Institute, Stanford Medical School; [5]MDS Bioanalytics; [6]Post Graduate Institute of Medical Education and Research; [7]Tan Tock Seng Hospital; [8]Moorfields Eye Hospital; [9]Massachusetts Eye and Ear Harvard Medical School

862 — *B0340* **Collaborative Ocular Tuberculosis Study (COTS) Consensus guidelines on initiating antitubercular therapy in intermediate uveitis and panuveitis.** *Ilaria Testi[1], R. V. Agrawal[2, 3], S. Mahajan[4], D. Raje[5], A. Agarwal[6], D. Gunasekeran[2], J. H. Kempen[7], Q. D. Nguyen[4], C. Pavesio[8], V. Gupta[6]*. [1]Department of Ophthalmology, University of Padova; [2]Tan Tock Seng Hospital; [3]Nanyang Technological University; [4]Byers Eye Institute, Stanford Medical School; [5]MDS Bioanalytics; [6]Post Graduate Institute of Medical Education and Research; [7]Massachusetts Eye and Ear Harvard Medical School; [8]Moorfields Eye Hospital

863 — *B0341* **Microbial Keratitis After Penetrating and Endothelial Keratoplasty.** *Nicolas Dohse[1], T. D. Wibbelsman[2], S. Rapuano[2], K. Hammersmith[2], P. Nagra[2], C. J. Rapuano[2], Z. A. Syed[2]*. [1]Sidney Kimmel Medical College; [2]Wills Eye Hosptial

864 — *B0342* **Fumagillin in microsporidial keratitis.** *Faisal Aljassar, S. Shoughy, K. Tabbara***.** ophthalmology, The Eye Center

865 — *B0343* **Understanding fungal keratitis pathogenesis through a reverse-translational approach.** *Kevin K. Fuller[1, 2], M. E. Brown[8], D. Giacalone[7], J. Dunlap[4], T. Lietman[5], R. Cramer[7], K. Dharmalingam[6], M. Zegans[3, 7]*. [1]Ophthalmology, University of Oklahoma Health Sciences Center; [2]Microbiology and Immunology, University of Oklahoma Health Sciences Center; [3]Surgery, Dartmouth Hitchcock Medical Center; [4]Molecular and Systems Biology, Geisel School of Medicine at Dartmouth; [5]Ophthalmology, University of California at San Francisco; [6]Proteomics, Aravind Medical Research Foundation; [7]Microbiology and Immunology, Geisel School of Medicine at Dartmouth; [8]Ophthalmology, Dean McGee Eye Institute

866 — *B0344* **Tissue eradication and clinical resolution of adult inclusion chlamydia conjunctivitis (AIC) after treatment with one cycle of oral Azithromycin.** *Ana-Catalina Rodriguez-Martinez, K. Mohamed-Noriega, M. L. Fernandez, C. Fernández de Luna, G. Villarreal-Mendez, F. Morales-Wong, J. Mohamed-Noriega, J. Mohamed-Hamsho***.** Ophthalmology department, Universidad Autónoma de Nuevo León, Hospital Universitario "Dr. José E. González", Facultad de Medicina, Dpto. Oftalmología

867 — *B0345* **Meta-analysis Reveals Multiple Disease Processes Underlying Trachoma.** *Mohammad A. Tahboub[1], C. Castillejo[2], A. Sabbagh[3], B. Lauinger[1], J. Aljabban[2], S. McDermott[2], S. Frank[2], D. Hadley[4]*. [1]Central Michigan University College of Medicine; [2]Ohio State University College of Medicine; [3]University of Michigan Medical School; [4]UCSF Medical School

868 — *B0346* **Efficacy of voriconazole on *Acanthamoeba* Keratitis: Prospective Randomized Double masked trial.** *Bhupesh Bagga[1], S. Sharma[2], R. gour[1], J. Joseph Ruben[2], A. Mohamed[1]*. [1]Cornea, L.V.Prasad Eye institute, Hyderabad; [2]Jhaveri Microbiology centre, L.V.Prasad Eys institute ↗

869 — *B0347* **Comparison Study on *Aspergillus* Pathogenicity of Corneal Clinical Isolates And Standard Strain: The Relationship Between Invasiveness And Growth Characteristics.** *Yingyu Li, P. Zhang, Z. Liu, W. Wang***.** Ophthalmology, Peking University Third Hospital

870 — *B0348* **Role of Circumferential Full Thickness Scleral Debridement in Fulminant Infective Ring Scleritis.** *Samendra Karkhur[1, 2], A. Sen[1], P. Shenoy[1], M. Hassan[2], M. Halim[2], M. Hasanreisoglu[3], R. Afridi[2], Y. Sepah[2], D. V. Do[2], Q. D. Nguyen[2], V. Gupta[4]*. [1]Retina & Uvea Service, Department of Ophthalmology, , Sadguru Netra Chikitsalaya; [2]Spencer Center for Vision Research, Byers Eye Institute at Stanford University; [3]Department of Ophthalmology, Gazi University; [4]Department of Ophthalmology, Post Graduate Institute of Medical Education & Research

871 — *B0349* **Limbal Stem Cell Deficiency Associated with Herpetic Keratitis: A Retrospective Study.** *Jimena T. Carreno-Galeano, T. Dohlman, J. Yin, R. Dana***.** Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, Harvard Medical School

872 — *B0350* **Undiagnosed Ocular Syphilis Treated with Biologic Immunosuppressive Therapy.** *Andrew Pittner, P. Merrill, P. Patel***.** Ophthalmology, Rush University Medical Center

873 — *B0351* **Ocular Manifestations of Disseminated *Mycobacterium Chimaera* Infection After Cardiothoracic Surgery.** *Jingyi Ma, N. Carrell, C. Baker***.** University of Alberta

874 — *B0352* **Cryptococcal choroiditis in the absence of cryptococcal meningitis: a novel clinical description.** *Doran Spencer, A. Yarmohammadi, C. B. Toomey, T. Ofstad, W. R. Freeman***.** Shiley Eye Institute, Univ. of Calif., San Diego

875 — *B0353* **Electroretinography and Visual Function among Individuals Infected with Human Immunodeficiency Virus.** *Davin C. Ashraf[1], L. D. Alves[5], A. K. Goldberg[2], G. N. Holland[3, 4], F. Yu[3], S. Nusinowitz[3]*. [1]Department of Ophthalmology, University of California, San Francisco; [2]Department of Ophthalmology, University of Texas Health Science Center of Houston; [3]Department of Ophthalmology, UCLA Stein Eye Institute; [4]Ocular Inflammation Disease Center, UCLA Stein Eye Institute; [5]Department of Ophthalmology, Universidade Federal de Goiás

876 — *B0354* **Decreased optic nerve head blood flow in acute retinal necrosis.** *Hiroshi Keino, M. Nakayama, T. Watanabe, Y. Ando, T. Koto, K. Hirota, M. Inoue, A. Okada***.** Ophthalmology, Kyourin Univ Sch of Med

877 — *B0355* **Treatment of Cytomegalovirus Retinitis in Human Immunodeficiency Virus Seropositive Patients: Systematic Review.** *Chanusnun Narongchai, S. Ausayakhun***.** Ophthalmology, ChiangMai University ↗

878 — *B0356* **Ocular toxoplasmosis : assessment of active and scarred areas of retinochoroiditis.** *Pierre Duraffour, C. Mehanna, F. Hoogewoud, A. Touboul, D. Monnet, A. Brézin***.** Université Paris Descartes - Service d'ophtalmologie - Hôpital Cochin

879 — *B0357* **Uncommon Presentations of Ocular Toxoplasmosis.** *Phillip Qu[1], H. Wafapoor[2].* [1]University of Mississippi School of Medicine; [2]Retina Health Center

880 — *B0358* **Autoreactivity against HSP70 and recoverin in patients with congenital and acquired ocular toxoplasmosis.** *Monica Goldberg[1, 2], A. Ibarra[2], D. Correa[1].* [1]Inmunología experimental, Instituto Nacional de Pediatría; [2]Centro de Investigación de Ciencias de la Salud Anáhuac, Universidad Anáhuac

881 — *B0359* **Concomitant herpetic keratitis and acute retinal necrosis.** *Wendy Ming, N. Dewan, S. Yeung, A. Iovieno***.** University of British Columbia

882 — *B0360* **Prevention of Blindness from CMV Retinitis-Related Retinal Detachment by Prophylactic Argon Laser Demarcation.** *Lynn M. Hassman[1], K. T. Oo[3], M. Larochelle[2], P. Kalyani[7], N. Tun[6], Z. M. Din[6], G. N. Holland[5], D. Heiden[4], A. T. Vitale[2].* [1]Ophthalmology and Vision Sciences, Washington University in St. Louis; [2]Ophthalmology, Moran Eye Center; [3]Myanmar Eye Centre; [4]Pacific Vision Foundation; [5]Jules Stein Eye Institute; [6]Medical Action Myanmar; [7]Kaiser Permanente

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West Exhibition Hall B0381-B0400

Sunday, April 28, 2019 1:00 PM-2:45 PM

Cornea

144 Corneal Immunology

Moderators: Joy Sarkar and Pedram Hamrah

883 — *B0381* **Higher Frequencies of Macrophages and IL-12 Expression in the Cornea of Very Young Graft Recipients.** *Takeshi Nakao[1, 2], Y. Chen[2, 3], J. Yin[2, 3], A. Amouzegar[2, 3], R. Dana[2, 3].* [1]Ophthalmology, Osaka University; [2]Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary; [3]Ophthalmology, Harvard Medical School

884 — *B0382* **The purinergic receptor antagonist oxidized adenosine triphosphate promotes corneal allograft survival without expanding regulatory T cells.** *William Foulsham, S. Mittal, T. Nakao, G. Coco, Y. Taketani, S. Chauhan, R. Dana***.** Massachusetts Eye and Ear/ Harvard Medical School

885 — *B0383* **Rho-Kinase Inhibitor Ripasudil suppresses neovascularization and inflammation in murine corneal transplanatation.** *Takenori Inomata[2], K. Fujimoto[1], Y. Okumura[1], M. Okano[1], T. Funaki[1], A. Murakami[1].* [1]Ophthalmology, Juntendo University Faculty of Medicine; [2]Ophthalmology, Juntendo University Faculty of Medicine

886 — *B0384* **Comparison of the therapeutic effects between topical 8-oxo-2'-deoxyguanosine and steroid in ocular chemical burn experimental model.** *Dong Hyun Kim[1], S. Im[2], S. Han[3], M. Chung[2].* [1]Ophghalmology, Gachon University College of Medicine; [2]Gachon Biomedical & Convergence Institute; [3]Ophghalmology, Department of Ophthalmology, Kangwon National University College of Medicine

887 — *B0385* **CSFR-1$^+$ CX3CR1$^+$ resident corneal macrophages regulate inflammatory corneal hemangiogenesis.** *Deniz Hos[1, 2], A. Kiesewetter[1], C. Cursiefen[1, 2], S. A. Eming[2, 3].* [1]Department of Ophthalmology, University of Cologne; [2]Center for Molecular Medicine Cologne, University of Cologne; [3]Department of Dermatology, University of Cologne

888 — *B0386* **Development of a novel corneal epithelial dendritic cell morphology grading scale.** *Zahra Tajbakhsh[1], C. Chao[1, 2], R. Mobeen[1], B. Golebiowski[1], I. Jalbert[1], F. Stapleton[1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]Tufts Medical Center

889 — *B0387* **Peripheral neutrophil phenotype and function in Ocular Mucous Membrane Pemphigoid.** *Mariam Murad[1], L. Low[1, 2], M. Shamdas[2], N. Poonit[2], P. I. Murray[1, 2], S. Rauz[1, 2], G. R. Wallace[1, 2].* [1]Institute of Inflammation and Ageing , Univeristy of Birmingham; [2]Birmingham & Midland Eye Centre, Inflammatory Eye Disease Service

890 — *B0388* **Immuno-modulative effects of corneal endothelium on innate immune-cells as determined by transcriptome analysis.** *Thabo Lapp, D. Boehringer, A. Hildebrand, P. Kammrath Betancor, J. Fan, T. Reinhard, G. R. Schlunck***.** Ophthalmology, Eye Center, Faculty of Medicine, University of Freiburg, Germany

891 — *B0389* **Integrin αvβ8 Promotes Tolerogenic Function of CD103$^+$Dendritic Cells in Corneal Transplantation.** *Tomas Blanco, S. Atilla, R. Dana***.** Ophthalmology, Harvard Medical School

892 — *B0390* **Corneal epithelial dendritic cell density in a healthy population and its relationship with age and sex: A Meta-Analysis of *in vivo* confocal microscope data.** *Rabia Mobeen[1], C. Chao[1, 2], F. Stapleton[1], M. C. Madigan[1], B. Golebiowski[1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]Tufts Medical Center

893 — *B0391* **Retinal inflammation after penetrating corneal surgery: the role of TNF-α and IL-1β inhibition.** *XIAONIAO CHEN[1, 2], F. Lei[2], C. Zhou[2], E. I. Paschalis[2, 3], J. Chodosh[2, 3], C. H. Dohlman[2, 3], L. Wang[1].* [1]Opthalmology, Chinese PLA General Hospital; [2]Opthalmology, Massachusetts eye and Ear Infirmary; [3]Opthalmology, Harvard Medical School

894 — *B0392* **NLRP3 inflammasome regulates acute corneal allograft rejection through enhanced phosphorylation of STAT3.** *Chao Wei, D. Xiang, L. Ma, H. Gao, W. Shi***.** Shandong Eye Institute

895 — *B0393* **Local VEGF-A blockade modulates the microenvironment of corneal transplantion side.** *Felix Bock[1, 2], A. Schneider[1, 2], C. Cursiefen[1, 2], M. Koch[4, 5], R. Reuten[3], E. Mahabir[6], G. Braun[1], M. Heykants[6].* [1]Ophthalmology, University of Cologne; [2]CMMC, Universtity of Cologne; [3]Biotech Research and Innovation Centre (BRIC), Universtity of Copenhagen; [4]Center for Biochemistry, Universtity of Cologne; [5]Institute for Dental Research and Oral Musculoskeletal Biology, Universtity of Cologne; [6]Comparative Medicine, Center for Molecular Medicine, Universtity of Cologne

896 — *B0394* **Regulatory T cells Derived from Hosts at High Risk of Corneal Graft Rejection Have Impaired Protective Effect on Corneal Endothelial Cells.** *Giulia Coco[1, 2], W. Foulsham[1], T. Nakao[1], J. Yin[1], A. Amouzegar[1], Y. Taketani[1], S. Chauhan[1], R. Dana[1].* [1]Schepens Eye Research Institute / Mass. Eye & Ear / Harvard Medical School; [2]Department of clinical sciences and translational medicine, University of Tor Vergata

897 — *B0395* **Local Adoptive Transfer of Plasmacytoid Dendritic Cells as a Novel Therapeutic Approach for Corneal Neovascularization.** *Arsia Jamali[1], M. J. Lopez[1], D. L. Harris[1], V. G. Sendra[1], N. Pondelis[1], G. Ortiz[1], P. Hamrah[1, 2].* [1]Department of Ophthalmology, Tufts Medical Center; [2]Department of Ophthalmology, Cornea Service, New England Eye Center ***CR***

898 — *B0396* **Migration rate of presumed immature dendritic cells in the healthy living human cornea as imaged with In vivo corneal confocal microscopy.** *Luisa H. Colorado[1], K. Edwards[1], H. R. Chinnery[2], H. E. Bazan[3].* [1]School of Optometry and Vision Science, Queensland University of Technology; [2]University of Melbourne; [3]LSU Health Sciences Center

899 — *B0397* **Corneal collagen cross-linking pretreatment mitigates inflammation, hemangiogenesis and lymphangiogenesis in rats.** *Wei Chen[1], Y. Zhu[1, 2], P. Reinach[1], J. Qu[1]*. [1]School of Ophthalmology and Optometry and Eye Hospital, Wenzhou Medical University; [2]Eye Center of the 2nd Affiliated Hospital, Medical College of Zhejiang University

900 — *B0398* **Corneal Plasmacytoid Dendritic Cell Depletion Results in Increased Expression of Neurodegenerative Markers in the Trigeminal Ganglion.** *Brendan Kenyon[1, 2], A. Jamali[2], Y. Seyed-Razavi[2], G. Ortiz[2], D. L. Harris[2], P. Hamrah[2, 3]*. [1]Program in Neuroscience, Tufts University Sackler School of Graduate Biomedical Sciences; [2]Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center; [3]Cornea Service, New England Eye Center ***CR**

901 — *B0399* **Post injury mu-opioid receptor (mOR) expression in the oculo-trigeminal axis: Is Less mOR?** *Nicholas Fowler, R. Albuquerque, J. Cho***.** University of Kentucky College of Medicine

902 — *B0400* **β2 adrenoceptor inhibition reduces the severity of Pseudomonas aeruginosa keratitis in mice.** *Qingjun Zhou, l. Xie, X. Ma***.** Shandong Eye Institute

West Exhibition Hall B0451-B0482

Sunday, April 28, 2019 1:00 PM-2:45 PM

Cornea

145 Corneal Epithelium

Moderators: Anil Tiwari and Vivek Singh

903 — *B0451* **Safety of Hyalein®.** *Yasser H. Mohamed, M. Uematsu, T. Kitaoka***.** Ophthalmology, Nagasaki University

904 — *B0452* **Influence of punctate superficial keratitis on intraocular pressure measured with Goldmann applanation tonometer and noncontact tonometer.** *Daisuke Shimizu, S. Yamamoto***.** Chiba univercity

905 — *B0453* **Effect of high glucose on corneal epithelial cellular and barrier functions.** *Ashley M. Barbarino, S. Alfuraih, K. Shamloo, A. Sharma***.** School of Pharmacy, Chapman University

906 — *B0454* **Engineering an electrospun nanofiber to direct corneal epithelial cell proliferation and morphology.** *Chau Vo[1], H. J. Lee[2], G. Fernandes-Cunha[3], D. Myung[1, 3]*. [1]Chemical Engineering, Stanford University; [2]Chemical and Biomolecular Engineering, Gachon Universtiy; [3]Ophthalmology, Byers Eye Institute

907 — *B0455* **Insulin mediates mitochondrial stability in corneal epithelial cells.** *Danielle M. Robertson, R. Titone, W. Stuard, M. Zhu***.** Ophthalmology, Univ Texas Southwestern Med Ctr

908 — *B0456* **Jagged1-mediated Notch Signaling Activation Regulates the Differentiation and Stratification of Human Limbal Stem/Progenitor Cells *in vitro*.** *Sheyla Gonzalez, M. Halabi, S. X. Deng***.** Ophthalmology, Stein Eye Institute UCLA

909 — *B0457* **The effect of near-infrared photobiomodulation on *in vitro* cornea wound healing.** *Maud Gorbet[1], P. Hamilton[1], S. Mohammadi[1], D. Choi[2], A. Roeper[2]*. [1]Systems Design Engineering/Biomedical Engineering, Univ of Waterloo; [2]Penta Medical ***CR**

910 — *B0458* **Transient mitomycin C treatment of human corneal limbal epithelial cells induces secretion of cytokines.** *Mary Ann Stepp[2, 1], S. Pal-Ghosh[2], G. Tadvalkar[2], A. E. Hutcheon[3], J. D. Zieske[3], X. Q. Guo[3]*. [1]Ophthalmology, GWU Medical School; [2]Anatomy and Cell Biology, GWU Medical School; [3]Ophthalmology, SERI, Harvard Medical School

911 — *B0459* **Roles of vasoactive intestinal polypeptide expression in diabetic and nerve degenerated mice corneal epithelial regeneration.** *Yangyang Zhang[1, 2], F. YU[2]*. [1]Shandong Eye Institute; [2]Ophthalmology Visual Anatomical Sci, Kresge Eye Institute

912 — *B0460* **TNFα induces corneal epithelial proteolytic activity in response to ER stress.** *Ashley Woodward[1], A. Di zazzo[2], S. Bonini[2], P. Argueso[1]*. [1]Schepens Eye Research Institute/MEE/HMS; [2]University Campus Bio-Medico

913 — *B0461* **Proteomics profiling to elucidate miR-146a targets in primary limbal epithelial cells.** *Mehrnoosh Saghizadeh[1, 2], A. Poe[1], M. Kulkarni[1], A. A. Kramerov[1], A. V. Ljubimov[1, 2], Y. Jami-Alahmadi[3, 2], J. Wohlschlegel[3, 2]*. [1]Biomedical Sciences, Regenerative Medicine Institute Eye program, Cedars-Sinai Medical Center; [2]David Geffen School of Medicine, University of California Los Angeles; [3]Department of Biological Chemistry, University of California Los Angeles

914 — *B0462* **The impact of zinc oxide and vanadium pentoxide nanoparticles on corneal epithelial wound healing *in vitro* and *in vivo*.** *Atsuhiko Fukuto[1, 2], S. Kim[1], B. L. Gates[1], L. Van Winkle[3], K. E. Pinkerton[3], S. M. Thomasy[1, 4]*. [1]Department of Surgical and Radiological Sciences, School of Veterinary Medicine, University of California, Davis; [2]Department of Ophthalmology and Visual Science, Graduate School of Biomedical Sciences, Hiroshima University; [3]Center for Health and the Environment, University of California, Davis; [4]Department of Ophthalmology & Vision Science, School of Medicine, University of California, Davis

915 — *B0463* **Secreted Ly-6/uPAR Related Protein-1 (SLURP1) modulates inflammation by moderating epithelial cells response to inflammatory agents.** *Sudha Swamynathan[1], G. Campbell[1], A. Tiwari[1], J. S. Gnalian[2], S. K. Swamynathan[1]*. [1]Ophthalmology, University of Pittsburgh; [2]Biological Sciences, University of Pittsburgh ***CR**

916 — *B0464* **Corneal mechanotransduction drives TRPV4-dependent release of the transmitter ATP.** *Luka Lapajne[1, 2], M. Lakk[2], L. Gubeljak[2], O. Yarishkin[2], M. Hawlina[1], D. Krizaj[2]*. [1]Eye Hospital, University Medical Centre Ljubljana; [2]Department of Ophthalmology and Visual Sciences, University of Utah School of Medicine

917 — *B0465* **Comparison of different methods to isolate mouse limbal epithelial cells for single-cell analysis.** *Zhenwei Song[1, 2], H. Mei[1]*. [1]Opthalmology, University of North Carolina; [2]Medical College, Hunan Normal University

918 — *B0466* **Corneal epithelial thickness and Bowman's layer thickness-mapping in patients with unilateral keratoconus using large Field of View Polarization-Sensitive Optical Coherence Tomography.** *Niklas Pircher, F. Beer, S. Holzer, M. Pircher, C. K. Hitzenberger, G. Schmidinger, J. Lammer***.** Ophthalmology, Medical University of Vienna

919 — *B0467* **Mechanoregulation of the Corneal Epithelium.** *Sophia Masterton***.** Trinity College Dublin

920 — *B0468* **UV light-blocking contact lenses prevent UVB-induced DNA and oxidative damage of the limbal stem cell niche, protect against inflammation and maintain putative stem cell phenotype.** *Maria Notara[1], S. Behoudifard[1], B. Schumacher[2], C. Cursiefen[1]*. [1]Ophthalmology, University Hospital of Cologne; [2]Institute for Genome Stability in Ageing and Disease, CECAD Research Center ***CR**

921 — *B0469* **Barrier strengthening in corneal epithelium by nucleic acid stimulation is a reaction via toll-like receptor 3.** *Yuriko Ban[1, 2], Y. Aziza[2, 3], C. Sotozono[2], S. Kinoshita[4]*. [1]Kyoto Chubu Medical Center; [2]Ophthalmlogy, Kyoto Prefectural University of Medicine; [3]Department of Ophthalmology, Faculty of Medicine, University of Indonesia; [4]Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine

922 — *B0470* **The characterization of adipose-derived stem cell spheroids as well as their conditioned medium effect on co-culture of dorsal root ganglion and corneal epithelial cells.** *Shiwei lau[1], C. Wang[2], Q. Yu[3], J. Zhang[4], J. Chen[5, 6].* [1]Department of Ophthalmology, the First Clinical Medical College of Jinan University, Guangzhou, Guangdong, China.; [2]Key Laboratory for Regenerative Medicine of Ministry of Education, Jinan University, Guangzhou, Guangdong, China.; [3]Centric Laboratory, Medical College, Jinan University, Guangzhou, Guangdong, China.; [4]Key Laboratory of Optoelectronic Information and Sensing Technologies, Jinan University, Guangzhou, Guangdong, China.; [5]Institute of Ophthalmology, Medical College, Jinan University, Guangzhou, Guangdong, China.; [6]Aier Eye Institute, Changsha, Hunan, China

923 — *B0471* **Sirtuin1 deficiency suppresses migration during corneal epithelial wound healing.** *yong lin[2, 1], L. Li[2, 1], Q. Liu[2, 1], D. Yan[2, 1].* [1]State Key Laboratory of Ophthalmology, Optometry and Visual Science; [2]School of Ophthalmology and Optometry, Eye Hospital, Wenzhou Medical University

924 — *B0472* **Pediatric Ocular Surface Disease Associated with Suspected Abuse.** *Christine Shieh[1], M. Aziz[1], M. T. Coroneo[2], G. W. Zaidman[3, 4], L. A. Mawn[1].* [1]Vanderbilt Eye Institute; [2]Ophthalmology, Prince of Wales Hospital; [3]Ophthalmology, New York Medical College; [4]Ophthalmology, Westchester Medical Center

925 — *B0473* **The role of insulin-like growth factor binding protein 3 (IGFBP-3) in mitochondrial homeostasis in human corneal epithelial cells.** *Whitney Stuard, R. Titone, D. M. Robertson***.** Ophthalmology, UT Southwestern Medical Center

926 — *B0474* **Corneal neurotization protects the cornea from epithelial thinning in a rat model of neurotrophic keratopathy.** *Kira Antonyshyn[1, 2], J. Catapano[4], T. Gordon[3, 2], G. H. Borschel[4, 2].* [1]Institute of Medical Science, University of Toronto; [2]Division of Plastic and Reconstructive Surgery, The Hospital for Sick Children; [3]Department of Neuroscience and Mental Health, The Hospital for Sick Children; [4]Division of Plastic Surgery, University of Toronto

927 — *B0475* **Effect of trypsin-EDTA on expression of DNA damage repair enzyme APE1 in human limbal epithelial cells.** *Yolanda Lorenzo Corrales[1], B. Nicolaissen[2], G. Nguyen[3], K. Beraki[3], M. Moe[1, 3], G. Petrovski[1, 3], B. Nicolaissen[1, 3].* [1]Center for Eye Research, Department of Ophthalmology, Oslo University Hospital; [2]Department of Ophthalmology, Vestre Viken Hospital Trust; [3]University Of Oslo

928 — *B0476* **Optimal magnitude of shear stress for human corneal epithelial cell proliferation in microfluidic culture system.** *SeongKwang Cha[1], J. Kim[2], Y. Goo[1].* [1]Physiology, Chungbuk National University; [2]Seoul Daabom Eye Center

929 — *B0477* **The cytotoxic effect of Titanium oxide nanoparticles on cultured human corneal epithelial cells.** *Choul Yong Park***.** Ophthalmology, Dongguk University Hospital

930 — *B0478* **Histatin 5 can reduce apoptosis induced by hyperosmolar conditions in human corneal epithelial cells.** *Vinay K. Aakalu[1, 2], D. Shah[1], S. Kalmodia[1], M. Ali[1], A. Balasubramaniam[1], K. Son[1].* [1]Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary; [2]Surgery, Jesse Brown Veterans Affairs Hospital

931 — *B0479* **Histatin-5 Promotes Corneal Epithelial Migration and Wound Healing.** *Dhara Shah[1], K. Son[1], S. Kalmodia[1], M. Ali[1], A. Balasubramaniam[1], V. K. Aakalu[1, 2].* [1]Ophthalmology and Visual sciences, University of Illinois at Chicago; [2]Surgery, Jesse Brown Veterans Affairs Medical Center

932 — *B0480* **Impact of Contact Lens Wear on Epithelial Alterations in Keratoconus.** *Luigina Sorbara[1], M. Gorbet[1], K. K. Bizheva[1], J. Lamarca Mateu[3], J. Pastor[2], M. J. Moldonado[2], D. Hileeto[1].* [1]University of Waterloo; [2]Dept of Ophthalmology, University of Valladolid; [3]Barraquer Ophthalmology Centre

933 — *B0481* **Effects of aerosol particulate matter on a reconstructed human corneal epithelial model.** *Ryota Ko[1], M. Hayashi[2], E. Uchio[1].* [1]Ophahtlmology, Fukuoka University; [2]Fukuoka University

934 — *B0482* **Differential DNA methylation between diabetic and non-diabetic human corneolimbal cells and limbal-derived iPSCs.** *Ruchi Shah[5, 2], T. Spektor[2, 3], V. Punj[4], S. Turjman[5, 2], S. Ghiam[2, 6], J. Kim[2], M. Saghizadeh[2, 1], A. A. Kramerov[5, 2], A. V. Ljubimov[2, 1].* [1]David Geffen School of Medicine, University of California Los Angeles; [2]Regenerative Medicine Institute Eye Program, Cedars-Sinai Medical Center; [3]Oncotherapeutics; [4]Keck School of Medicine, University of Southern California; [5]Biomedical Sciences, Cedars-Sinai Medical Center; [6]University of California Los Angeles

West Exhibition Hall B0483-B0503

Sunday, April 28, 2019 1:00 PM-2:45 PM

Cornea

146 Corneal neovascularization

Moderator: Paola Bargagna-Mohan

935 — *B0483* **Preoperative Reduction of Corneal Neovascularization by Fine-Needle Vessel Coagulation Combined with Bevacizumab Decreases the Risk of Graft Rejection after Subsequent High-Risk Keratoplasty: a clinical pilot study.** *Claus Cursiefen, B. Bachmann, D. Hos***.** Dept of Ophthalmology, University of Cologne ***CR**

936 — *B0484* **The influence of mesenchymal stem cells on traumatic corneal neovascularization on an animal model.** *Demetrios E. Pirounides[1], K. Boboridis[3], A. Komnenou[2], N. Papaioannou[2], E. Gounari[4], A. Alexandridis[1], E. Kofidou[2], G. Koliakos[4], V. Karampatakis[5].* [1]1st Department of Ophthalmology, AHEPA; [2]Faculty of Veterinary Medicine, Aristotle University of Thessaloniki School of Health Sciences; [3]3rd Department of Ophthalmology; [4]Laboratory of Biological Chemistry, Faculty of Health Science School of Medicine Aristotle University of Thessaloniki; [5]Laboratory of Experimental Ophthalmology, Faculty of Health Sciences School of Medicine Aristotle University of Thessaloniki ***CR**

937 — *B0485* **Establishing a Correlation Between Cornea Neovascularization and Cornea Opacity in a Suture Induce CNV Model in Rabbit.** *Christian Hissom, N. Cook, K. Martinaz, J. Walters, A. Zhao, J. Quach, D. Albright, J. Parson, M. Lyulkin, S. Womble, G. G. Gum, V. Naageshwaran, S. Kumar***.** Ophthalmology, Absorption Systems

938 — *B0486* **Removal of suture-induced corneal neovascularization in rabbits using concurrently applied nanosecond laser pulses and ultrasound.** *Yixin Yu[1, 2], X. Xie[1], Y. Qin[1], X. Xia[2], M. A. Woodward[1], X. Yang[3], X. Wang[4], Y. M. Paulus[1, 4].* [1]Department of Ophthalmology and Visual science, University of Michigan; [2]Department of Ophthalmology, Xiangya Hospital; [3]Mechanical Engineering, University of Kansas; [4]Biomedical Engineering, University of Michigan

939 — *B0487* **Regression of Corneal Neovascularization; Adiponectin versus Bevacizumab eye drops.** *Alireza Baradaran-Rafii, A. Ashnagar, S. Heidari-keshel***.** Ocular Tissue Engineering Research Center

940 — *B0488* **IL-21 pre-stimulated MSC derived exosomes suppressing corneal neovascularization.** *Ziqi Yang, Y. Liu, T. Zhou, X. Zhu, C. He, X. Liu***.** Zhongshan Ophthalmic Center, Sun Yat-Sen University

941 — *B0489* **Comparison of UV-light crosslinking and Fine needle-diathermy to regress pathological corneal lymphatic and blood vessels in vivo.** *Yanhong Hou, V. Le, F. Bock, C. Cursiefen***.** Ophthalmology Department, University of Cologne, Germany

942 — *B0490* **Tyrosinase is a novel endogenous inhibitor of lymphangiogenesis.** *Thomas Clahsen[1], C. Büttner[2], B. Regenfuss[1], T. Gabriel[1], F. Bock[1], A. Reis[2], C. Cursiefen[1].* [1]Department of Ophthalmology University Cologne; [2]Department of Human Genetics

943 — *B0491* **Therapeutic Effect of Topical Apatinib in a Murine Model of Corneal Neovascularization.** *HYEON JEONG YOON[1], Y. Li[1], L. Li[1], R. Jin[1], J. Woo[2], K. Yoon[1].* [1]Chonnam National University Hospital; [2]University of Ulsan College of Medicine

944 — *B0492* **Hyaluronan derived from the limbus is a key Regulator of Corneal Lymphangiogenesis.** *Vivien J. Coulson-Thomas[1], M. Sun[1], S. Puri[1], K. N. Mutoji[1], Y. M. COULSON-THOMAS[2], V. Hascall[3], D. Jackson[4], T. F. Gesteira[1, 2].* [1]Optometry, University of Houston; [2]Biochemistry, Universidade Federal de Sao Paulo; [3]Cleveland Clinic; [4]University of Oxford

945 — *B0493* **Proteomics-based characterization of the influence of MMP14 on the protein content of corneal fibroblast-derived exosomes.** *Kyuyeon Han, J. Chang, D. T. Azar***.** Ophthalmology and Visual Sciences, University of Illinois at Chicago

946 — *B0494* **Inhibitory effect of Conbercept on corneal neovascularization in rabbits with alkali burn.** *Na Xu, X. Wu***.** Qilu hospital

947 — *B0495* **Repair Effect of Morphogenetic Protein 4 on Rat Corneal Epithelial Injury.** *Yan Zhang, S. Wang, Y. He***.** Eye Center, the Second Hospital of Jilin University

948 — *B0496* **Signals from sphingosine-1-phosphate receptor type 3 involvement in vascular formation by endothelium and in VEGF expression in macrophages in vitro.** *Shingo Yasuda, T. Sumioka, Y. Okada, M. Miyajima, K. Ichikawa, S. Saika***.** Wakayama Medical University

949 — *B0497* **Impaired angiogenic response in cornea by lacking TRPV4 in mice.** *Takayoshi Sumioka, Y. Okada, H. Iwanishi, S. Yasuda, M. Miyajima, S. Saika***.** Ophthalmology, Wakayama Medical University

950 — *B0498* **Role of Substance P in Promoting Corneal Neovascularization.** *Lingjia Liu[1, 2], T. Nakao[1], R. Dana[1], J. Yin[1].* [1]Schepens Eye Research Institute/Massachusetts Eye and Ear Infirmary, Harvard Medical School; [2]Medical college of Nankai University

951 — *B0499* **Plasmacytoid Dendritic Cells Inhibit Vascular Endothelial Cell Proliferation and Differentiation through the Angiostatic Molecule Platelet Factor-4.** *Deshea L. Harris[1], A. Jamali[1], A. Abou-Slaybi[1], P. Hamrah[1, 2].* [1]Center for Translational Ocular Immunology and Department of Ophthalmology, Tufts Medical Center and Tufts University School of Medicine; [2]Cornea Service, New England Eye Center **CR*

952 — *B0500* **Long-term outcome of Prosthetic Replacement of Ocular Surface Ecosystem (PROSE) for delivery of bevacizumab in the treatment of corneal neovascularization.** *Jia Yin[2, 1], D. S. Jacobs[2, 1].* [1]Massachusetts Eye and Ear Infirmary; [2]Ophthalmology, Harvard Medical School

953 — *B0501* **En-face morphometric analysis of the human limbal lymphatic vasculature.** *Bernhard Steger[1], C. Palme[1], V. Romano[2], S. Ahmad[3], C. Seifarth[1], B. Williams[2], Y. Zheng[2], M. Parekh[4], S. B. Kaye[2].* [1]Department of Ophthalmology, Medical University of Innsbruck; [2]Department of Eye and Vision Science, University of Liverpool; [3]Moorfields Eye Hospital; [4]Institute of Ophthalmology, University College London

954 — *B0502* **Keratocytes promote corneal neovascularization through MMP13 induced by PPARα-inhibition.** *Xue Wang[1, 2], L. Tang[2], W. Li[1, 3], Y. Chen[2].* [1]Aier school of ophthalmology, Central South University; [2]Eye Institute of Xiamen University, Medical College of Xiamen University; [3]Shanghai Aier Eye Hospital

955 — *B0503* **Effects of Conbercept on Rabbit Corneal Neovascularization after Penetrating Keratoplasty.** *Xiao-Rong Zhang, H. Liu, L. Zhai, Y. Ma, H. Xu***.** Ophthalmology, The Third Hospital Hebei Medical University

East 1

Sunday, April 28, 2019 3:00 PM-4:45 PM

Anatomy and Pathology/Oncology

147 Uveal Melanoma

Moderators: Martina Angi, Annemijn P. Wierenga and Sander R. Dubovy

956 — *3:00* **GNAQ and GNA11 in circulating tumor DNA as a novel liquid biopsy-based biomarker for Uveal Melanoma.** *Prisca Bustamante[2], T. Tsering[2], B. Fan[3], S. Callejo[3], M. N. Burnier[1], J. Burnier[2]*. [1]MUHC McGill Ocular Pathology & Translational Research Laboratory; [2]Research Institute-McGill Health Centre, Cancer Research Program; [3]Centre Hospitalier de L'Université de Montréal

957 — *3:15* **Class 2 metastasizing uveal melanomas arise through BAP1 loss and epigenetic reprogramming to a migratory neural crest-like state.** *Matthew Field, P. Bussies, L. Cai, C. Decatur, J. Kuznetsov, S. Kurtenbach, J. Harbour***.** University of Miami **CR*

958 — *3:30* **Exploratory study of candidate genes other than *BAP1* associated with hereditary predisposition to uveal melanoma.** *Mohamed H. Abdel-Rahman[1, 2], K. M. Sample[1], T. Grosel[1], B. Kelly[3], D. Gordon[3], M. Pietrzak[4], R. Pilarski[2], F. Davidorf[1], P. White[3], C. M. Cebulla[1]*. [1]Ophthalmology, The Ohio State University; [2]Division of Human Genetics, The Ohio State University; [3]The Institute for Genomic Medicine, Nationwide Children's Hospital; [4]Biomedical Informatics, The Ohio State University

959 — *3:45* **Subpopulations of uveal melanoma cells have distinct roles and cooperate to promote hematogenous dissemination.** *Stephen S. Phillips[1], G. Stålhammar[2, 3], T. See[1], H. E. Grossniklaus[1]*. [1]Department of Ophthalmology and Pathology, Emory University School of Medicine; [2]Oncology and Pathology service, St. Erik Eye Hospital; [3]Department of Clinical Neuroscience, Karolinska Institutet

960 — *4:00* **Proteomics of Metastatic and Non-Metastatic Uveal Melanoma.** *John W. Crabb[1, 2], J. S. Crabb[1, 3], G. Jang[1, 3], B. Willard[5], B. Hu[4], H. Kalirai[6], A. D. Singh[1, 2], S. E. Coupland[6]*. [1]Cole Eye Institute, Cleveland Clinic; [2]Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University; [3]Ophthalmic Research, Cleveland Clinic; [4]Quantitative Health Sciences, Lerner Research Institute, Cleveland Clinic; [5]Lerner Research Institute, Cleveland Clinic; [6]Molecular and Clinical Cancer Medicine, University of Liverpool

961 — *4:15* **Retinal oximetry in choroidal melanoma and nevi.** *Niels J. Brouwer[1], M. Marinkovic[1], J. C. Bleeker[1], E. Stefánsson[2], G. P. Luyten[1], M. J. Jager[1]*. [1]Ophthalmology, Leiden University Medical Center; [2]Ophthalmology, Landspitali University Hospital, University of Iceland **CR*

962 — *4:30* **Use of machine learning for prediction of ocular conservation and visual outcomes after proton beam radiotherapy for choroidal melanoma.** *Stylianos Serghiou[1, 2], B. E. Damato[2, 4], A. R. Afshar[2, 3]*. [1]Stanford University School of Medicine; [2]Ocular Oncology Service, Department of Ophthalmology, University of California, San Francisco; [3]Helen Diller Family Comprehensive Cancer Center, University of California, San Francisco; [4]Oxford Eye Hospital and the Nuffield Department of Clinical Neurosciences, University of Oxford

East 2/3

Sunday, April 28, 2019 3:00 PM-4:45 PM

Physiology/Pharmacology

148 Retina

Moderators: Vincenza M. Bonfiglio and Nate Benner

963 — *3:00* **Restoring visual function in models of inherited blindness using selective histone deacetylase 6 inhibitors.** *Husvinee Sundaramurthi[1, 2], A. C. Perpetuini[1, 2], A. Moran[1, 2], T. Ní Chonghaile[3], B. N. Kennedy[1, 2]*. [1]Conway Institute, University College Dublin; [2]School of Biomolecular & Biomedical Science, University College Dublin; [3]RCSI Physiology & Medical Physics Department, Royal College of Surgeons in Ireland

964 — *3:15* **Vision and OCT Outcomes Following 2018 Aflibercept Recall.** *Nate Benner, S. D'Amico, B. Y. Kim, C. J. Brady***.** College of Medicine , Larner College of Medicine at the University of Vermont **CR*

965 — *3:30* **Temporal properties of dopamine turnover in the mouse retina: a mathematical model.** *Morven Cameron, V. Perez Fernandez, J. Morley, P. Breen***.** Western Sydney University

966 — *3:45* **Peptain-1 for neuroprotection in Glaucoma.** *Dorota L. Stankowska[1], M. Nam[3], R. Nahomi[3], R. Chaphalkar[1], R. Fudala[2], R. R. Krishnamoorthy[1], R. H. Nagaraj[3]*. [1]North Texas Eye Research Institute, University of North Texas Health Science Center; [2]Department of Microbiology, Immunology and Genetics, UNT Health Science Center; [3]Department of Ophthalmology, University of Colorado School of Medicine

967 — *4:00* **Measurement and analysis of the vitreous biochemical data in diabetes mellitus patients.** *Hiroki Mieno, K. Kojima, K. Yoneda, K. Nagata, T. Inaba, Y. Marunaka, C. Sotozono***.** Kyoto Prefectural University of Medicine

968 — *4:15* **Vigabatrin-induced retinal bipolar cell plasticity in C57BL/6J mice.** *Kore Chan[1], B. Wahlgren[1], S. Gloe[1], J. N. Ver Hoeve[1], M. Hoon[1], B. R. Pattnaik[2], J. Williams[1], J. A. Kiland[1], E. Jansen[4], G. Salomons[4], D. Walters[3], J. Roullet[3], K. Gibson[3], G. J. McLellan[1]*. [1]Ophthalmology & Visual Science, University of Wisconsin - Madison; [2]Pediatrics Ophthal & Visual Sci, University of Wisconsin - Madison; [3]Washington State University College of Pharmacy and Pharmaceutical Sciences; [4]Amsterdam University Medical Center

969 — *4:30* **Fourier Waveform Amplitude Distribution Using A Novel Non-Invasive Method of Retinal Vascular Pulse Waveform Assessment.** *Anmar Abdul-Rahman[1], B. Morgan[2], M. Hazelton[3], B. Betz-Stablein[4], D. Yu[2]*. [1]Ophthalmology, Counties Manukau DHB; [2]University of Western Australia, Centre for Ophthalmology and Visual Science; [3]Institution of Fundamental Sciences, Massey University; [4]QIMR Berghofer Medical Research Institute, University of Queensland

East 8&15

Sunday, April 28, 2019 3:00 PM-4:45 PM

Retina

149 Emerging AMD Therapeutics

Moderators: William R. Freeman and Karl G. Csaky

970 — *3:00* **Restoration of Sight in Geographic Atrophy using a Photovoltaic Subretinal Prosthesis.** *Daniel V. Palanker[1], Y. Le Mer[2], R. Hornig[3], G. Buc[3], M. Deterre[3], V. Bismuth[3], J. A. Sahel[4, 2]*. [1]Ophthalmology, Stanford University; [2]Ophthalmology, Foundation Rothschild; [3]Pixium Vision; [4]Ophthalmology, University of Pittsburgh **CR*, ↗

971 — *3:15* **Phase 2b Study of Brimonidine DDS: Potential Novel Treatment for Geographic Atrophy.** *William R. Freeman[1], F. Bandello[2], E. H. Souied[3], R. H. Guymer[4], S. Garg[5], F. K. Chen[6], R. M. Rich[7], F. G. Holz[8], Y. Li[9], K. Kerr[9], F. J. Lopez[9]*. [1]Ophthalmology, UCSD Jacobs Retina Ctr, UCSD Shiley Eye Institute; [2]University Vita Salute, Hospital San Raffaele; [3]Centre Hospitalier Intercommunal de Creteil, Universite Paris Est Creteil; [4]Center for Eye Research Australia, University of Melbourne; [5]Mid Atlantic Retina, Wills Eye Retina Surgeons; [6]Centre for Ophthalmology and Visual Science, Lions Eye Institute, The University of Western Australia; [7]Retina Consultants of Southern Colorado; [8]Department of Ophthalmology, University of Bonn; [9]Allergan plc **CR*, ↗

972 — *3:30* **Demographic Analysis of a Randomized, Double Masked, Placebo Controlled Study Evaluating ORACEA® in Geographic Atrophy Secondary to Non-Exudative Age-Related Macular Degeneration (TOGA).** *Suruchi B. Bhui, E. Lien, A. Leone, J. T. Patrie, P. A. Yates*. Ophthalmology, University of Virginia ↗

973 — *3:45* **Evaluation of Baseline Factors on Progression in a Large Phase-2 Clinical Trial for Geographic Atrophy (FILLY Study).** *Nathan Steinle, M. Hamdani*. California Retina Consultants **CR*, ↗

974 — *4:00* **Elamipretide, a Mitochondria-Targeted Drug, for the Treatment of Vision Loss in Dry AMD with Noncentral Geographic Atrophy: Results of the Phase 1 ReCLAIM Study.** *Scott W. Cousins, M. J. Allingham, P. S. Mettu*. Duke Eye Center/Ophthalmology, Duke University School of Medicine **CR*, ↗

975 — *4:15* **Pharmacological antagonism of mineralocorticoid receptor exerts VEGF-independent anti-angiogenic effects: Implication for wet AMD.** *Francine F. Behar-Cohen, I. Mantel, E. Gelize, C. Rivolta, J. Ganonica, F. Jaisser, M. Zhao*. Ophthalmology, Lausanne University, Hopital Cochin, Inserm UMR1138 **CR*, ↗

976 — *4:30* **Anti-angiogenic and anti-scarring dual action of an anti-Fibroblast Growth Factor-2 aptamer in animal models of retinal disease.** *Robert B. Bhisitkul[1], Y. Matsuda[2], Y. Nonaka[2], S. Futakawa[2], K. Akita[2], T. Nishihata[2], M. Fujiwara[2], Y. Ali[2], Y. Nakamura[2, 3]*. [1]Ophthalmology, University California-San Francisco; [2]RIBOMIC, Inc.; [3]Institute of Medical Science, University of Tokyo **CR*

East 11/12

Sunday, April 28, 2019 3:00 PM-4:45 PM

Retinal Cell Biology

150 Novel Pathogenic Mechanisms in Diabetic Retinopathy

Moderators: Elena Ivanova and Patrice E. Fort

977 — *3:00* **Gut microbiota intensifies retinal vascular defects by targeting adherens junction protein p120-catenin in angiotensin converting enzyme 2 (ACE2) deficient type 1 diabetes (T1D).** *Ram Prasad[1], Y. Duan[2], G. Sreejit[3], J. L. Floyd[1], B. Athmanathan[3], P. R. Nagareddy[3], M. B. Grant[1]*. [1]Ophthalmology and Visual Science, University of Alabama at Birmingham; [2]Department of Ophthalmology, Indiana University; [3]Pathology, University of Alabama at Birmingham

978 — *3:15* **Dyslipidemia-associated activation of monocyte-derived macrophages in diabetic retinopathy.** *Guillaume Blot[1], l. vignaud[1], H. Charles-messance[1, 3], W. Carpentier[1], D. Rivera[5, 6], A. Jimenez-Corona[4], S. Augustin[1], A. Couturier[1, 2], J. A. Sahel[1, 8], E. O. Graue-Hernandez[10, 11], Y. Garfias[7, 9], F. Sennlaub[1], X. Guillonneau[1]*. [1]Institut de la Vision, Sorbonne Université, INSERM, CNRS; [2]Department of Ophthalmology, Hopital Lariboisiere, Universite Paris 7 - Sorbonne-Paris-Cite; [3]Department of Clinical medicine, School of Medicine, school of biochemistry and immunology, Trinity Biomedical sciences institute, Trinity College; [4]Department of ocular Epidemiology, Institute of Ophthalmology, Conde de Valenciana Foundation; [5]Department of Cornea and Refractive Surgery, Institute of Ophthalmology, Conde de Valenciana Foundation; [6]Centro de Atencion Integral del Paciente con Diabetes, Instituto Nacional de Ciencias Medicas y Nutricion 'Salvador Zubiran'; [7]Research Unit, Cell and Tissue Biology, Institute of Ophthalmology, Conde de Valenciana Foundation; [8]Department of Ophthalmology, University of Pittsburgh School of Medicine; [9]Department of Biochimistry, Universidad Nacional Autonoma; [10]Cornea & Refractive Unit, Institute of Ophtalmology, Conde de Valenciana Foundation; [11]Cornea , Refractive Surgery and External Disease, Universidad Nacional Autónoma de Mexico

979 — *3:30* **Protective effects of Intravitreal injection of human CD34+ stem cells from bone marrow on diabetic retinopathy in a murine model.** *Amirfarbod Yazdanyar, P. Zhang, C. Dolf, W. Cary, M. Pham, J. Nolta, R. J. Zawadzki, N. Marsh-Armstrong, S. S. Park*. Department of Ophthalmology, University of California, Davis

980 — *3:45* **The effect of combined PlGF and VEGF inhibition on vascular leakage and inflammation in experimental murine models.** *Tine Van Bergen, T. Hu, I. Etienne, G. Reyns, J. Feyen*. Oxurion NV **CR*

981 — *4:00* **Long-acting FGF21 inhibits retinal vascular leakage in vivo and in vitro model.** *Yohei Tomita, Z. Fu, B. Cakir, Y. Sun, Z. Wang, C. Liu, S. Huang, A. Poblete, S. Cho, W. Britton, J. Chen, L. E. Smith*. Ophthalmology, Boston Children's Hospital/ Harvard Medical School

982 — *4:15* **Rod Visual Transduction is a Determinant of Diabetic Retinopathy.** *Rithwick Rajagopal[1], S. Zhang[1], C. Oberlin[1], C. F. Semenkovich[2]*. [1]Department of Ophthalmology and Visual Science, Washington University School of Medicine; [2]Department of Medicine, Washington University School of Medicine

983 — *4:30* **Neurovascular coupling impariment and vasomotor decline in a murine model of diabetic retinopathy.** *Botir T. Sagdullaev, T. Kovacs-Oller, E. Ivanova*. Burke Neurological Institute, Weill Cornell Medicine

East Ballroom A

Sunday, April 28, 2019 3:00 PM-4:45 PM

Immunology/Microbiology

151 Myeloid and Innate Immunology of the Retina

Moderators: Samantha Dando, Daniel R. Saban and Florian Sennlaub

984 — *3:00* **Myeloid cell dynamics in the mouse uveal tract during systemic inflammation.** *Samantha Dando, P. G. McMenamin*. Monash Biomedicine Discovery Institute and Department of Anatomy and Developmental Biology, Monash University

985 — *3:15* **Inner Plexiform Layer-Specific Microglia Protect the Retinal Pigment Epitheilium in Retinal Degeneration.** *Chen Yu[1], R. Mathew[1], D. R. Saban[1, 2]*. [1]Department of Ophthalmology, Duke University; [2]Department of Immunology, Duke University

986 — *3:30* **Neuropilin-1 Expression on Myeloid Cells Promotes a Pro-inflammatory Phenotype while Inhibiting Choroidal Neovascularization.** *Elisabeth Andriessen[1, 2], F. Binet[2, 3], N. Beaulieu[2, 3], K. Beauchemin[2, 3], F. A. Rezende[2], A. M. Wilson[1, 2], M. Buscarlet[2], F. Fournier[1, 2], N. Tétreault[4], P. Sapieha[1, 3]*. [1]Universite de Montreal; [2]Hopital Maisonneuve Rosemont; [3]SemaThera Inc; [4]Biron Groupe Santé **CR*

987 — *3:45* **Interleukin-33 attenuates ocular angiogenesis through a mast cell dependent pathway.** *Sofia Theodoropoulou[1], D. Copland[1], K. Ou[1], J. Liu[1], N. Millar[2], A. D. Dick[1]*. [1]Ophthalmology, University of Bristol, Medical School; [2]Institute of Infection,Immunity and Inflammation, University of Glasgow

988 — *4:00* **A novel protective role of the C-type lectin Mincle in modulating inflammation and lesion size a mouse model of choroidal neovascularization.** *Matt Rutar, A. Brandli, G. Venables, E. L. Fletcher, C. Wells*. The University of Melbourne

989 — *4:15* **Systemic Injection Of Low Dose Lps Transiently Improves The Retina Function And Structure Of A Mouse Model Of Geographic Atrophy.** *Cristhian J. Ildefonso, B. M. Young*. Ophthalmology, University of Florida College of Medicine

990 — *4:30* **Title: Soluble oligomeric Amyloid-β induced retinal pigment epithelial degeneration requires non-canonical inflammsome activation.** *Siddharth Narendran, D. BANERJEE, I. Apicella, S. Wang, A. Varshney, S. Fukuda, N. Kerur, B. Gelfand, J. Ambati*. Department of Ophthalmology, University of Virginia **CR*

East Ballroom B

Sunday, April 28, 2019 3:00 PM-4:45 PM

Retina / Clinical/Epidemiologic Research / Genetics / Glaucoma / Multidisciplinary Ophthalmic Imaging / Retinal Cell Biology / Visual Psychophysics/Physiological Optics

152 New and emerging clinical trials endpoints - Minisymposium

The goal of this symposium is to introduce and discuss novel and new structural and functional endpoints that could serve as potential end-points in clinical trials. We will discuss existing well validated end-points that are continuing to be important, but also explore new emerging concepts in this field. The use of Artificial intelligence to enrich and screen study populations will also be discussed in the framework of clinical trials.

Moderators: Amani A. Fawzi, Richard B. Rosen and Jacque L. Duncan

— 3:00 **Introduction**

991 *— 3:02* **Biomarkers and endpoints for dry AMD trials.** *Srinivas R. Sadda[2, 1]*. [1]Ophthalmology, University of California - Los Angeles; [2]Doheny Eye Institute **CR*

992 *— 3:14* **Gene therapy trials for hereditary retinal degenerations.** *Jacque L. Duncan***.** Ophthalmology, Univ of California - SF **CR*

993 *— 3:26* **Artificial Intelligence approaches to enrich clinical trials populations.** *Ursula Schmidt-Erfurth***.** Department of Ophthalmology, Medical University of Vienna **CR*

994 *— 3:38* **Development of Outcome Measurements for Studies of Macular Telangiectasia (Mac Tel) Type 2.** *Emily Y. Chew***.** Epidemiology & Clinical Applications, National Eye Inst/NIH ↗

995 *— 3:50* **Functional (visual fields) and structural (OCT) end points in clinical trials.** *Donald C. Hood***.** Psychology and Ophthalmology, Columbia University **CR*

996 *— 4:02* **OCTA promise and challenges in clinical trials endpoint.** *David Huang***.** Casey Eye Institute, Oregon Health & Science Univ **CR*, ↗

997 *— 4:14* **OCTA and beyond: Qualitative Revelations and Opportunities in Quantitative Imaging.** *Richard B. Rosen[1, 2]*. [1]Ophthalmology, New York Eye & Ear Infirmary; [2]Ophthalmology, Icahn School of Medicine at Mount Sinai **CR*

— 4:26 **Discussion**

East Ballroom C

Sunday, April 28, 2019 3:00 PM-4:45 PM

Biochemistry/Molecular Biology

153 Omics and systems biology approaches for profiling ocular tissues in health and disease

Moderators: Michael E. Cheetham, T. Michael Redmond and Timothy Cherry

998 *— 3:00* **Regional transcriptome map of the adult rhesus macaque retina and RPE-choroid.** *Ameera Mungale[1], T. D. Fufa[1], D. McGaughey[2], C. Zhang[3], A. Maminishkis[3], S. S. Miller[3], B. P. Brooks[4], R. Hufnagel[1]*. [1]Medical Genetics and Ophthalmic Genomics Unit, Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health; [2]Bioinformatics Group, Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health; [3]Section on Epithelial and Retinal Physiology and Disease, Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health; [4]Pediatric, Developmental & Genetic Ophthalmology Section, Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health

999 *— 3:15* **Mapping the Cis-Regulatory Architecture of the Human Retina Reveals Non-Coding Genetic Variation in Disease.** *Timothy Cherry***.** Center of Developmental Biology and Regenerative Medicine, University of Washington/ Seattle Children's Research Institute

1000 *— 3:30* ***De novo*** **transcriptomes built from hundreds of human cornea, retina, and RPE RNA-seq samples identifies thousands of differentially expressed ocular specific gene transcripts and novel eye disease relevant exons.** *Vinay Swamy, B. P. Brooks, R. B. Hufnagel, D. McGaughey***.** Ophthalmic Genetics and Visual Function Branch, National Eye Institute

1001 *— 3:45* **Cis-regulatory basis of sister cell type divergence in the vertebrate retina.** *Dan P. Murphy, A. Hughes, J. C. Corbo***.** Pathology and Immunology, Washington University Saint Louis

1002 *— 4:00* **Optic nerve lipidomics reveal impaired glucosylsphingosine lipids pathway in glaucoma.** *Sanjoy K. Bhattacharya, M. Z. Chauhan, A. K. Valencia, M. Piqueras, M. E. Algeciras***.** Bascom Palmer Eye Institute, Univ of Miami Miller Sch of Med

1003 *— 4:15* **Global RNA metabolic changes associated with a dominant-negative *Crx* mutation.** *Inez Oh, S. Chen***.** Washington University School of Medicine

1004 *— 4:30* **Metabolomics in Age-related Macular Degeneration: The EYE-RISK Consortium.** *Ilhan Erkin Acar[1], M. Meester[2, 3], L. Lorés de Motta[1], D. Pauleikhoff[6], S. Fauser[7], C. C. Hoyng[1], C. DelCourt[4], C. C. Klaver[2, 3], T. E. Galesloot[5], A. I. Den Hollander[1]*. [1]Department of Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center; [2]Department of Ophthalmology, Erasmus University Medical Center; [3]Department of Epidemiology, Erasmus University Medical Center; [4]Bordeaux Population Health Research Center, Univ. Bordeaux; [5]Radboud University Medical Center, Radboud Institute for Health Sciences; [6]M3 Reading Center, Augenzentrum, St. Franziskus Hospital; [7]Department of Ophthalmology, University Hospital of Cologne **CR*

West 212-214

Sunday, April 28, 2019 3:00 PM-4:45 PM

Visual Neuroscience

154 Photoreceptors

Moderators: Michael Tri H. Do and Cord R. Huchzermeyer

1005 *—* **High-Fidelity Signal Transmission through Foveal Photoreceptors.** *Michael Tri H. Do, G. S. Bryman, A. Liu***.** F.M. Kirby Neurobiology Center, Boston Children's Hospital, Harvard Medical School

1006 *— 3:15* **Ubiquitin-dependent regulation of transducin translocation during light and dark adaptation.** *Takahisa Furukawa, T. Chaya, R. Tsutsumi, L. Varner, Y. Maeda***.** Institute for Protein Research, Osaka University

1007 *— 3:30* **Rod photoreceptor transition intensity between dominant time constants indicates a high rate of transducin activation.** *Trevor D. Lamb[1], T. W. Kraft[2]*. [1]Eccles Institute of Neuroscience, John Curtin School of Medical Research, Australian National University; [2]Department of Optometry and Vision Science, University of Alabama at Birmingham

1008 *— 3:45* **Forward programming of photoreceptors from human induced pluripotent stem cells.** *Marta Zuzic, A. Kempe, M. Karl, V. Busskamp***.** Center for Regenerative Therapies Dresden, TU Dresden

1009 *— 4:00* **Surprises from modulating GNAT1 and GNAT2 expression by CRISPR/ Cas9-mediated gene targeting.** *Ching-Kang J. Chen[1, 2], Y. Chen[1], A. Shay[1]*. [1]Ophthalmology, Baylor College of Medicine; [2]Biochemistry and Molecular Biology, Baylor College of Medicine

1010 *— 4:15* **Genetic Profiling of S- and M-Cone Photoreceptors.** *Wei Li[1], V. Kunze[1], J. Angueyra[1], L. Jia[2]*. [1]Retinal Neurophysiology Section, NEI; [2]Scientific Review Branch, NINDS

1011 — *4:30* **Mapping the sensitivity of the central fovea with cone-targeted microstimulation.** *Niklas Domdei, J. Reiniger, M. Linden, F. G. Holz, W. M. Harmening***.** University Eye Hospital Bonn **CR*

West 217-219

Sunday, April 28, 2019 3:00 PM-4:45 PM

Lens

155 Cataract Surgery, Epidemiology and Clinical Outcomes

Moderators: Chirag Shah and Rachel Bishop

1012 — *3:00* **Ebola virus persistence in aqueous humor and 12-month outcomes of cataract surgery in survivors of Ebola virus disease.** *Rachel Bishop[2], R. D. Ross[3], J. Shantha[4], B. Hayek[4], D. Gradin[5], B. Roberts[6], I. Crozier[7], E. Higgs[7], R. Dolo[8], F. Amegashie[9], G. Singh[10], K. Nishant[10], C. Van Ryn[11], C. Reilly[11], S. Yeh[4], A. O. Eghrari[1]*. [1]Wilmer Eye Institute; [2]National Eye Institute; [3]Global Retina Institute; [4]Emory University; [5]OHSU; [6]Tenwek Hospital; [7]NIAID, National Institutes of Health; [8]New Sight Eye Center; [9]Ministry of Health; [10]Liberian Eye Center; [11]University of Minnesota **CR*,↗

1013 — *3:15* **Visual, Refractive and Anatomic Outcomes of Combined Versus Sequential Phacoemulsification and Vitrectomy in Patients with Epiretinal Membrane or Full-thickness Macular Hole.** *Harrison Dermer[1, 3], R. Hussain[2, 3], J. Lin[2, 3], E. A. Vanner[2], L. J. Haddock[2], N. Gregori[2, 3]*. [1]University of Miami Miller School of Medicine; [2]Bascom Palmer Eye Institute; [3]Miami Veterans Affairs Medical Center

1014 — *3:30* **Evaluation of Central Macular Thickness in low pulse energy Femtosecond Laser-assisted Cataract Surgery.** *Luca Schwarzenbacher, D. Schartmüller, C. Leydolt, G. S. Reiter, R. Menapace***.** Medical University of Vienna ↗

1015 — *3:45* **Improved Intraocular Lens Power Prediction using Ocular Coherence Tomography and Machine Learning.** *Chirag Shah[1], D. Knight[1], S. Garg[1], M. Wade[1], S. C. Schallhorn[3], S. Hannan[2], J. Tucker[1], T. K. Huynh[1], M. C. Mehta[1]*. [1]University of California, Irvine; [2]Optical Express; [3]Carl Zeiss Meditec **CR*

1016 — *4:00* **Intraocular Pressure (IOP) effects on self-sealing clear corneal incisions using 3D printed anterior segment model.** *Yann Bouremel[1, 2], C. Henein[1, 3], S. Brocchini[1, 3], P. T. Khaw[1]*. [1]National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]Department of Mechanical Engineering, UCL; [3]School of Pharmacy, UCL

West 220

Sunday, April 28, 2019 3:00 PM-4:45 PM

Clinical/Epidemiologic Research

156 Healthcare Delivery

Moderator: Sharon A. Bentley

1017 — *3:00* **A Qualitative Approach to Understanding Reasons for Non-Participation and Barriers to Participation in School-Based Vision Programs.** *Hursuong Vongsachang[1], A. Inns[2], A. M. Kretz[1], R. Mukherjee[3], D. S. Friedman[1], M. X. Repka[1], M. E. Collins[1]*. [1]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [2]Johns Hopkins University School of Education; [3]University of California, San Francisco School of Medicine **CR*

1018 — *3:15* **The Landscape of Ophthalmologists and Optometrists in Ontario, Canada from 2011 to 2016.** *Shicheng Jin[1], S. El-Defrawy[1], J. A. Micieli[1], Y. Jin[1, 2], P. Yan[1]*. [1]Department of Ophthalmology & Vision Sciences, University of Toronto, and Kensington Eye Institute; [2]Dalla Lana School of Public Health, University of Toronto

1019 — *3:30* **Prevalence and Determinants of Eyecare Utilization and Eyeglass Affordability in a Population-based Study of Ethnic Singaporeans.** *Preeti Gupta, S. Majithia, A. Gan, E. K. Fenwick, S. Poh, C. Sabanayagam, T. Y. Wong, Y. Tham, C. Cheng, E. L. Lamoureux***.** Ophthalmology, Singapore Eye Research Institute

1020 — *3:45* **Establishing a collaborative model of glaucoma care in an Australian public hospital setting.** *Sharon A. Bentley[1, 2], C. Green[3], L. Malesic[3, 4], T. Siggins[3], C. Escott[2], M. O'Keefe[2], C. Clarke[3]*. [1]Queensland University of Technology; [2]Australian College of Optometry; [3]Royal Victorian Eye and Ear Hospital; [4]Latrobe University

1021 — *4:00* **Analysis of vision screening failures in a school-based vision program in Baltimore, MD.** *Alyssa M. Kretz[1, 2], R. Milante[1], X. Guo[1, 2], A. Inns[3], M. Mukherjee[4], D. S. Friedman[1, 2], M. X. Repka[1], M. E. Collins[1, 2]*. [1]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [2]Dana Center for Preventive Ophthalmology, Johns Hopkins University School of Medicine; [3]Center for Research and Reform in Education, Johns Hopkins University School of Education; [4]University of California San Francisco School of Medicine **CR*

1022 — *4:15* **Factors Influencing Patient Adherence to Diabetic Retinopathy Screening and Follow-up: An Exploratory Qualitative Study.** *Danielle Altman[1], J. Jimenez[1], C. Hsu[1], S. Hudson[2], T. Luong[1], D. S. Fong[3]*. [1]Research & Evaluation, Kaiser Permanente Southern California; [2]Children's Hospital Los Angeles; [3]Department of Ophthalmology, Southern California Permanente Medical Group **CR*

1023 — *4:30* **Understanding barriers to glaucoma treatment adherence among patients in South India.** *OLIVIA KILLEEN[1], M. Pillai[2], B. Udayakumar[2], S. Shroff[2], M. Vimalanathan[2], J. Cho[1], P. Newman-Casey[1]*. [1]Ophthalmology, University of Michigan Kellogg Eye Center; [2]Aravind Eye Hospital

West 221/222

Sunday, April 28, 2019 3:00 PM-4:45 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

157 Amblyopia and Visual Plasticity

Moderators: Susan A. Cotter and Eileen E. Birch

1024 — *3:00* **Correlated noise in extrastriate neurons of amblyopic monkeys.** *Bin Zhang[1, 2], Y. Wang[2], J. M. Wensveen[2], E. L. Smith[2], Y. M. Chino[2]*. [1]College of Optometry, Nova Southeastern University; [2]College of Optometry, University of Houston

1025 — *3:15* **Withdrawal_Employing principles of timing-dependent plasticity to treat amblyopia.** *Daniel Montgomery[1], E. Gaier[2, 3], A. Heynen[1], M. F. Bear[1]*. [1]Picower Institute for Learning and Memory, Massachusetts Institute of Technology; [2]Massachusetts Eye and Ear Infirmary; [3]Boston Children's Hospital

1026 — *3:30* **Fixation stability is not related to global motion deficits in amblyopia.** *Kimberly Meier[1], M. Spering[2], D. Giaschi[2]*. [1]University of Washington; [2]Ophthalmology & Visual Sciences, University of British Columbia

1027 — *3:45* **Prehension planning deficits in adults with amblyopia.** *Simon Grant, M. L. Conway***.** Optometry & Visual Science, City, University of London

1028 — *4:00* **Motor Skills and Self-Perception of 3- to 7-Year-Old Children with Deprivation Amblyopia.** *Eileen E. Birch[1, 2], Y. S. Castañeda[1], C. S. Cheng-Patel[1], S. M. smorale@retinafoundation.org[1], K. R. Kelly[1], S. Wang[2]*. [1]Retina Foundation of the Southwest; [2]Ophthalmology, UT Southwestern Medical Center

1029 — *4:15* **The Dose-Response Relationship with Intermittent Occlusion Therapy for Amblyopia.** *Jingyun Wang[1], J. Jin[2], A. Malik[3], R. Shoge[1], S. Meiyeppen[1], Y. Pang[4], K. Yin[4], M. Allen[4], K. Funari[1], B. Scombordi[1], D. Neely[5]*. [1]Pennsylvania College of Optometry, Salus University Pennsylvania College of Optometry; [2]Nemours. Alfred I. duPont Hospital of Children; [3]Children's Hospital of Philadelphia; [4]Illinois College of Optometry; [5]Glick Eye Institute, Indiana University School of Medicine ↗

West 223/224

Sunday, April 28, 2019 3:00 PM-4:45 PM

Visual Psychophysics/Physiological Optics

158 Advanced Imaging of Retinal Structure and Function in Disease

Moderators: Jessica I. Morgan and Jason Porter

1030 — *3:00* **Cone Outer Segment Reflectance Entropy in Choroideremia.** *Andrew M. Huang[1], R. F. Cooper[1, 2], G. Vergilio[1], J. Bennett[1, 3], A. M. Maguire[1, 3], T. S. Aleman[1, 3], J. I. Morgan[1, 3].* [1]Ophthalmology, Scheie Eye Institute, University of Pennsylvania; [2]Psychology, University of Pennsylvania; [3]Ophthalmology, Center for Advanced Retinal and Ocular Therapeutics **CR*

1031 — *3:15* **Structure and Function of Dysflective Cones in Healthy and Diseased Eyes.** *Ethan Bensinger[1], K. G. Foote[1, 2], J. J. Wong[2], J. L. Duncan[2], A. Roorda[1].* [1]School of Optometry and Vision Science Graduate Group, University of California Berkeley; [2]Ophthalmology, University of California San Francisco **CR*

1032 — *3:30* **Evaluation of Retinal Pigment Epithelium and Choroidal Neovascularization in Rats Using the Laser-scanning Optical-resolution Photoacoustic Microscopy.** *Fenghua Wang[1], M. Xiao[1], C. Dai[2], C. Zhou[3], X. Sun[1].* [1]Department of Ophthalmology, Shanghai General Hospital; [2]College of Science, Shanghai Institute of Technology; [3]School of Biomedical Engineering, Shanghai Jiao Tong University

1033 — *3:45* **Integrating AOSLO hardware and analysis using a database driven design.** *Stephen A. Burns***.** School of Optometry, Indiana University **CR*

1034 — *4:00* **Comparison of objective measurements of retinal image motion from Tracking Scanning Laser Ophthalmoscopy (TSLO) with clinical tests of ocular motion.** *Nicole M. Putnam[1], V. Yevseyenkov[1], E. Bensinger[2], C. Jomoc[1], D. Christensen[1], I. Choy[1], D. Bowin[1], C. K. Sheehy[3].* [1]Arizona College of Optometry, Midwestern University; [2]School of Optometry and Vision Science Graduate Group, University of California, Berkeley; [3]Department of Neurology, University of California, San Francisco **CR*

1035 — *4:15* **Fixational Eye Movements Following Concussion.** *Bianca Leonard[1], M. Zhang[1], V. Snyder[1], C. Holland[3], E. Bensinger[4], C. K. Sheehy[5], M. Collins[3], A. Kontos[3], E. A. Rossi[1, 2].* [1]Ophthalmology, University of Pittsburgh; [2]Bioengineering, University of Pittsburgh; [3]Orthopaedic Surgery, University of Pittsburgh; [4]Vision Science, University of California, Berkeley; [5]Neurology, University of California, San Francisco **CR*

1036 — *4:30* **Saccadic eye movement abnormalities in Parkinson's disease.** *Allen M. Cheong[1], H. Lam[1], L. A. Abel[2], P. Lee[1], A. Chan[3], Y. Cheung[4], L. Li[5], R. Li[6], R. Li[7].* [1]Hong Kong Polytechnic University; [2]University of Melbourne; [3]Chinese University of Hong Kong; [4]Queen Elizabeth Hospital; [5]University of Hong Kong; [6]Pamela Youde Nethersole Eastern Hospital; [7]University of California, Berkeley

ARVO Ballroom

Sunday, April 28, 2019 3:00 PM-4:00 PM

159 Epstein Award Session

This award honors David L. Epstein, MD, who is widely considered to be one of the most influential leaders in the world of glaucoma and glaucoma research over the past 40 years. The award was created by Dr. Epstein's family to perpetuate and honor his commitment to the scientific understanding and cure of glaucoma through the support of promising clinician-scientists in exceptional research environments. It is the intent of the donors that this award further Dr. Epstein's long-standing determination and interest in solving the complex issues of glaucoma through well-conceived and executed scientific research focused on finding the causes and new treatments for the disease.

— Structural OCT and OCT angiography to diagnose and monitor glaucoma progression - David Huang, MD, PhD, FARVO Mentee: Liang Liu, MD Oregon Health & Science University

Harbour Ballroom

Sunday, April 28, 2019 3:00 PM-4:45 PM

Cornea / Biochemistry/Molecular Biology / Glaucoma

160 Emerging gene-driven therapies for anterior segment disease - Minisymposium

Corneal disease and glaucoma together account for significant ocular morbidity and vision loss. The cornea and the trabecular meshwork for glaucoma are important accessible sites for emerging gene-targeted therapies. The focus of this mini-symposium is novel gene-driven therapies to prevent or reverse anterior chamber disease and pathologies.

Moderators: Alexander V. Ljubimov, Thomas A. Fuchsluger and Gulab Zode

— *3:00* **Introduction**

1037 — *3:03* **Overview of Gene Therapy in Anterior Segment.** *Alexander V. Ljubimov[1, 2].* [1]Regenerative Medicine Institute, Cedars-Sinai Medical Center; [2]Medicine, UCLA School of Medicine **CR*

1038 — *3:20* **Gene delivery to the trabecular meshwork for target validation, development of disease models, and the treatment of glaucoma.** *Abbot F. Clark***.** Cell Biology & Anatomy, University of North Texas HSC **CR*

1039 — *3:37* **Self-delivery siRNA to prevent corneal scarring.** *Audrey M. Bernstein***.** SUNY Upstate Medical University

1040 — *3:54* **Gene therapy to prevent corneal scarring.** *Rajiv R. Mohan[2, 1].* [1]Mason Eye Institute and VMTH, University of Missouri-Columbia; [2]Truman VA Hospital

1041 — *4:11* **Harnessing the regulatory power of microRNAs to treat diseases of the anterior segment: adventures in nanotechnology.** *Robert M. Lavker***.** Northwestern University

1042 — *4:28* **Gene therapy for inherited corneal diseases.** *Tara C. Moore[1, 2].* [1]University of Ulster; [2]Avellino Labs **CR*

West Exhibition Hall A0001-A0022

Sunday, April 28, 2019 3:00 PM-4:45 PM

Low Vision Group

161 Visual Impairment - Impact on Daily Activities

Moderator: Esther G. Gonzalez

1043 — *A0001* **Effects of visual acuity loss on running performance among visually impaired Paralympic athletes.** *Rob Chun[1], R. W. Massof[1], C. Bradley[1], P. Allen[3], R. Ravensbergen[2], D. Mann[2].* [1]Ophthalmology, Johns Hopkins Wilmer Eye; [2]Human Movement Sciences, Vrije University; [3]Department of Vision & Hearing Sciences, Anglia Ruskin University

1044 — *A0002* **Do vision functions predict Para Nordic skiing performance?** *Amritha Stalin[1], M. Creese[2, 1], K. Dalton[1].* [1]School of Optometry & Vision Science, University of Waterloo; [2]International Paralympic Committee

1045 — *A0003* **Can vision functions predict Para Alpine skiing performance?** *Kristine Dalton[1], A. Stalin[1], M. Creese[2].* [1]School of Optometry & Vision Science, University Of Waterloo; [2]International Paralympic Committee

1046 — *A0004* **Visual Function and Visuo-Motor Coordination in Acute Stroke.** *Chamini Wijesundera[1], A. J. Vingrys[2], Y. Kong[3], T. Wijeratne[4, 5], S. G. Crewther[1].* [1]Dept Psychology and Counselling, La Trobe University; [2]Dept Optometry & Vision Sciences, The University of Melbourne; [3]Glaucoma Unit, Centre for Eye Research Australia; [4]Dept of Medicine, University of Melbourne; [5]Dept of Neurology, Sunshine Hospital,Western Health **CR*

1047 — *A0005* **Association of home hazards with the falls rates per time or per step in glaucoma.** *Aleksandra Mihailovic, A. Sotimehin, D. S. Friedman, S. K. West, P. Y. Ramulu***.** Johns Hopkins University/Wilmer Eye Institute

1048 — *A0006* **Gait Patterns in Severe Peripheral Field Loss due to Retinitis Pigmentosa.** *Joshua R. Ehrlich[1, 2], A. Kumagai[1], Y. Chung[1], A. Chen[1], P. Nguyen[3], S. Day[1], D. Wicker[1], A. Howson[1], S. E. Hassan[4], D. C. Musch[1, 5], J. D. Weiland[1, 6], S. E. Moroi[1, 2], L. Ojeda[3].* [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Institute for Healthcare Policy and Innovation, University of Michigan; [3]Mechanical Engineering, University of Michigan; [4]School of Optometry, Indiana University; [5]Epidemiology, University of Michigan; [6]Biomedical Engineering, University of Michigan **CR*, ↗

1049 — *A0007* **A Binocular Scotoma Causes a Person to Adopt a Safe Street-Crossing Strategy.** *Shirin E. Hassan***.** School of Optometry, Indiana University

1050 — *A0008* **The Impact of Vision Status on Spatial Localization.** *YINGZI XIONG, D. Addleman, P. Nelson, G. E. Legge***.** University of Minnesota

1051 — *A0009* **Effect of Observer Motion on the Visibility of Architectural Features with Simulated Acuity Reduction.** *Siyun Liu, Q. Lei, B. Carpenter, G. E. Legge, D. Kersten***.** Psychology, University of Minnesota

1052 — *A0010* **Implications of monocular vision for racing drivers.** *julien Adrian[1], J. Le Brun[1], N. Miller[2], J. A. Sahel[5, 6], G. Saillant[3], B. Bodaghi[4].* [1]Streetlab; [2]Wilmer Eye Institute, Johns Hopkins Hospital; [3]FIA; [4]Department of Ophthalmology, DHU Vision and Handicaps, Hôpital Pitié-Salpêtrière; [5]CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DHOS CIC 1423,; [6]Inserm, U968; UPMC Univ Paris 06, UMR_S968, Institut de la Vision; CNRS, UMR 7210; CHNO des Quinze-Vingts, INSERM-DHOS CIC 503

1053 — *A0011* **Assessment of visual acuity requirements for autonomous vehicle operation.** *Daliya Dzhaber[1], A. Shan[2], R. S. Meshkin[3], M. Tofigh[2], G. Vakili[2], A. O. Eghrari[1].* [1]Cornea, Cataract, and External Diseases, Wilmer Eye Institute; [2]Ophthalmology, Johns Hopkins University School of Medicine; [3]Harvard Medical School

1054 — *A0012* **Driving performance and behavior adaptation of glaucoma patients.** *Colas N. Authié[1], A. Zenouda[1], J. Adrian[1], M. Lombardi[1], E. Brasnu[2], P. Hamard[2], J. A. Sahel[5, 2], C. BAUDOUIN[3, 4], A. Labbé[3, 4].* [1]Streetlab - Institut de la Vision; [2]Department of Ophthalmology III, Quinze-Vingts National Ophthalmology Hospital, IHU FOReSIGHT; [3]Department of Ophthalmology III, INSERM-DHOS CIC 1423, CHNO des Quinze-Vingts, IHU FOReSIGHT; [4]Department of Ophthalmology, Ambroise Paré Hospital, AP-HP, University of Versailles Saint-Quentin-en-Yvelines; [5]Institut de la Vision, Sorbonne Universités & INSERM & CNRS & Quinze-Vingts National Ophthalmology Hospital

1055 — *A0013* **How do simulated central vision loss and distraction affect the detection of hazards by older and younger drivers?** *Ting Zhang[1, 2], S. Savage[1], A. R. Bowers[1].* [1]Schepens Eye Research Institute of Mass Eye and Ear, Dept Ophthalmology, Harvard Medical School; [2]New England College of Optometry

1056 — *A0014* **Pilot study of a tactile hazard warning device for drivers with hemianopia.** *Alex R. Bowers[1], R. Hoelzl[2], L. Steckhan[2], O. Herzog[2], S. Savage[1], C. Lehsing[2].* [1]Schepens Eye Research Institute of Mass Eye and Ear, Dept Ophthalmology, Harvard Medical School; [2]Chair of Ergonomics, Department of Mechanical Engineering, Technical University of Munich

1057 — *A0015* **Association between driving avoidance at night and the severity of primary-open angle glaucoma in a Japanese population.** *Akiko Hanyuda, K. Yuki, S. Tanabe-Awano, T. Ono, D. Shiba, K. Tsubota***.** Keio University School of Medicine

1058 — *A0016* **Pilot study of an auditory scanning reminder system for drivers with hemianopia.** *Jing Xu[1], B. Emmermann[2, 1], O. Herzog[2, 1], G. Swan[1], C. Lehsing[2], A. R. Bowers[1].* [1]Schepens Eye Research Institute of Massachusetts Eye and Ear, Department of Ophthalmology, Harvard Medical School; [2]Chair of Ergonomics, Department of Mechanical Engineering, Technical University of Munich

1059 — *A0017* **Specificity and retention of perceptual learning in children with visual impairment.** *Bianca Huurneman[1, 2], N. Boonstra[1, 2], J. Goossens[1].* [1]Department of Cognitive Neuroscience, Donders Institute for Brain, Cognition and Behaviour; [2]Royal Dutch Visio ↗

1060 — *A0018* **Analysis of Visual Outcomes in Children with Primary Congenital Glaucoma.** *Lei Fang, X. Liu, Y. Hu, Y. Zhong***.** State Key Laboratory of Ophthalmology

1061 — *A0019* **Face perception - can it be improved in age-related macular degeneration and Stargardt disease?** *Iain R. Wilson[3], S. L. Hicks[1], S. M. Downes[3, 2], R. E. MacLaren[3, 2].* [1]Nuffield Dept of Clinical Neurosciences, University of Oxford; [2]Oxford Eye Hospital, Oxford University Hospitals NHS Foundation Trust; [3]Nuffield Laboratory of Ophthalmology, University of Oxford **CR*

1062 — *A0020* **Word neighborhood size is not a limiting factor of reading speed with central field loss.** *Aurelie Calabrese[1, 3], L. Sauvan[2], C. Aguilar[4, 3], E. Castet[1, 3].* [1]Aix-Marseille University; [2]North Hospital; [3]CNRS; [4]Nice Sophia-Antipolis University

1063 — *A0021* **Anatomical and fixation parameters as predictors of reading speed (RS) in Stargardt Disease.** *Gabrielle DeBartolomeo[9], J. T. Zaremba[9], Z. Strecker[9], C. N. Kay[4], S. H. Tsang[2], T. B. Connor[5], M. B. Gorin[6], P. S. Bernstein[7], B. L. Lam[8], I. Washington[9], H. P. Scholl[1, 3], L. Saad[9].* [1]Ophthalmology, University of Basel; [2]Ophthalmology, Columbia University Medical Center; [3]Institute of Molecular and Clinical Ophthalmology (IOB); [4]Ophthalmology, Vitreoretinal Associates; [5]Ophthalmology, Medical College of Wisconsin; [6]Ophthalmology, Stein Eye; [7]Ophthalmology, Univ of Utah/Moran Eye Center; [8]Ophthalmology, Bascom Palmer Eye Institute; [9]Ophthalmology, Alkeus Pharmaceuticals **CR*, ↗

1064 — *A0022* **Independent contributions of letter, word and sentence information to reading speed for people with macular disease.** *Susana T. Chung, J. Bernard***.** School of Optometry, University of California

West Exhibition Hall A0023-A0066

Sunday, April 28, 2019 3:00 PM-4:45 PM

Clinical/Epidemiologic Research

162 Diabetic eye disease

Moderators: Benedicte M. Merle and Jennifer Patnaik

1065 — *A0023* **Diabetic Retinopathy in the Bronx and Myanmar: A Matched Cohort Study.** *Max Schlesinger, A. Shrivastava, K. Lin, D. Rubaltelli, R. Klein***.** Montefiore Medical Center

1066 — *A0024* **Visual Field Loss in Patients with Diabetes in the Absence of Clinically-Detectable Vascular Retinopathy.** *Yicheng Bao[1], M. Kass[2], J. McGill[3], Y. Yan[4], R. Rajagopal[2].* [1]UMKC School of Medicine; [2]Department of Ophthalmology and Visual Sciences, Washington University School of Medicine; [3]Department of Endocrinology, Metabolism, and Lipid Research, Washington University School of Medicine; [4]Department of Surgery, Washington University School of Medicine

1067 — *A0025* **The Soifua Manuia Telemedicine Eye Screening Program in a High-Risk Population of Samoans with Diabetes.** *Lauren C. LaMonica[2], D. J. Ramsey[1], M. K. Bhardwaj[1], T. Naseri[3], M. S. Reupena[4], N. L. Hawley[2].* [1]Department of Ophthalmology, Lahey Hospital & Medical Center; [2]Department of Chronic Disease Epidemiology, Yale School of Public Health; [3]Ministry of Health; [4]Lutia i Puava ae Mapu i Fagalele (LPAMF)

1068 — *A0026* **Four-year analysis of diabetic retinopathy rates using teleretinal screening shows declining retinopathy rates over time in Central Texas.** *Kevin F. Elwood[1], R. L. Gross[3], J. A. Martinez[2, 1], S. Day Ghafoori[2, 1], C. Harper[2, 1], J. W. Dooner[2, 1], M. Levitan[2, 1], P. A. Nixon[2, 1], R. C. Young[2, 1], R. Wong[2, 1].* [1]Department of Ophthalmology, University of Texas at Austin Dell Medical School; [2]Austin Retina Associates; [3]Southern Eye Group ***CR*

1069 — *A0027* **Predictors of Receiving Annual Dilated Eye Examinations Among US Patients with Diabetes.** *Sarah Eppley[1], E. Lowry[2], S. L. Mansberger[2], S. Ramanathan[3].* [1]School of Medicine, University of California, San Francisco; [2]Legacy Devers Eye Institute; [3]Ophthalmology, University of California, San Francisco

1070 — *A0028* **Discrepancies in the epidemiology of diabetic retinopathy among diabetes clinics, eye clinic, and population-based studies: A Systematic Review, and Meta-Analysis.** *Golnoush Sadat Mahmoudi Nezhad[1], H. Molavi Vardanjani[1], M. Razeghinejad[2], M. Janghorbani[3].* [1]Mph, Mph department; [2]Wills Eye Hospital, Glaucoma Service; [3]Isfahan Endocrine and Metabolism Research Center

1071 — *A0029* **Rates of Eye Care and Diabetic Eye Disease Among Patients with Newly-diagnosed Type 2 Diabetes and Medicare or Private Health Insurance.** *William S. Gange[1], B. Xu[1], S. A. Seabury[2].* [1]Ophthalmology, University of Southern California; [2]Keck-Shaeffer Initiative for Population Health Policy, Keck School of Medicine, USC ***CR**

1072 — *A0030* **Anemia and the Risk of Progression From Non-Proliferative Diabetic Retinopathy to Vision Threatening Diabetic Retinopathy.** *Yafeng Li, Y. Yu, B. L. VanderBeek***.** Ophthalmology, Scheie Eye Institute

1073 — *A0031* **Long-term HbA1c variability and the progression of diabetic retinopathy in patients with type 2 diabetes.** *Sung Pyo Park***.** Hallym University Medical Center, KangDong Sacred Heart Hospital

1074 — *A0032* **Trends in eye care use in adults treated for diabetes between 2008 and 2017 in France: a nationwide study.** *Audrey Cougnard-Gregoire[1], J. Korobelnik[1, 2], M. Delyfer[1, 2], V. Rigalleau[1, 3], V. Daien[4, 5], C. Creuzot-Garcher[6, 7], C. DelCourt[1].* [1]University of Bordeaux, Inserm, Bordeaux Population Health Research Center, Team LEHA, UMR 1219; [2]Department of Ophthalmology, Bordeaux CHU, Pellegrin Hospital; [3]Department of Nutrition-Diabetology, Bordeaux CHU, Haut-Lévêque Hospital; [4]Department of Ophthalmology, Montpellier University Hospital; [5]University of Montpellier, Inserm, U1061; [6]Department of Ophthalmology, Dijon University Hospital; [7]CSGA, UMR 1324 INRA, Eye and Nutrition Research Group ***CR**

1075 — *A0033* **Automated capture of the dilated eye exam for diabetic retinopathy screening in an electronic health record.** *Michael Ellis[1], M. Lim[1], N. Hammel[1], S. Maharajh[2], D. Fujino[2], B. Hom[2], S. McDonald[2].* [1]UC Davis Eye; [2]UC Davis Medical Center

1076 — *A0034* **Effect of patient adherence to recommended treatments on functional outcomes following off-label intravitreal bevacizumab injections for diabetic macular edema.** *John O'Fee, E. Jung, N. Rayess, A. Moshfeghi***.** USC Roski Eye Institute, Keck School of Medicine of USC ***CR**

1077 — *A0035* **Spectrum of Eye disorders in type 2 Diabetes (SPEED) in India. An eye care facility based study.** *Taraprasad Das[1], U. Behera[2], H. Bhattacharjee[3], C. Gilbert[4], G. Murthy[5], R. Rajalakshmi[6], H. Pant[5], R. Shukla[5].* [1]Retina Vitreous Services, LV Prasad Eye Institute; [2]Retina Vitreous, L V Prasad Eye Institute; [3]Retina Vitreous, Sankaradev Netralaya; [4]London School of Hygine and Tropical Medicine; [5]Indian Institute of Public Health; [6]Ophthalmology, Dr Mohan's Diabetes Specialty Center

1078 — *A0036* **A longitudinal study on risk factors of diabetic retinopathy progression.** *Qiong Li[1], Y. Pang[2], J. Winters[2], D. Ren[2], L. Messner[2].* [1]Ophthalmology, Fujian Provicial Hospital; [2]Illinois College of Optometry

1079 — *A0037* **Clinical characteristics of diabetes and diabetic retinopathy in an ageing population - NICOLA study.** *Sophia R. Halliday, N. B. Quinn, R. Hogg, U. Chakravarthy, T. Peto, F. Kee, I. Young, B. McGuinness, S. Cruise, D. WRIGHT***.** Centre for Public Health, Queen's University Belfast

1080 — *A0038* **Risk Factors for Underutilization of Eye Care in the Evaluation of Diabetic Retinopathy.** *Ramsey Yusuf, R. Sundaresh, B. Richards, K. H. Nwanyanwu***.** Yale School of Medicine

1081 — *A0039* **Is Poor Compliance with Diabetic Eye Screening in Young Adults an Indicator of Poor Diabetes Control?** *Laura N. Cushley[1], A. Bell[2], G. Silvestri[3], U. Graham[4], D. McCance[4], N. Quinn[1], T. Peto[1].* [1]Centre for Public Health, Queen's University Belfast; [2]Queen's University Belfast; [3]Ophthalmology, Belfast Health and Social Care Trust; [4]Endocrinology, Belfast Health and Social Care Trust

1082 — *A0040* **Ultra-widefield fluorescein angiography time-lapse imaging in diabetic retinopathy.** *HANGQI SHEN, X. Xu***.** Shanghai General Hospital

1083 — *A0041* **Fenofibrate and Statin Use and the Risk of Progression to Vision Threatening Diabetic Retinopathy.** *Brian L. VanderBeek[1], J. C. Bavinger[1], Y. Yu[1, 2].* [1]Retina, Scheie Eye Institute University of Pennsylvania; [2]Ophthalmology, Center for Preventive Ophthalmology and Biostatistics

1084 — *A0042* **Risk factors associated with progression to referable diabetic retinopathy(RDR): A Type 2 Diabetes Mellitus(T2D) cohort study in Ireland.** *John Smith[1], N. Lois[1], P. H. Scanlon[2], D. Wright[3].* [1]Wellcome-Wolfson Centre For Experimental Medicine, Queens University Belfast; [2]Ophthalmology, University Of Gloucester; [3]Centre For Public Health, Queens University Belfast

1085 — *A0043* **Poor control of diabetes is associated with sight threatening retinopathy in patients attending tertiary care eye clinics in Nepal and India.** *Shahina Pardhan[1], T. Upadhyaya[2], A. Biswas[3], R. Raman[4], R. Sapkota[1].* [1]Anglia Ruskin University; [2]Gandaki Medical College and Teaching Hospital; [3]Kurseong Sub-divisional Hospital; [4]Sankara Nethralaya Eye Hospital

1086 — *A0044* **Determinants of Poor Follow-up Adherence for Diabetic Retinopathy.** *Christopher J. Brady[1], S. D'Amico[1], J. Peavey[1], S. Higgins[2], B. Kim[1].* [1]Surgery - Ophthalmology, University of Vermont; [2]Psychiatry, University of Vermont

Sunday Posters
3:00 pm – 4:45 pm

1087 — *A0045* **Barriers to Follow-Up Care in an Underserved Community-Based Tele-Ophthalmology Screening Program.** *Andrew Zolot[1], N. Abenoza[4], J. E. Kim[2], V. Medic[2], K. Davis[2], J. Romant[3], A. Castro[4], M. Sosa Pachero[4].* [1]Medical Student, Medical College Of Wisconsin; [2]Medical College of Wisconsin; [3]City of Milwaukee; [4]United Community Center **CR*

1088 — *A0046* **Diabetic Retinopathy in the Thessaloniki Eye Study (TES): Prevalence and Risk Factors.** *Christina Keskini[1], A. L. Coleman[2], M. R. Wilson[3], A. Harris[4], F. Yu[5], P. Founti[1, 6], E. Anastasopoulos[1], A. Haidich[7], T. Pappas[1], N. Dervenis[1], A. Malamas[1], P. Kalouda[1], V. Kilintzis[1], A. Salonikiou[1], A. Koskosas[1], F. Topouzis[1].* [1]Laboratory of Research and Clinical Applications in Ophthalmology (LARCAO), Department of Ophthalmology, School of Medicine, Aristotle University of Thessaloniki; [2]Jules Stein Eye Institute,University of California Los Angeles (UCLA); [3]School of Medicine, Wayne State University; [4]Department of Ophthalmology, Eugene and Marilyn Glick Eye Institute, Indiana University School of Medicine; [5]Department of Biostatistics, UCLA Fielding School of Public Health; [6]Glaucoma Unit, Moorfields Eye Hospital NHS Foundation Trust; [7]Department of Hygiene, Social-Preventive Medicine & Medical Statistics, School of Medicine, Aristotle University of Thessaloniki **CR*

1089 — *A0047* **Prevalence and Risk Factors for DR in the African American Eye Disease Study.** *Roberta McKean-Cowdin[1, 3], m. torres[2], B. Burkemper[2], A. Fairbrother-Crisp[2], X. Jiang[3, 1], F. Choudhury[1], T. Y. Wong[4], R. Varma[2].* [1]Preventive Medicine, Univ of Southern California; [2]The Southern California Eye Care and Vision Research Institute; [3]Ophthalmology, University of Southern California; [4]Singapore National Eye Research Institute **CR*

1090 — *A0048* **Identifying Factors Associated with Blindness in Patients with Diabetic Retinopathy: Insights from the AAO IRIS® Registry.** *Charles C. Wykoff[1], R. Hall[2], S. Kelly[2], F. Lum[2], I. Stoilov[3], I. Abbass[3], T. To[3], A. M. Abolian[3], V. Garmo[3].* [1]Retina Consultants of Houston; [2]American Academy of Ophthalmology; [3]Genentech, Inc. **CR*

1091 — *A0049* **Interdisciplinary Communication: Ophthalmologists' letters to secondary diabetes care centers.** *Lydia Marahrens[1], D. Roeck[1], A. Fritsche[2], F. Ziemssen[1].* [1]Center of Ophthalmology, University of Tuebingen; [2]German Centre for Diabetes Research (DZD), Institute for Diabetes Research and Metabolic Diseases of the Helmholtz Centre Munich at the University of Tuebingen **CR*

1092 — *A0050* **The acceptance of teleophthalmology in community health settings in Milwaukee.** *Nathalie Abenoza[1], A. Zolot[1], V. Medic[1], J. Romant[2], J. E. Kim[1].* [1]Medical College of Wisconsin; [2]Milwaukee Health Department **CR*

1093 — *A0051* **Low attendance to diabetic retinopathy screening in young people in England.** *Maria C. Ibanez Bruron[1, 2], A. Solebo[1, 3], P. Cumberland[1], J. Rahi[1, 3].* [1]Population, Policy and Practice, UCL Great Ormond Street Institute of Child Health; [2]Ophthalmology, Pontificia Universidad Catolica de Chile; [3]NIHR Moorfields Biomedical Research Centre, Institute of Ophthalmology UCL

1094 — *A0052* **Deep learning for automatic diabetic retinopathy grading of ultra-widefield fundus images.** *Mhd Hasan Sarhan[1], P. Sha[2, 3], M. Chen[2, 3], M. K. Durbin[2], M. Yigitsoy[4], A. Eslami[4].* [1]Technical University of Munich; [2]Carl Zeiss Meditec, Inc.; [3]Silicon Valley Eyecare; [4]Carl Zeiss Meditec, Inc. **CR*

1095 — *A0053* **Prevalence of Diabetic Retinopathy in Chinese Adults With Type 2 Diabetes in the Rural Area of Shanghai.** *Lihua Gong[1], J. Lin[1], W. Xia[1], F. Yuan[2].* [1]Qingpu Branch of Zhongshan Hospital; [2]Zhongshan Hospital

1096 — *A0054* **Towards a More Comprehensive Understanding of Barriers to and Facilitators of Diabetic Retinopathy Screening Utilization in a High-risk Population: A Qualitative Study.** *Amber Loren O. King, E. Fairless, K. H. Nwanyanwu***.** Ophthalmology, Yale School of Medicine

1097 — *A0055* **Sub-clinical Diabetic Macular Edema in Chinese Diabetes Patients: A Pilot Study.** *Xia Gong, W. Huang, L. Wang, W. Li, W. Wang***.** Zhongshan Ophthalmic Center

1098 — *A0056* **Epiretinal membrane and their related factors in diabetic patients–a cross-secessional study.** *Wangting Li, W. Huang***.** Zhongshan Ophthalmic center

1099 — *A0057* **Results of the third and fourth round of Screening from the Irish National Diabetic Retinopathy Screening and Treatment Programme (Diabetic RetinaScreen).** *David J. Keegan[1, 2], R. Pandey[1, 2], H. Kavanagh[1], D. Donnelly[1], M. Cahill[4], R. Acheson[3], C. Murphy[1].* [1]Diabetic RetinaScreen, National Screening Service; [2]Mater University Hospital, Mater Retina Research Group; [3]Diabetic Retinal Screening, EMIS Care; [4]Diabetic Retinal Sceeening, Global Vision **CR*

1100 — *A0058* **Prevalence of Diabetic Retinopathy in Diabetes Mellitus: the Result of a Large Urban Eye Clinic.** *Daniel Ren[1], Y. Pang[1], R. Ellis[2], Q. Li[1], L. Messner[1].* [1]Illinois College of Optometry; [2]Applied Mathematics, Illinois Institute of Technologies

1101 — *A0059* **Screening for diabetic retinopathy and other retinal diseases: a telemedicine project in Mexico.** *Dalia Méndez Marín[2], R. García Franco[3], V. Charles Lansingh[1], E. López Star[2], A. Arias Gómez[2], P. Ramírez Neria[2], M. García Roa[2], V. Romero Morales[2], X. Mira Lorenzo[2], M. Vazquez Membrillo[2], Y. Villalpando Gómez[2].* [1]Dirección General, Instituto Mexicano de oftalmología I.A.P; [2]Retina and Vitreous, Instituto Mexicano de oftalmología I.A.P; [3]Retina and Vitreous, Instituto Mexicano de oftalmología I.A.P

1102 — *A0060* **Ten-year incidence and progression of diabetic retinopathy in type 1 and type 2 diabetes in France: the OPHDIAT study.** *Chloé Chamard***.** Ophthalmology, Chu Gui De Chauliac

1103 — *A0061* **Association of Socioeconomic Variables with Risk Factors for Diabetic Retinopathy.** *Oluyemi O. Olumolade[1], M. Yosef[3], S. Khalatbari[3], A. Shah[2].* [1]University of Michigan Medical School, Michigan Medicine; [2]Kellogg Eye Center, Michigan Medicine; [3]Michigan Institute for Clinical & Health Research, Michigan Medicine

1104 — *A0062* **Implementation of a pilot tele-ophthalmology screening program for diabetic retinopathy in Northern California.** *Colin Bacorn, M. Ellis, K. Luu, S. Lee, S. Tran, C. Lillis, M. Lim, G. Yiu***.** Ophthalmology, UC Davis **CR*

1105 — *A0063* **Efficacy of an endocrinologist-led specialist care clinic in minimizing burden of vision-threatening retinopathy in Chinese diabetic patients.** *Kendrick C. Shih[1], S. Poon[1], S. Yu[1], R. Li[1], C. Seng[1], I. Lam[2], J. Hui[2], C. Fong[3], N. Fung[1], C. Lee[3].* [1]Department of Ophthalmology, University of Hong Kong; [2]Faculty of Medicine, The Chinese University of Hong Kong; [3]Department of Medicine, University of Hong Kong

1106 — *A0064* **Physical activity, sedentary behavior, and choroidal thickness in Chinese adults with type 2 diabetes: Guangzhou Diabetes Eye Study.** *Yuchun Liu, W. Huang, M. Jie, W. Wang, L. Wang, W. Li, X. Gong, K. Xiong***.** Zhongshan Ophthalmic center, Sun Yat-sen University

1107 — *A0065* **Risk factors associated with increased risk for complex vitreoretinal surgery for patients with diabetic retinopathy.** *Farah Rahman[1], K. Nwanyanwu[2], J. L. Warren[3].* [1]Health Policy, Yale School of Public Health; [2]Ophthalmology and Visual Sciences, Yale School of Medicine; [3]Biostatistics, Yale School of Public Health

1108 — *A0066* **Predictors of baseline diabetic retinopathy severity at Veterans Affairs teleretinal screening program over a 10-year period.** *Michael Gencarella, C. S. Lee, H. C. Jung, A. Lee***.** University of Washington School of Medicine **CR*

West Exhibition Hall A0067-A0090

Sunday, April 28, 2019 3:00 PM-4:45 PM

Lens

163 Cataractogenesis, Prevention, and Treatment

Moderator: Juliet A. Moncaster

1109 — *A0067* **Opacification of Lentoid Bodies Derived from Human Induced Pluripotent Stem Cells Is Accelerated by Hydrogen Peroxide and Involves Protein Aggregation.** *Lifang Zhang, Z. Qin, L. Danni, K. Yao, Q. FU***.** 2nd Affiliated Hospital of Zhejiang University

1110 — *A0068* **Cataract-inhibitory effects of water chestnut (Trapa bispinosa Roxb) and lutein in Shumiya cataract rats.** *Hidetoshi Ishida, T. Shibata, S. Shibata, H. Sasaki, E. Kubo***.** Kanazawa Medical University **CR*

1111 — *A0069* **A New Dexamethasone-Moxifloxacin-Genistein-NLC-Drug Delivery System that Provides Sustainable Release in Anterior Chamber to Prevent Inflammation, Infection and Posterior Capsule Opacification.** *Tingyu Yan, J. Liu, Y. Wang, X. Zhang, Y. Liu, F. Liu, J. Kong, Y. He***.** China Medical University

1112 — *A0070* **Metformin Restores Impaired Antioxidant Defense Response In Aging Lens Epithelial Cells By Reactivating Nrf2/ARE/ Prdx6 Axis.** *Bhavana Chhunchha[1], E. Kubo[2], S. P. Singh[3], D. P. Singh[1]*. [1]Ophthalmology & Visual Sciences, University of Nebraska Medical Center; [2]Ophthalmology, Kanazawa Medical University; [3]Neurology, Creighton University

1113 — *A0071* **A non-human primate model of congenital heritable cataracts.** *Sara M. Thomasy[1, 2], R. Chen[3, 4], L. Garzel[5], K. J. Olstad[5], J. Wang[4], S. Kim[1], Y. Li[3], M. Raveendran[3], B. L. Gates[1], J. T. Stout[6], J. Roberts[5], J. Rogers[3], A. Moshiri[2]*. [1]Department of Surgical & Radiological Sciences, School of Veterinary Medicine, University of California, Davis; [2]Department of Ophthalmology & Vision Science, School of Medicine, University of California, Davis; [3]Human Genome Sequencing Center and Department of Molecular and Human Genetics, Baylor College of Medicine; [4]Department of Biochemistry and Molecular Biology, Baylor College of Medicine; [5]California National Primate Research Center, University of California, Davis; [6]Department of Ophthalmology, Cullen Eye Institute, Baylor College of Medicine

1114 — *A0072* **Expected vs. Actual Refractive Error in Patients Presenting with Phacomorphic Glaucoma.** *Alisha Khambati, S. Syeda, J. Tannir***.** Kresge Eye Institute , Wayne State University School of Medicine

1115 — *A0073* **More than just a reactive oxygen species scavenger: grapes prevent UV-B radiation-induced cataract by upregulating anti-apoptotic protein XIAP.** *Hongli Wu[1, 2], X. Liu[2], D. Wang[2], L. Aguilera Garcia[5], Y. Li[2, 3], Y. Yu[2, 4], F. Ssentamu[5]*. [1]North Texas Eye Research Institute, University of North Texas Health & Science Center; [2]Department of Pharmaceutical Sciences, University of North Texas Health Science Center; [3]Department of Traditional Chinese Medicine, Shanxi Dayi Hospital; [4]Department of Obstetrics and Gynecology, The 2nd Hospital of Dalian Medical University; [5]College of Pharmacy, University of North Texas Health Science Center

1116 — *A0074* **Lanosterol treatment of induced cataracts in adult zebrafish shows reduction of cataract severity.** *Heather Prior, D. Van Gaalen***.** The King's University

1117 — *A0075* **c-Myc mediates Epithelial-to-Mesenchymal Transition in Lens Epithelial Cells.** *Xiaoran Wang, s. huang, B. WANG, s. yan, L. Xiong, Z. Wang, Y. Liu***.** State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

1118 — *A0076* **Rosmarinic Acid Restores Complete Transparency of Human Cataract Ex Vivo and Delays Cataract Formation In Vivo.** *Michael Mimouni[1, 2], M. Chemerovski-Glikman[3], Y. Dagan[3], E. Haj[3], I. Vainer[2], R. Allon[2], E. Blumenthal[1, 2], L. Adler-Abramovich[4], D. Segal[3], E. Gazit[3], S. Zayit-Soudry[1, 2]*. [1]Ophthalmology, Rambam Health Care Campus; [2]Bruce and Ruth Rappaport Faculty of Medicine, Technion-Israel Institute of Technology; [3]Department Molecular Microbiology and Biotechnology, Tel-Aviv University; [4]Department of Oral Biology, Tel-Aviv University

1119 — *A0077* **Proliferative status in the aqueous humor of eyes with congenital cataract.** *Yinglei Zhang, D. Li, Q. Lu, Y. Du, Y. Lu, X. Zhu***.** Ophthalmology, Eye and ENT Hospital of Fudan University ↗

1120 — *A0078* **TGFß-induced EMT leading to cataractogenesis involves Nox4 activity.** *Shannon Das[1, 2], F. J. Lovicu[1, 2]*. [1]Anatomy and Histology, University of Sydney; [2]Bosch Institute

1121 — *A0079* **Gene expression profiling of lens epithelial cells in Shumiya cataract rats.** *Eri Kubo[1], H. Ishida[1], S. Shibata[1], T. Shibata[1], Y. Nakamura[2], Y. Ishigaki[2], D. P. Singh[3], H. Sasaki[1]*. [1]Dept of Ophthalmology, Kanazawa Medical University; [2]Medical Research Institute, Kanazawa Medical University; [3]Department of Ophthalmology and Visual Science, University of Nebraska Medical Center **CR*

1122 — *A0080* **JNK1 Regulates Epithelial-to-Mesenchymal Transition via β-catenin Signaling in Human Lens Epithelial Cells Exposed to Hydrogen Peroxide.** *Jinyan Li, Y. Chen, L. Luo***.** State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center

1123 — *A0081* **Diabetic Cataract in Spontaneously Diabetic Torii Fatty Rats.** *Kasumi Kikuchi[1], K. Noda[1], M. Murata[1], Y. Tagawa[1], A. Kanda[1], S. Kase[1], Y. Kageyama[2], M. Shinohara[2], T. Sasase[3], S. Ishida[1]*. [1]Laboratory of Ocular Cell Biology and Visual Science, Department of Ophthalmology, Faculty of Medicine and Graduate School of Medicine, Hokkaido University; [2]CLEA Japan Inc., Tokyo Animal & Diet Dept.; [3]Biological/ Pharmacological Research Laboratories, Central Pharmaceutical Research Institute, Japan Tobacco Inc. **CR*

1124 — *A0082* **ROS-mediated Wnt/β-catenin signaling in lens epithelial cells adaptation and posterior capsule opacification.** *Xingjun Fan[1], Z. Wei[1], H. Yan[2]*. [1]Cellular Biology and Anatomy, Medical College of Georgia, Augusta University; [2]Ophthalmology, The First Affiliated Hospital of Chongqing Medical University

1125 — *A0083* **Involvement of endoplasmic reticulum stress in the development of βB2-crystallin mutant-induced mouse congenital cataract.** *Xiaoyun Chen, W. Xiao, W. Yang, Y. Liu***.** State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-Sen University

1126 — *A0084* **Screening for alpha-crystallin mimetic drugs with chaperone-like activity toward gamma crystallins exposed to oxidative and/or heat shock stress.** *Vincent M. Monnier[1], B. Frank[2], P. Ravichandran[2], S. Ramkumar[2]*. [1]Pathology & Biochemistry, Case Western Reserve Univ; [2]Pathology, Case Western Reserve University **CR*

1127 — *A0085* **Core Clock Protein Bmal 1 Controls Reactive Oxygen Species Homeostasis And Oxidative Responses By Transregulating Prdx6 Expression.** *Dhirendra P. Singh[1], E. Kubo[2], B. Chhunchha[1]*. [1]Ophthalmology and Visual Sciences, Univ of Neb Med Center; [2]Ophthalmology, kanazawa Medical University

1128 — *A0086* **Characterization of Lenses in a Lens-Specific βA3/A1-Crystallin Conditional Knockout Mouse Model.** *Om P. Srivastava[1], R. Joseph[1], M. L. Robinson[2]*. [1]Optometry and Vision Science, University of Alabama at Birmingham; [2]Zoology, Miami University

1129 — *A0087* **Cataract Detection And Grading Based On Deep Convolutional Neural Network.** *Hongyan Zhang[1, 2], K. Niu[4, 5], Y. Xiong[4, 5], W. Yang[3], Z. He[4, 5], H. Song[1, 2]*. [1]Beijing Tongren Eye center; [2]Beijing Tongren Hospital; [3]The First People's Hospital of Huzhou; [4]Key Laboratory of Universal Wireless Communations; [5]Beijing University of Posts and Telecommunications

1130 — *A0088* **Sumoylation Regulation of Lens Cataractogenesis.** *David W. Li[1, 3], Y. Liu[1], J. Xiang[1, 2], x. Gong[1], F. Liu[1], J. Fu[1], Y. Xiao[1, 2], L. Wang[1], Y. Liu[1]*. [1]Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen Universit; [2]College of Life Sciences, Hunan Normal University; [3]The Center for VIrology, University of Nebraska-Lincoln

1131 — *A0089* **Impairment of the Ubiquitin-Proteasome Pathway Alters Gene Expression in the EGFR Pathway during Lens Regeneration in Rabbit.** *Zhenzhen Liu, s. huang, H. Lin, X. Wu, Y. Liu***.** Zhongshan Ophthalmic Center

1132 — *A0090* **Oculocerebrorenal Syndrome of Lowe: Characterizations of Ocular Presentation and Management.** *Xiaowan Ma[1], k. ning[1], T. Kowal[1], Y. Sun[1, 2]*. [1]Department of Ophthamology,Stanford university,PALO ALTO,CA,United States, Stanford Ophthalmology; [2]Palo Alto VA medical center

West Exhibition Hall A0147-A0190

Sunday, April 28, 2019 3:00 PM-4:45 PM

Retina

164 AMD clinical research I

Moderators: Michael S. Ip and Elisabetta Pilotto

1133 — *A0147* **Correlation between Quality of Life measures and retinal structure and function in patients with age-related macular degeneration.** *Faran Sabeti[2, 1], T. Maddess[1], E. M. Rohan[1], R. W. Essex[4], E. McKone[3], J. Lane[3]*. [1]Neuroscience, Australian National University; [2]Optometry, University of Canberra; [3]Research School of Psychology, Australian National University; [4]Medical School, Australian National University ***CR**

1134 — *A0148* **Risk factors for Fellow Eye Progression in Patients with Unilateral Exudative Age-Related Macular Degeneration.** *Julia Lemke[1], V. Sitnilska[1], C. Gietzelt[1], T. Schick[1], C. C. Hoyng[2], A. I. Den Hollander[2], S. Fauser[3], L. Altay[1]*. [1]University Hospital of Cologne, Ophthalmology; [2]Ophthalmology, Radboud University Medical Center; [3]F. Hoffmann- La Roche AG ***CR**

1135 — *A0149* **Non-genetic risk factors for age-related macular degeneration in nonagenarians.** *Vasilena Sitnilska[1], T. Schick[1], A. I. Den Hollander[2], C. C. Hoyng[2], S. Fauser[1, 3], L. Altay[1]*. [1]Department of Ophthalmology, University of Cologne; [2]Department of Ophthalmology, Radboud university medical center; [3]F. Hoffmann - La Roche AG ***CR**

1136 — *A0150* **Association of a predictor of retinal omega 3 polyunsaturated fatty acids with advanced age-related macular degeneration: the BLISAR project.** *Cecile DelCourt[1], S. Ajana[1], O. Berdeaux[3], B. M. Merle[1], H. Jacqmin-Gadda[1], B. Hejblum[1], A. M. Bron[2, 3], C. Creuzot-Garcher[2, 3], J. Korobelnik[4, 1], L. Bretillon[3], N. Acar[3]*. [1]Inserm UMR1219-Bordeaux Population Health Research Center, University of Bordeaux; [2]Department of Ophthalmology, University Hospital Dijon; [3]Eye and Nutrition Research Group, CSGA, UMR1324 Inra; [4]Service d'Ophtalmologie, CHU de Bordeaux ***CR**

1137 — *A0151* **Repeatability and Comparison of Dark Adaptation Using the Medmont DAC Perimeter and AdaptDx Dark Adaptometer.** *Durin Y. Uddin, B. Jeffrey, W. T. Wong, H. E. Wiley, T. D. Keenan, O. J. Flynn, E. Y. Chew, C. A. Cukras***.** National Eye Institute

1138 — *A0152* **Müller cells and choriocapillaris in the pathogenesis of geographic atrophy secondary to age-related macular degeneration.** *Elisabetta Pilotto[1], L. Frizziero[2], T. Torresin[1], E. Longhin[1], F. Leonardi[1], R. Parrozzani[1], E. Midena[1]*. [1]Department of Ophthalmology, University of Padova; [2]IRCCS – Fondazione Bietti

1139 — *A0153* **Cataract Surgery And Neovascular Age-Related Macular Degeneration Development Or Exacerbation: A Retrospective Analysis.** *Pietro Monaco[1], L. Tollot[1], M. Del Borrello[1], A. Frattolillo[1], F. Sperti[1], D. Poole[1], E. Rapizzi[2]*. [1]Ophthalmology, San Martino Hospital; [2]Ophthalmology, Dell'Angelo Hospital

1140 — *A0154* **Multifocal Electroretinogram Responses Following Subthreshold Nanosecond Laser Intervention In Age-Related Macular Degeneration.** *Chi D. Luu[1, 2], G. Makeyeva[1], E. Caruso[1], E. Baglin[1], P. Sharangan[1], R. H. Guymer[1, 2]*. [1]Macular Research Unit, Centre for Eye Research Australia; [2]Department of Surgery (Ophthalmology), The University of Melbourne ↗

1141 — *A0155* **Identification of a circulating biomarker highly associated to retinal omega-3 polyunsaturated fatty acid content: the BLISAR project.** *Niyazi Acar[1], S. Ajana[3], O. Berdeaux[2], H. Jacqmin-Gadda[3], B. Hejblum[3], Z. HE[4], S. Gregoire[1], S. Cabaret[2], L. Martine[1], B. M. Merle[3], L. Bretillon[1], C. DelCourt[3]*. [1]UMR CSGA - Eye and Nutrition Research Group, INRA; [2]UMR CSGA - ChemoSens Platform, INRA; [3]Inserm U1219 - Bordeaux Population Health Research Center, University of Bordeaux; [4]BiiGC Laboratory, University of Saint-Etienne ***CR**

1142 — *A0156* **Analysing the gut microbiome in relation to early age-related maculopathy (ARM) in a twin cohort.** *Zakariya Jarrar[2], A. Adebayo[2], R. Bowyer[2], P. Wells[2], K. Williams[2, 3], C. Steves[2, 1], C. J. Hammond[2, 1]*. [1]St. Thomas' Hospital; [2]Department of Twin Research & Genetic Epidemiology, King's College London; [3]Moorfields Eye Hospital

1143 — *A0157* **Participant selection and the diagnostic performance of the handheld Radial Shape Discrimination (hRSD) test.** *Paul Knox[1], N. Pitrelli Vazquez[1, 2], J. Ku[1]*. [1]Eye & Vision Science, University of Liverpool; [2]St Pauls Eye Unit, Royal Liverpool Hospital ***CR**

1144 — *A0158* **Incidence and Features of Geographic Atrophy in Fellow Eyes in the Comparison of Age-related Macular Degeneration Treatment Trials (CATT).** *Delu Song[1], G. Ying[1], J. E. Grunwald[1], E. Daniel[1], M. G. Maguire[1], Y. Li[1], D. F. Martin[2]*. [1]Research & Development, Scheie Eye Institute, University of Pennsylvania; [2]Cole Eye Institute ↗

1145 — *A0159* **Comparison of Therapeutic Effect and Hyperreflective Foci on Optical Coherence Tomography between Bevacizumab and Dexamethasone Implant for Macular Edema in Branch Retinal Vein Occlusion according to the Symptom Duration.** *Dong Ho Park, J. Do, J. Do***.** Ophthalmology, Kyungpook National University Hospital

1146 — *A0160* **Drusen subtypes and choroidal characteristics in Asian eyes with typical neovascular age-related macular degeneration.** *Junwon Lee, S. Byeon***.** Yonsei University College of Medicine

1147 — *A0161* **AMD Drusenoid deposits "L", Lipid type and "P", Protein-cellular type, structural analysis, evolution study with Multimodal Imaging and Morphology-Structural software.** *Corinne Gonzalez[1, 2]*. [1]SELARL CABINET DR GONZALEZ; [2]FUTUROPHTA

1148 — *A0162* **Novel disease progression biomarkers in non-exudative age-related macular degeneration: an association study between drusen type and morphology and Fundus Autofluorescence.** *Rita M. Flores[1, 3], A. Basilio[1], N. Moura-Coelho[1, 3], M. Marques[1], L. Vieira[1], J. Cardigos[1], I. Fragoeiro[2], S. Tenreiro[2], T. Pereira[2], M. Seabra[2]*. [1]OPHTHALMOLOGY, CHULC; [2]CEDOC; [3]NOVA Medical School - Universidade Nova de Lisboa ***CR**

1149 — *A0163* **Progression of Subclinical Choroidal Neovascularization in Age-Related Macular Degeneration.** *Michael Heiferman, A. A. Fawzi***.** Northwestern University

1150 — *A0164* **Improvement of type 3 neovascularization on OCT-A after combination therapy with bevacizumab and photodynamic therapy.** *Lisette M. Smid[1], K. A. Vermeer[1], K. T. Wong[2], J. P. Martinez ciriano[2], M. E. Van Velthoven[2]*. [1]Rotterdam Ophthalmic Institute; [2]Rotterdam Eye Hospital ***CR**

1151 — *A0165* **Timing of Complete Absence of Polypoidal Lesions on ICG Angiography Following Aflibercept Monotherapy in Polypoidal Choroidal Vasculopathy.** *Voraporn Chaikitmongkol[1], P. Upaphong[1], D. Patikulsila[1], P. Jirarattanasopa[2], J. Choovuthayakorn[1], N. Watanachai[1], P. Kunavisarut[1], M. Ratanasukon[2], P. Bhurayanontachai[2], N. M. Bressler[3]*. [1]Department of Ophthalmology, Chiang Mai University, Chiang Mai, Thailand; [2]Department of Ophthalmology, Prince of Songkla University; [3]Wilmer Eye Institute, Johns Hopkins University School of Medicine **CR*

1152 — *A0166* **The spectrum of polypoidal choroidal vasculopathy in Caucasians: clinical characteristics and treatment outcome.** *Elon Van Dijk, S. Veselinovic, D. Mohabati, W. Chung, G. Dijkman, C. Boon***.** Ophthalmology, Leiden University Medical Center

1153 — *A0167* **The association of the branching vascular network area progression with the outcomes of combination therapy with intravitreal aflibercept and verteporfin photodynamic therapy for polypoidal choroidal vasculopathy.** *Shunichiro Nakai***.** Kobe University Graduate School of Medicine

1154 — *A0168* **Microvascular abnormalities, retinal thickness changes and long-term efficacy after stereotactic radiotherapy under continued intravitreal anti-VEGF treatment for neovascular AMD.** *Katja Hatz[1, 2], F. Zimmermann[3], E. Lazaridis[4], D. Kardamakis[5], M. Guichard[1], C. Tuerksever[1], C. Pruente[6], U. Schmidt-Erfurth[2], B. Gerendas[2]*. [1]Vista Klinik Binningen; [2]Vienna Reading Center, Department of Ophthalmology, Medical University Vienna; [3]Department of Radiation Oncology, University Hospital Basel; [4]SWISS EyeRAD; [5]Department of Radiation Oncology, Medical University Patras; [6]Eye clinic, University Hospital Basel **CR*

1155 — *A0169* **Changes on multimodal imaging after treatment with photodynamic therapy or high-density subthreshold micropulse laser in chronic central serous chorioretinopathy.** *Thomas J. van Rijssen[1], L. C. Hahn[1], E. Van Dijk[1], P. Scholz[2], M. Breukink[3], E. H. Souied[4], R. E. MacLaren[5], G. Querques[6, 4], S. Fauser[7, 2], S. M. Downes[5], C. C. Hoyng[3], C. Boon[1, 8]*. [1]Leiden University Medical Center; [2]Ophthalmology, University Hospital of Cologne; [3]Ophthalmology, Radboud University Medical Center; [4]Centre Hospitalier Intercommunal de Creteil University Paris Est Creteil; [5]John Radcliffe Hospital, West Wing, Oxford; [6]IRCCS Ospedale San Raffaele, Vita-Salute University; [7]F. Hoffmann-La Roche, Basel; [8]Amsterdam UMC, University of Amsterdam ↗

1156 — *A0170* **Four-year results of a Treat-and-Extend Therapy Using Aflibercept for Neovascular Age-related Macular Degeneration.** *Shigeo Yoshida, Y. Umeno, R. Noda, K. Ishibashi, S. Dake, M. Haruta*. Ophthalmology, Kurume University

1157 — *A0171* **Checkup Mobile App to Monitor Visual Function in Diabetic Retinopathy and Age-related Macular Degeneration: The CLEAR Study.** *Arshad M. Khanani[1], R. N. Khurana[5], L. J. Singerman[2, 3], C. Hoang[4]*. [1]Sierra Eye Associates; [2]Retina Associates of Cleveland; [3]Case Western Reserve University School of Medicine; [4]Verana Health / Digisight Technologies; [5]Northern California Retina Vitreous Associates **CR*, ↗

1158 — *A0172* **Early middle-age cholesterol levels and the risk of age-related maculopathy.** *Fabian Kananen[1, 2], T. Strandberg[3, 4], S. Loukovaara[5, 4], P. Karesvuo[5], I. J. Immonen[5, 4]*. [1]Ophthalmology, Örebro University Hospital; [2]Helsinki University; [3]Geriatrics, Helsinki University Central Hospital; [4]Helsinki University; [5]Ophthalmology, Helsinki University Central Hospital

1159 — *A0173* **Quantitative optical coherence tomography angiography features of choroidal neovascularizations in age related macular degeneration.** *Rita Serra[1, 2], F. Coscas[3], D. Cabral[4], G. Coscas[3], E. H. Souied[3]*. [1]Università di Cagliari; [2]Università di Sassari; [3]Department of Ophthalmology, Centre Hospitalier Intercommunal de Creteil University Paris Est Creteil, Creteil, France; [4]Instituto de Oftalmologia Dr. Gama Pinto, Lisboa, Portugal

1160 — *A0174* **Change of baseline visual acuity in eyes with age-related macular degeneration from 2006-2015.** *Tomoko Sawada[1], T. Yasukawa[2], H. Imaizumi[3], H. Mastubara[4], K. Kimura[5], H. Terasaki[6], H. Ishikawa[7], T. Murakami[8], M. Takeuchi[9], Y. Mitamura[10], M. Yamashita[14], Y. Takamura[13], T. Murata[11], J. Kogo[12], T. Sakamoto[6], M. Ohji[1]*. [1]Ophthalmology, Shiga University of Medical Science; [2]Ophthalmology, Nagoya City University; [3]Ophthalmology, Sapporo City General Hospital; [4]Ophthalmology, Mie University; [5]Ophthalmology, Yamaguchi University; [6]Ophthalmology, Kagoshima University; [7]Ophthalmology, Hyogo College of Medicine; [8]Ophthalmology, University of Tsukuba; [9]Ophthalmology, National Defense Medical College; [10]Ophthalmology, Tokushima University; [11]Ophthalmology, Shinshu University; [12]Ophthalmology, St. Marianna University School of Medicine; [13]Ophthalmology, University of Fukui; [14]Nara Medical University **CR*, ↗

1161 — *A0175* **Subthreshold Laser Treatment for Drusenoid Pigment Epithelial Detachment in Intermediate AMD, a 12-month interim analysis.** *Min Seok Kim[1], N. Ryoo[2], J. Park[1], K. Park[1]*. [1]Department of Ophthalmology, Seoul National University Bundang Hospital; [2]Department of Ophthalmology, Veterans Health Service Medical Center ↗

1162 — *A0176* ***A Retrospective Study of Real World Data for stable wet AMD treatment with aflibercept.*** *Maria K. Gemenetzi[1, 2], P. Patel[1, 3], S. Anand[1], M. Lukic[1], S. Degli Esposti[1], P. A. Keane[1], E. Preston[1], R. Hamilton[1]*. [1]Moorfields Eye Hospital NHS Foundation Trust; [2]NIHR Biomedical Research Centre at Moorfields Eye Hospital, Moorfields Eye Hospital; [3]University College London **CR*

1163 — *A0177* **Age-related Macular Degeneration: a generalised retinal disorder *A prospective study of retinal function using full-field electroretinography*.** *Thomas Forshaw[1, 2], S. Andreasson[3], T. L. Sørensen[1, 2]*. [1]Ophthalmology, Zealand University Hospital; [2]Faculty of Health and Medical Sciences, University of Copenhagen; [3]Ophthalmology, Lund University ↗

1164 — *A0178* **Associations between Perifoveal Drusen Burden and Genetic Risk in Eyes with Early or Intermediate Age-Related Macular Degeneration.** *Rafael Widjajahakim[1], J. Dossett[2], B. Rosner[3], J. M. Seddon[1]*. [1]Ophthalmology and Visual Sciences, Macular Degeneration Center of Excellence, University of Massachusetts Medical School; [2]Tufts University School of Medicine; [3]Channing Division of Network Medicine, Harvard Medical School **CR*

1165 — *A0179* **Associations between Macular OCT findings and Peripheral Changes in AMD.** *Cindy Ung[1], I. Lains[1], R. L. Woods[2, 1], D. Park[4], R. Mukai[3], R. Silverman[1], P. Oellers[5], I. K. Kim[1], D. Vavvas[1], J. W. Miller[1], J. B. Miller[1], D. Husain[1]*. [1]Massachusetts Eye and Ear; [2]Schepens Eye Research Institute; [3]Gunma University Graduate School of Medicine; [4]Kyungpook National University; [5]SUNY Upstate Medical University **CR*

1166 — *A0180* **Changes of OCTA Findings after Treatment in Polypoidal Choroidal Vasculopathy.** *Seung-Young Yu, K. Kim, E. Kim***.** Ophthalmology, Kyung Hee University

1167 — *A0181* **Light sensitivity within areas of geographic atrophy secondary to age-related macular degeneration.** *Steffen Schmitz-Valckenberg[1, 5], M. Fleckenstein[1, 5], L. A. von der Emde[1], C. Dysli[1, 4], S. Thiele[1, 5], P. T. Möller[1, 5], M. Lindner[3, 1], J. Nadal[2], M. Schmid[2], F. G. Holz[1, 5], M. Pfau[1, 5]*. [1]Ophthalmology, University of Bonn; [2]Institute for Medical Biometry, Informatics and Epidemiology, Medical Faculty, University of Bonn; [3]Nuffield Department of Clinical Neurosciences, The Nuffield Laboratory of Ophthalmology, Sleep and Circadian Neuroscience Institute, University of Oxford; [4]Department of Ophthalmology and Department of Clinical Research, Inselspital, Bern University Hospital and University of Bern; [5]GRADE Reading Center **CR*

1168 — *A0182* **How to set up a successful multicentre randomised controlled trial in the field of neovascular age – related macular degeneration treatment? Lessons from the *MATE pilot study*.** *Archana Airody[1, 9], J. Seymour[2, 9], T. Dorey[1], S. Tom[1], M. Aleksandra[1], K. Balaskas[3], R. Mukherjee[4], E. Theo[5], L. Downey[6], S. Mahmood[3], S. Dhar-munshi[7], A. Morland[8, 9], H. Baseler[8, 9], R. P. Gale[1, 8]*. [1]Ophthalmology, York Teaching Hospitals NHS Foundation Trust; [2]Reader in Sociology, University of Hull; [3]Ophthalmology, Mancester Royal Infirmary; [4]Ophthalmology, St James's University Hospital; [5]Ophthalmology, University Hospitals of Leicester NHS trust; [6]Ophthalmology, Hull Royal Infirmary; [7]Ophthalmology, Kings Mill Hospital; [8]University of York; [9]Hull York Medical School **CR*,↗

1169 — *A0183* **Comparable Growth Rates of Bilateral Geographic Atrophy due to Age-related Macular Degeneration.** *Jeong W. Pak, A. Domalpally, K. McDaniel, B. A. Blodi*. Ophthalmology and Visual Sciences, University of Wisconsin - Madison

1170 — *A0184* **Validation of the use of a circulating biomarker of retinal omega-3 polyunsaturated fatty acids in supplementation conditions: the BLISAR project.** *Lionel Bretillon[1], B. M. Merle[2], L. Martine[1], S. Gregoire[1], S. Ajana[2], O. Berdeaux[1], A. M. Bron[1, 3], C. Creuzot-Garcher[1, 3], J. Korobelnik[2, 4], N. Acar[1], C. DelCourt[2]*. [1]UMR CSGA – Eye and Nutrition Research Group, INRA; [2]Inserm U1219- Bordeaux Population Health Research Center, University of Bordeaux; [3]Department of Ophthalmology, University Hospital; [4]Department of Ophthalmology, University Hospital **CR*, ↗

1171 — *A0185* **Investigating the Effect of Visual Field Eccentricity on Spatial Summation in Mesopic Microperimetry.** *Aoife M. Hunter[1], R. Anderson[1, 3], T. Redmond[2], D. F. Garway-Heath[3], M. Crossland[3], P. J. Mulholland[1, 3]*. [1]Optometry and Vision Science Research Group, School of Biomedical Sciences, Ulster University; [2]School of Optometry and Vision Sciences, Cardiff University; [3]National Institute of Health Research (NIHR) Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology **CR*

1172 — *A0186* **Switching wet AMD patients from PRN to TREX regimen in a tertiary real world setting.** *Miltiadis K. Tsilimbaris, S. Mplazaki, L. Ioannidi, A. Giarmoukakis*. Ophthalmology, University of Crete Medical School **CR*

1173 — *A0187* **Charles Bonnet Syndrome in Participants of the Age-Related Eye Disease Study 2 (AREDS2) 10-year Follow-on.** *Elvira Agron[1], E. Y. Chew[1], T. D. Keenan[1], T. E. Clemons[2]*. [1]National Eye Institute; [2]EMMES Corporation

1174 — *A0188* **Visit Adherence and Visual Acuity in Exudative Age-Related Macular Degeneration.** *Meera S. Ramakrishnan, B. L. VanderBeek*. Scheie Eye Institute

1175 — *A0189* **Visual function improvement of Human Fetal Retinal Pigment Epithelium Transplantation in Age-related Macular Degeneration Patients.** *Songtao Yuan, H. Shen, W. Fan*. Ophthalmology, The first affiliated hospital of Nanjing Medical University ↗

1176 — *A0190* **Comparison of visual outcome between intravitreal gas injection with t-PA and intravitreal anti-VEGF injection as an initial treatment for submacular hemorrhage associated with ARMD.** *Kiyup Nam[1, 2], J. Kim[3], S. Lee[2], Y. Shin[4], J. Lim[5]*. [1]Ophthalmology, Gyeongsang National University; [2]Ophthalmology, Kosin University, College of medicine; [3]Ophthalmology, Chungnam National University, College of medicine; [4]Ophthalmology, Chungnam National University Hospital; [5]Ophthalmology, Kosin University Hospital

West Exhibition Hall A0191-A0231

Sunday, April 28, 2019 3:00 PM-4:45 PM

Retina

165 AMD clinical research II

Moderators: Rosa Dolz-Marco and Sebastian M. Waldstein

1177 — *A0191* **The associations between the original randomized allocations and neovascular lesion morphology with low luminance acuity at the extended follow up visit in the IVAN clinical trial.** *Alexander Foss[1], B. Reeves[2], R. N. Evans[2], U. Chakravarthy[3]*. [1]Ophthalmology, Nottingham University Hospital Trust; [2]University of Bristol; [3]Queens University of Belfast **CR*, ↗

1178 — *A0192* **Determinants of reading performance in geographic atrophy secondary to age-related macular degeneration.** *Sandrine Künzel[1], M. Pfau[1, 2], M. Lindner[1, 3], J. Czauderna[1], P. T. Möller[1, 2], L. A. von der Emde[1], J. Nadal[4], M. Schmid[4], S. Schmitz-Valckenberg[1, 2], F. G. Holz[1, 2], M. Fleckenstein[1, 2]*. [1]Department of Ophthalmology, University of Bonn; [2]GRADE Reading Center; [3]Nuffield Department of Clinical Neurosciences, University of Oxford; [4]Institute for Medical Biometry, Informatics and Epidemiology, University of Bonn **CR*

1179 — *A0193* **AI-based prediction of cone- and rod-function based on retinal microstructure in geographic atrophy secondary to age-related macular degeneration.** *Maximilian Pfau[1], L. A. von der Emde[1], C. Dysli[1], P. T. Möller[1], S. Thiele[1], M. Lindner[2], M. Schmid[3], S. Schmitz-Valckenberg[1], F. G. Holz[1], M. Fleckenstein[1]*. [1]Department of Ophthalmology, University of Bonn; [2]Nuffield Department of Clinical Neurosciences, University of Oxford; [3]Institute of Medical Biometry, Medical Informatics, and Epidemiology, University of Bonn **CR*, ↗

1180 — *A0194* **Remodeling of macular vortex veins in pachychoroid neovasculopathy.** *Hidetaka Matsumoto, S. Kishi, R. Mukai, H. Akiyama*. Ophthalmology, Gunma University, School of Medicine

1181 — *A0195* **The Relationship Between Cilio-retinal Arteries and Advanced Age-related Macular Degeneration in the Comparison of Age-related Macular Degeneration Treatments Trials (CATT).** *Clay Bavinger, G. Ying, E. Daniel, M. G. Maguire*. Ophthalmology, Scheie Eye Institute **CR*, ↗

1182 — *A0196* **Macular thinning occurs in Non-Advanced Age-related Macular Degeneration (AMD) and varies with AMD Stage and Subretinal Drusenoid Deposit (SDD) Presence.** *TsunKang "Trent" Chiang[2, 1], T. D. Keenan[3], J. Liao[4], B. Klein[5], E. Y. Chew[3], C. A. Cukras[6], W. T. Wong[7]*. [1]Case Western Reserve University School of Medicine; [2]National Institutes of Health; [3]Division of Epidemiology and Clinical Applications, National Eye Institue; [4]Pennsylvania State University College of Medicine; [5]Georgetown University School of Medicine; [6]National Eye Institute, National Institutes of Health; [7]National Eye Institute, Unit on Neuron-Glia Interactions

1183 — *A0197* **Visual Acuity measured by numerized ETDRS charts adapted to intermediate vision (on computer) or to near vision (on electronic tablet), in Exudative AMD Patients; a randomized study comparing numerical tools to conventional VA measurement by 4 meter-ETDRS chart (ATO study).** *Frederic Queguiner*. Ophthalmology, Hopital Saint Joseph Marseille ↗

1184 — *A0198* **The effect of illumination on mobility performance in patients with Age-related Macular Degeneration: A pilot study.** *Hannah Dunbar[1, 2], A. Zenouda[4], S. Mohand-Saïd[3], J. A. Sahel[4, 3], G. S. Rubin[1, 2]*. [1]Visual Neuroscience, UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital NHS Foundation Trust; [3]INSERM-DHOS CIC 1423, CHNO des Quinze-Vingts; [4]Streetlab SAS, Institut de la Vision ↗

1185 — *A0199* **Subretinal Hyperreflective Material within Regions of Atrophy in Treated Eyes with Neovascular Age-Related Macular Degeneration.** *Sophiana Lindenberg[1, 2], M. E. Fitzgerald[2], M. G. Nittala[1], A. Verma[1], S. R. Sadda[1, 3]*. [1]DIRRL, Doheny Eye Institute; [2]School of Sciences, Christian Brothers Unversity; [3]Ophthamology, University of California, Los Angeles **CR*

1186 — *A0200* **Impact of segmentation density on Spectral Domain Optical Coherence Tomography (SD-OCT) assessments in Geographic Atrophy.** *Ayesha Karamat[1], M. G. Nittala[1], S. Srinivas[1], s. velaga[1], Z. Hu[1], M. S. Ip[1, 2], S. R. Sadda[1, 2]*. [1]Doheny Eye Institute; [2]Ophthamology, University of California, Los Angeles **CR*

1187 — *A0201* **Metabolomics reveals changes in fatty acid metabolism in age-related macular degeneration patients.** *Milam A. Brantley[1], K. Uppal[2], C. Ma[2], A. Agarwal[1], M. A. Pericak-Vance[3], W. K. Scott[3], J. L. Haines[4], D. Jones[2], S. L. Mitchell[1].* [1]Ophthalmology & Visual Sciences, Vanderbilt University Medical Center; [2]Medicine, Emory University Medical Center; [3]John P. Hussman Institute for Human Genomics, University of Miami Miller School of Medicine; [4]Population and Quantitative Health Sciences, Case Western Reserve University

1188 — *A0202* **Characteristics of Reticular Pseudodrusen in the AREDS2.** *Meghana Agni[1], J. W. Pak[1], A. Domalpally[1], E. Y. Chew[2].* [1]Fundus Photograph Reading Center, Deptartment of Ophthalmology and Visual Sciences, University of Wisconsin-Madison; [2]Clinical Trials Branch, Division of Epidemiology and Clinical Applications, National Eye Institute/National Institutes

1189 — *A0203* **Change in subfoveal choroidal thickness in subjects with outer retinal tubulation secondary to late, non-exudative age related macular degeneration.** *Vanessa Lizarraga[1], A. H. Hariri[1], M. G. Nittala[1], s. velaga[1], J. Lei[1], S. R. Sadda[1, 2], M. S. Ip[1, 2].* [1]Doheny Eye Institute; [2]Ophthamology, University of California, Los Angeles **CR*

1190 — *A0204* **Progression of Outer Retinal Tubulation Volume in Eyes with Geographic Atrophy due to Age-related Macular Degeneration.** *Chris Okonkwo[1], A. H. Hariri[1], M. G. Nittala[1], s. velaga[1], J. Lei[1], S. R. Sadda[1, 2], M. S. Ip[1, 2].* [1]Doheny Eye Institute; [2]Ophthamology, University of California, Los Angeles **CR*

1191 — *A0205* **Deep phenotyping of intermediate age-related macular degeneration (AMD) using rod function tests.** *Manjot K. Grewal[1, 2], A. C. Bird[1, 2], G. Jeffery[1], S. Sivaprasad[1, 2].* [1]Institute of Ophthalmology, University College London; [2]Moorfields Eye Hospital NHS Foundation Trust **CR*

1192 — *A0206* **Long term outcomes of anti-vascular endothelial growth factor therapy in neovascular age related macular degeneration.** *Muhammad R. Cheema, J. Dacosta, D. Bhatia, J. S. Talks***.** Ophthalmology, Royal Victoria Infirmary, UK **CR*

1193 — *A0207* **Optical coherence tomography angiography biomarkers of neovascular activity in age-related macular degeneration using a "Treat-Extend-Stop" protocol.** *Jong Min Kim[1, 3], K. Bae[1, 2], H. Kim[1], Y. Shin[1], S. Kang[1].* [1]Ophthalmology, Samsung Medical Center; [2]Ophthalmology, Dongguk University Ilsan Hospital; [3]Moon's eye hospital

1194 — *A0208* **Genetic factors associated with reticular pseudodrusen in participants of the Age-Related Eye Disease Study 2 (AREDS2).** *Christopher Hwang[1], E. Agron[1], T. E. Clemons[2], T. D. Keenan[1], C. A. Cukras[1], W. T. Wong[1], E. Y. Chew[1].* [1]National Eye Institute; [2]The Emmes Corporation

1195 — *A0209* **The Progression Rate of Geographic Atrophy Varies across Topographic Locations - A Meta-analysis.** *Sumun Khetpal, L. L. Shen, L. V. Del Priore***.** Yale University School of Medicine

1196 — *A0210* **Macular Pigment in Early and Intermediate AMD Patients Compared to Age-Matched Normal Controls.** *Rima Khankan, W. H. Ridder***.** Basic and Visual Science, SCCO, MBKU

1197 — *A0211* **Outcomes of Eyes Lost to Follow-Up with Neovascular Age Related Macular Degeneration Receiving Intravitreal Anti-VEGF.** *Rebecca R. Soares[1], P. L. Mellen[1], H. Garrigan[2], A. Obeid[1], T. D. Wibbelsman[1], D. S. Borkar[1], A. C. Ho[1], J. Hsu[1].* [1]Wills Eye Hospital; [2]Sidney Kimmel Medical College, Thomas Jefferson University

1198 — *A0212* **Visual Outcomes Following Cataract Surgery in Neovascular Age-Related Macular Degeneration Patients In Routine Clinical Practice.** *Andrew X. Chen[1], A. Haueisen[1], C. Rasendran[1], G. Hom[2], T. Conti[2], F. Conti[2], K. E. Talcott[2], R. P. Singh[2].* [1]Case Western Reserve University School of Medicine; [2]Cole Eye Institute, Cleveland Clinic Foundation **CR*

1199 — *A0213* **Systemic capillary abnormalities in age-related macular degeneration.** *Nicholas M. Pfahler[1], I. Bielskus[1], M. Giovingo[2], L. Pasquale[3], N. J. Volpe[4], P. A. Knepper[1, 4].* [1]Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]Ophthalmology, John H. Stroger, Jr. Hospital of Cook County; [3]Ophthalmology, Icahn School of Medicine at Mount Sinai; [4]Ophthalmology, Northwestern University Feinberg School of Medicine

1200 — *A0214* **Long-term visual outcomes for a treat-&-extend anti-vascular endothelial growth factor regimen in eyes with neovascular age-related macular degeneration: Up to eight-year follow-up.** *Simon Javidi[1], A. Dirani[1, 2], F. Antaki[1], M. Saab[1], G. Cordahi[1].* [1]Ophthalmology, Université de Montréal; [2]Ophthalmology, Université Laval **CR*

1201 — *A0215* **Long-term compliance to weekly home-monitoring of vision with a tablet perimeter in patients with age-related macular degeneration.** *Selwyn M. Prea[1], Y. Kong[3], P. Sharangan[2], E. K. Baglin[2], A. J. Vingrys[1], R. H. Guymer[2, 4].* [1]Optometry and Vision Sciences, The University of Melbourne; [2]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [3]Royal Victorian Eye and Ear Hospital; [4]Ophthalmology, Department of Surgery, The University of Melbourne **CR*

1202 — *A0216* **Longitudinal AI-based assessment of the association between retinal microstructure with rod and cone function in exudative age related macular degeneration.** *Leon A. von der Emde[1], M. Pfau[1], C. Dysli[2, 1], S. Thiele[1], S. Künzel[1], P. T. Möller[1], M. Schmid[3], M. Fleckenstein[1], F. G. Holz[1], S. Schmitz-Valckenberg[1].* [1]Universitats-Augenklinik Bonn; [2]Department of Ophthalmology and Department of Clinical Research, Inselspital, University Hospital and University of Bern; [3]Institute for Medical Biometry, Informatics and Epidemiology, Faculty of Medicine, University of Bonn **CR*

1203 — *A0217* **An individually matched virtual ranibizumab treatment arm in neovascular age-related macular degeneration.** *cheikh diack, N. A. Mazer, D. Schwab***.** Clinical Pharmacology, F.Hoffman La-Roche **CR*

1204 — *A0218* **Retinal Sensitivity in non-exudative Age-Related Macular Degeneration: Longitidunal analyses using validated automated algorithms.** *Magdalena Baratsits[1, 2], F. G. Schlanitz[1, 2], S. Sacu[1, 2], H. Bogunovic[1], L. Wassermann[1, 2], F. Datlinger[1, 2], U. Schmidt-Erfurth[1].* [1]Department of Ophthalmology, Medical University of Vienna; [2]Vienna Clinical Trial Center

1205 — *A0219* **Active Learning of Contrast Sensitivity Function to Assess Visual Outcomes in Age-related macular degeneration.** *Ying Cui[1, 2], R. Silverman[1, 3], M. A. Kasetty[1, 3], J. Cho[4], L. A. Lesmes[5], I. Lains[1], R. Katz[1], D. Vavvas[1], D. Husain[1], J. W. Miller[1], J. B. Miller[1].* [1]Retina Service, Department of Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School; [2]Department of Ophthalmology, Guangdong Eye Institute, Guangdong General Hospital, Guangdong Academy of Medical Sciences; [3]Tufts Medical School; [4]Northeastern University; [5]Adaptive Sensory Technology **CR*

1206 — *A0220* **Color sensitivity in Early Age-related Macular Degeneration.** *John D. Rodriguez[1], D. Narayanan[1], M. J. Chapin[1], D. Welch[1], G. Wallstrom[2], M. B. Abelson[1].* [1]Ora, Inc.; [2]SDC, Inc. **CR*

1207 — *A0221* **Low luminance Tablet Reading Test in Early Dry Age-Related Macular Degeneration.** *Divya Narayanan[1], J. D. Rodriguez[1], G. Wallstrom[2], D. Welch[1], M. J. Chapin[1], M. B. Abelson[1].* [1]Ora, Inc; [2]Statistics and Data Corporation **CR*

1208 — *A0222* **Scotopic shape discrimination in AMD patients and healthy volunteers.** *Oliver J. Flynn[2], C. A. Cukras[1], L. Huryn[2], B. Jeffrey[2].* [1]Division of Epidemiology and Clinical Applications, National Eye Institute; [2]Ophthalmic Genetics & Visual Function Branch, National Eye Institute

1209 — *A0223* **CNV lesion OCT segmentation in a clinical trial of wet AMD.** *Ronald P. Danis[2, 1], Y. Huang[2], C. Konieczko[2], J. Anderson[2], l. garlie[2], D. Bingaman[3], K. Curtiss[3], P. Chaney[3], M. Wax[3].* [1]Univ of Wisconsin-Madison; [2]EyeKor, Inc.; [3]PanOptica, Inc. **CR*, ↗

1210 — *A0224* **Magnitude of clinically-meaningful effect size and preferences on treatment characteristics in the management of geographic atrophy (GA).** *Zach Strecker[1], K. Kuo[1, 2], G. DeBartolomeo[1], J. T. Zaremba[1], L. Saad[1].* [1]Alkeus Pharmaceuticals; [2]Tufts University **CR*

1211 — *A0225* **Variable Contrast Flicker Tests in Early Dry Age-Related Macular Degeneration.** *Matt J. Chapin[1], D. Narayanan[1], J. D. Rodriguez[1], G. Wallstrom[2], D. Welch[1], M. B. Abelson[1].* [1]ORA; [2]Statistics & Data Corporation **CR*

1212 — *A0226* **Efficacy and safety of faricimab every 16 or 12 weeks for neovascular age-related macular degeneration: STAIRWAY phase 2 results.** *Carl Danzig[1], C. Quezada[2], K. Basu[2], S. Grzeschik[2], J. Sahni[3], D. Silverman[4], A. Osborne[2].* [1]Rand Eye Institute; [2]Genentech, Inc.; [3]Roche Pharma Research and Early Development, Roche Innovation Center; [4]Roche Products Limited **CR*, ↗

1213 — *A0227* **Macular drusen size and location: The metrics of macular drusen response to curcumin.** *Indre Bielskus[1], L. Dasso[1], N. M. Pfahler[1], C. Brom[1], S. Aman[2], Z. Zaparackas[2], N. J. Volpe[2], P. A. Knepper[1, 2].* [1]Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]Ophthalmology, Northwestern University Feinberg School of Medicine

1214 — *A0228* **Long-term clinical management of neovascular AMD and visual acuity outcome in IVAN trial participants.** *Barney Reeves[1], R. Evans[1], S. P. Harding[3], A. Lotery[2], U. Chakravarthy[4].* [1]Bristol Medical School, University of Bristol; [2]Department of Ophthalmology, University Hospital Southampton; [3]Department of Eye and Vision Science, University of Liverpool; [4]Institute of Clinical Science, The Queen's University of Belfast, Belfast **CR*, ↗

1215 — *A0229* **Evaluation of retinal vascularization in diabetic retinopathy before and after panretinal photocoagulation using optical coherence tomography angiography.** *Guillaume Le Guern, J. Marie Louise, C. Mardoche, V. Mané, V. Krivosic, E. Philippakis, A. Gaudric, A. Couturier, B. Dupas, A. Erginay, R. Tadayoni***.** Hopital Lariboisiere, Paris, France

1216 — *A0230* **Color Vision Outcome Measured as a Functional Endpoint for Patients with Early and Intermediate Dry Age-Related Macular Degeneration.** *Caroline Frambach[1], J. Doan[2], C. Yuh[3], K. White[1], Y. Chen[1], C. Kenney[1], K. Jameson[1], A. Browne[1].* [1]School of Medicine, University of California Irvine; [2]School of Medicine, University of Wisconsin; [3]Western University

1217 — *A0231* **Characteristics of initial development of Exudative Age-Related Macular Degeneration in elderly population (over 85 years of age).** *Na-Kyung Ryoo, T. Kang, P. Lee***.** Ophthalmology, Veterans Health Service Medical Center

West Exhibition Hall A0321-A0350

Sunday, April 28, 2019 3:00 PM-4:45 PM

Retinal Cell Biology

166 AMD Pathogenic Mechanisms

Moderators: Robert F. Mullins and Baerbel Rohrer

1218 — *A0321* **The immunohistochemical identification and localization of homocysteine in the human retina with the features of retinal neurodegenerative diseases.** *Malgorzata Ozimek[1, 2], A. G. Juenemann[3, 1], T. Choragiewicz[1], R. Rejdak[1].* [1]Department of General Ophthalmology, Medical Univerity of Lublin; [2]Ophthalmology, Eye Surgery Center Professor Zagorski; [3]Ophthalomology, Medical University of Rostock

1219 — *A0322* **Histochemical Characterization of Drusen Related Pathology in Age Related Macular Degeneration.** *Praveena Gupta[1], V. Reffatto[1], d. Amaro[1], E. Kraft[1], M. Afrouzian[2].* [1]Ophthalmology and Visual Sciences, UTMB; [2]University of Texas Medical Branch

1220 — *A0323* **Elucidating the role of photoreceptors in AMD pathogenesis.** *Shun-Yun Cheng[1], J. Cipi[1], M. Agbaga[2], S. Ma[3], C. Punzo[1].* [1]Ophthalmology, University of Massachusetts Medical School; [2]phthalmology, Cell Biology & OCNS, Univ. of Oklahoma Health Sciences Center; [3]New England College of Optometry

1221 — *A0324* **The Neurotoxic Phenotype of Macrophages from Patients with Age-Related Macular Degeneration (AMD).** *Itay Chowers, S. Hayoun, B. Rinsky, S. Hagbi-Levi, M. Grunin***.** Ophthalmology, Hadassah-Hebrew Univ Medical Ctr

1222 — *A0325* **C-reactive protein potentiates platelet activation.** *Lily Dasso[1], N. M. Pfahler[1], I. Bielskus[1], M. Giovingo[2], P. A. Knepper[1, 3].* [1]Ophthalmology, University of Illinois at Chicago; [2]Ophthalmology, John H. Stroger, Jr. Hospital of Cook County; [3]Ophthalmology, Northwestern University Feinberg School of Medicine

1223 — *A0326* **Decreased ATP production and mitochondrial respiration activity in induced pluripotent stem cell (iPSC)-derived Retinal Pigment Epithelial (RPE) cells from Age-Related Macular degeneration (AMD) patients.** *Jie Gong, H. Cai, M. A. Fields, L. V. Del Priore***.** Ophthalmology, Yale University

1224 — *A0327* **iPSC-RPE cells derived from atrophic age-related macular degeneration patients have a typical disease phenotype.** *Audrey Voisin[1, 2], A. Plancheron[3, 4], C. Monville[3, 5], A. Balbous[1, 2], A. Gaillard[1, 6], N. Leveziel[1, 2].* [1]INSERM U1084 LNEC; [2]University hospital of Poitiers; [3]INSERM UMR861; [4]CECS/I-Stem; [5]UEVE-ParisSaclay UMR861; [6]University of Poitiers

1225 — *A0328* **Altered Focal-adhesion Pathway Gene Expression Pattern in iPSC-derived RPE Cells derived from AMD Patients.** *Huey Cai, J. Gong, L. V. Del Priore, M. A. Fields***.** Ophthalmology, Yale School of Medicine

1226 — *A0329* **Maturation status influences the ability of polarized hESC-RPE to tolerate cellular stress.** *Tanja Ilmarinen[1], T. Viheriala[1], H. Hongisto[2, 1], T. Ihalainen[1], S. Nymark[1], H. Skottman[1].* [1]Faculty of Medicine and Health Technology, Tampere University; [2]Department of Ophthalmology, University of Eastern Finland

1227 — *A0330* **Dysregulation of MMP2/MMP9 activity by both local (RPE, vasculature) and systemic (serum) factors promotes macular-degeneration-relevant pathological changes in iPSC-derived model(s) of the disease.** *Kannan V. Manian, S. Dalvi, C. A. Galloway, L. Winschel, A. Jain, C. Soto, R. Singh***.** Opthalmology, University of Rochester Medical Center

1228 — *A0331* **Abnormal activation of mTORC1 in retinal pigment epithelium (RPE) causes atrophic AMD-like pathology.** *Chen Zhao[1, 2], J. Huang[1, 2], D. Vollrath[3].* [1]Ophthalmology, Nanjing Med Univ 1st Affiliated Hosp; [2]Ophthalmology, Eye Institute, Eye & ENT Hospital, Shanghai Medical College, Fudan University; [3]Genetics, Stanford University School of Medicine

1229 — *A0332* **Mice with RPE-specific CLIC4 deficiency exhibit AMD-like changes in the retina-RPE-choroid complex.** *Wataru Otsu[1], K. Hsu[1], J. L. Dunaief[2], Y. Li[3], S. H. Tsang[3], J. Chuang[1], C. Sung[1].* [1]Dyson Vision Research Institute, Weill Cornell Medical College; [2]Department of Ophthalmology, University of Pennsylvania; [3]Department of Ophthalmology, Columbia University

1230 — *A0333* **A Zebrafish Model for AMD Pathogenesis and Treatment.** *D Joshua Cameron***.** Optometry, Western Univ of Hlth Sciences

1231 — *A0334* **Tryptase release after degranulation of Mast Cells in a Model for Geographic Atrophy.** *Rajkumar Baldeosingh, S. Ogura, S. P. Kambhampati, M. M. Edwards, G. A. Lutty***.** Johns Hopkins University

1232 — *A0335* **PAD4: A Potential Target for Gliosis in Age Related Macular Degeneration.** *Sarah I. Palko[1, 2], N. Saba[1], M. Rouillard[1], P. Bargagna-Mohan[1], R. Mohan[1].* [1]Neuroscience, University of Connecticut Health Center; [2]Biology, University of Saint Joseph

1233 — *A0336* **Overexpression of HTRA1 in mice compromises the extracellular matrix integrity in Bruch's membrane and choroidal/ retinal vasculature.** *Omar Delgado[1], e. lima[1], N. Buchanan[1], H. Li[1], J. Vrouvlianis[1], B. Leehy[1], C. E. Bigelow[1], J. Yang[1], J. Galarneau[2], E. Meseck[3], C. Hayden[3], S. H. Poor[1], S. Liao[1]*. [1]Ophthalmology, Novartis Institutes for BioMedical Research; [2]DIS Discov & Invest Pathology, Novartis Institutes for BioMedical Research; [3]PCS, Novartis Institutes for BioMedical Research **CR*

1234 — *A0337* **Potential Role of Extracellular Granzyme B in the Pathogenesis of Age-related Macular Degeneration (AMD).** *Joanne A. Matsubara[1], Y. Tian[1], J. Z. Cui[1], S. Cao[1], S. Hiroyasu[2], C. Turner[2], Y. Shen[2], D. J. Granville[2]*. [1]Ophthal & Visual Science, University of British Columbia; [2]ICORD, University British Columbia **CR*

1235 — *A0338* **Retinal dysfunction and visual impairment in aged Aldh1a1 knockout mice.** *So Goto[2, 1], A. Onishi[2], Y. Ohigashi[2], H. Endoh[4], S. Yonemura[4], H. Sakaguchi[3], K. Nishida[1], M. Takahashi[2]*. [1]Ophthalmology, Osaka University Graduate School; [2]Laboratory for Retinal Regeneration, RIKEN Center for Biosystems Dynamics Research; [3]Advanced Device Medicine, Osaka University Graduate School of Medicine; [4]Electron Microscope Laboratory, RIKEN Center for Biosystems Dynamics Research

1236 — *A0339* **Progranulin knockout mice show the outer retinal abnormalities similar to advanced AMD.** *Kei Takahashi, M. Tanaka, S. Nakamura, M. Shimazawa, H. Hara***.** Molecular Pharmacology, Gifu Pharmaceutical University

1237 — *A0340* **Development of a macaque model of dry, nonexudative form age-related macular degeneration with geographic atropy.** *Nobuyuki Takahashi[1], C. Kitazawa[1], T. Natsume[1], W. Sotoyama[1], Y. Itani[1], A. Hama[1], I. Hayashi[1], M. Shimazawa[2], H. Takamatsu[1], H. Hara[2]*. [1]Hamamatsu Pharma Research, Inc.; [2]Gifu Pharmaceutical University **CR*

1238 — *A0341* **Targeting TFEB (transcription factor EB) as a novel approach for AMD therapy.** *Stacey L. Hose[1], S. Ghosh[1], N. A. Stepicheva[1], S. Jabalameli[1], I. A. Bhutto[1], P. Shang[1], M. Yazdankhah[1], J. Weiss[1], G. A. Lutty[2], J. S. Zigler, Jr[2], L. Byrne[1], D. Sinha[1, 2]*. [1]Ophthalmology, University of Pittsburgh; [2]Ophthalmology, The Johns Hopkins University School of Medicine

1239 — *A0342* **The presence of ADAMs in the eye: Exploring a promising therapeutic target for age-related macular degeneration.** *Mackenzie A. Campbell[1], G. S. Sarohia[1], M. Campbell[2], J. Z. Cui[2], J. A. Matsubara[2]*. [1]Faculty of Medicine, University of British Columbia; [2]Ophthalmology and Visual Sciences, University of British Columbia

1240 — *A0343* **Multilamellar bodies: Clues to their role in aging retinal epithelium.** *Peter Gouras[1], K. R. Brown[4], J. A. Mattison[5], M. Neuringer[2], T. Nagasaki[1], L. Ivert[3]*. [1]Ophthalmology, Columbia University; [2]Division of Neuroscience, Oregon National Primate Research Center; [3]Clinical Neuroscience, Karolinska Institutet; [4]Pathology, Columbia University; [5]National Institute on Aging Intramural Research Program

1241 — *A0344* **Complement factor B is necessary for sub-RPE deposit formation in *Efemp1*$^{R345W/R345W}$ knock-in mice.** *Maura Crowley[1], D. Garland[2], R. Fernandez-Godino[2], T. Rejtar[1], N. Buchanan[1], K. Anderson[1], H. Sellner[1], M. Mogi[1], Y. K. Wang[1], B. Jaffee[1], S. H. Poor[1], T. Dryja[1], E. A. Pierce[2], S. Liao[1]*. [1]Novartis Institutes for Biomedical Research; [2]Massachusetts Eye and Ear **CR*

1242 — *A0345* **Complement factor H (CFH) loss leads to a local complement system activation and impaired cell balance in the RPE cells.** *Angela Armento, S. Honisch, A. Jacob, D. Trifunovic, M. Ueffing***.** Department for Ophthalmology, Institute for Ophthalmic Research

1243 — *A0346* **Anaphylatoxin Complement Proteins C3a and C5a Induce AMD Cellular Endophenotypes in iPSC-RPE Through Apically Localized C3aR and C5aR Receptors.** *Malika Nimmagadda[1], F. Ruchi[1], A. George[1], Z. Quershy[1], Q. Wan[1], J. Chang[1], B. S. Jha[1], D. Ortolan[1], M. Lal[1], M. Ferrer[2], J. Amaral[1], D. McGaughey[1], K. Bharti[1]*. [1]National Eye Institute; [2]National Center for Advancing Translational Sciences

1244 — *A0347* **Choroidal Endothelial cells synthesize CFH locally to protect against complement mediated injury.** *Kelly Mulfaul, J. C. Giacalone, K. R. Chirco, S. Zeng, A. E. Songstad, D. Ochoa, J. L. Andorf, H. T. Daggett, E. M. Stone, B. Tucker, R. F. Mullins***.** Department of Ophthalmology & Visual Sciences, University of Iowa, Institute for Vision Research

1245 — *A0348* **Protective Roles of Choroidal γδ T Cells in Chronic Models of RPE Degeneration.** *Jiyang Cai, Y. Chen***.** Ophthalmology, University of Texas Medical Branch

1246 — *A0349* **Modeling lysosomal dysfunction in the retinal pigmented epithelium to study pathogenesis of age-related macular degeneration.** *Miguel Seabra[1, 2], M. Cardoso[1], M. Hall[2], A. Falcão[1], C. Escrevente[1], P. Antas[1], G. V. Santos[1], S. Tenreiro[1], C. E. Futter[2]*. [1]CEDOC, Nova University of Lisbon; [2]UCL Institute of Ophthalmology

1247 — *A0350* **Differential Expression of De-sumoylation Enzymes (SENPs) in Normal Ocular Tissues and Mouse Models for Major Ocular Diseases.** *Jiawen Xiang, D. W. Li***.** Zhongshan Ophthalmic Center, Sun Yat-sen University

West Exhibition Hall A0351-A0366

Sunday, April 28, 2019 3:00 PM-4:45 PM

Retinal Cell Biology

167 From Modeling to Potential Therapies

Moderators: Bela Anand-Apte and Patricia A. D'Amore

1248 — *A0351* **Efficacy of Echinomycin in hypoxia-inducible factor-mediated ocular angiogenesis.** *Flavia Plastino[1], Á. Santana Garrido[1, 2], A. P. Kvanta[1], H. Andre[1], M. Aronsson[1], A. Mate Barrero[2], C. Vázquez Cueto[2]*. [1]Clinical neuroscience , Karolinska Institute; [2]Physiology/ Pharmacy, University of Seville

1249 — *A0352* **Role of the Matrix Metalloproteinase 10 (MMP-10) in Choroidal Neovascularization (CNV).** *Maria Hernandez[1, 2], P. Fernandez[1, 2], S. Recalde[1, 2], J. A. Rodriguez[3, 2], J. Orbe[3, 2], A. Montoliu[1], J. Bezunartea[1, 2], I. Belza[1], E. Rojas de Miguel[4], J. Gonzalez[1], M. Moreno[4, 2], E. Alonso[1, 2], A. Garcia-Layana[1, 2]*. [1]Laboratory of Experimental Ophthalmology, University of Navarra; [2]IdiSNA, Navarra Institute for Health Research; [3]Atherothrombosis Laboratory. Cardiovascular Area, CIMA (Center for Applied Medical Research), Universidad de Navarra; [4]Universidad de Navarra

1250 — *A0353* **Characterization of angiographic features and validation of a chronic wet AMD rabbit model induced by DL-AAA.** *Vatsala Naageshwaran***.** Absorption Systems

1251 — *A0354* **Intravitreal bevacizumab-loaded nanoparticles reduce choroidal neovascularization in laser-induced animal model.** *Patricia Fernandez[1, 2], S. Recalde[1, 2], M. Hernandez[1, 2], J. Bezunartea[1, 2], J. M. Irache[3, 2], I. Luis de Redin[4], I. Belza[1], E. Rojas de Miguel[5], M. Moreno[5, 2], E. Alonso[1, 2], A. Garcia-Layana[1, 2]*. [1]Experimental Ophthalmology Laboratory, Clinica Universidad de Navarra; [2]IdiSNA, Navarra Institute for Health Research; [3]Department of Pharmacy and Pharmaceutical Technology, NANO-VAC Research Group, University of Navarra; [4]Department of Pharmacy and Pharmaceutical Technology, NANO-VAC Research Group, University of Navarra; [5]Laboratory of Experimental Ophthalmology, University of Navarra

1252 — *A0355* **Visualization of mouse choroidal and retinal vasculature using fluorescent tomato lectin perfusion.** *Elliott H. Sohn[1, 2], C. Jiao[1, 2], X. Liu[1, 2], W. Sun[1, 2], R. F. Mullins[1, 2]*. [1]Dept. Ophthalmology, University of Iowa Hospital & Clinics; [2]Institute for Vision Research

Sunday Posters 3:00 pm – 4:45 pm

1253 — *A0356* **Performance of a Novel OCT Segmentation Method for Determining Lesion Volume in the Assessment of a Non-Human Primate Model of Choroidal Neovascularization.** *Seth Eaton[1, 2], Y. Huang[2, 1], R. P. Danis[2, 3], T. Nork[3], C. Rasmussen[1, 3], H. Wabers[1, 2], M. Neider[1, 2], B. J. Christian[4], M. Van Lookeren Campagne[5], C. J. Murphy[1, 6].* [1]Ocular Services On Demand (OSOD), LLC; [2]EyeKor, Inc.; [3]Ophthalmology & Visual Sciences, School of Medicine, University of Wisconsin - Madison; [4]Covance Laboratories; [5]Genentech, Inc.; [6]Surgical & Radiological Sciences, School of Veterinary Medicine, University of California - Davis **CR*

1254 — *A0357* **HIF inhibitor topotecan suppresses choroidal neovascularization and fibroproliferation in mice.** *Chiho Shoda[3, 1], Y. Miwa[3, 2], A. Ishida[3, 2], S. Yamagami[1], K. Tsubota[2], T. Kurihara[3, 2].* [1]Nihon University School of Medicine; [2]Department of Ophthalmology, Keio University School of Medicine; [3]Laboratory of Photobiology, Keio University School of Medicine

1255 — *A0358* **Garcinia extract inhibiting HIF suppresses laser-induced CNV in mice.** *Mari Ibuki[1, 2], C. Shoda[1, 3], Y. Miwa[1, 3], K. Tsubota[2], T. Kurihara[1, 2].* [1]Laboratory of Photobiology, Keio University School of Medicine; [2]Department of Ophthalmology, Keio University School of Medicine; [3]Department of Ophthalmology, Nihon University School of Medicine **CR*

1256 — *A0359* **Quantitation of fibrosis in a rat model of laser-induced CNV.** *Zsolt Ablonczy, C. Schillo, D. A. Hollander, A. Whitlock***.** Ophthalmology, Ora, Inc. **CR*

1257 — *A0360* **Validation Of Laser-Induced Choroidal Neovascularization (CNV) Mouse Model: Participation Of α_2M/LRP1 SYSTEM.** *Pablo F. Barcelona[1], P. Subirada[1], T. N. Saddi[2], M. A. Marquez[2], M. V. Vaglienti[1], M. E. Ridano[1], G. Marquez[2], M. C. Paz[1], J. D. Luna Pinto[2], M. C. Sanchez[1].* [1]Bioquimica Clinica, CIBICI-CONICET, Facultad de Ciencias Quimicas, Universidad Nacional de Cordoba.; [2]Departamento de Vítreo-Retina, Centro Privado de Ojos Romagosa, Fundación VER

1258 — *A0361* **TRPM2 gene deficiency promotes the growth of laser-induced choroidal neovascularization in mice.** *KOSUKE NISHI, H. Iwanishi, Y. Usui, T. Sumioka, M. Miyajima, Y. Okada, S. Saika***.** Ophthalmology, Wakayama Medical University

1259 — *A0362* **mTORC1 and mTORC2 are differentially engaged in the development of laser-induced CNV.** *Tae Kwann Park[1], J. Yang[2], S. Madrakhimov[2], Y. Ohn[1].* [1]Ophthalmology, Soonchunhyang Univ Hospital Bucheon; [2]Biomedical Science, Graduate School Soonchunhyang University

1260 — *A0363* **A Reanalysis of Laser–Induced Choroidal Neovascularization in the Cynomolgus Monkeys.** *Byron Li, L. Jiang, Q. Liao, Z. Li, Z. Yan***.** Joinn Laboratories **CR*

1261 — *A0364* **Estrogen receptors regulate angiogenesis in laser induced choroid neovascularization through Hif-1α/VEGF pathway.** *Jia Li[1], B. Deng[1, 2], X. Lu[1], X. Liang[1], Y. Xu[1].* [1]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmatic Center, Sun Yat-sen University; [2]Department of Physiology, Zhongshan School of Medicine, Sun Yat-sen University.

1262 — *A0365* **Influence of adipose tissue on choroidal neovascularization.** *Roberto Diaz Marin[1, 2], S. Crespo-Garcia[1, 2], F. Fournier[1, 2], V. De Guire[2], P. Sapieha[1, 3].* [1]Biochemistry, Montreal University; [2]Centre de Recherche HMR; [3]Ophthalmology, McGill University

1263 — *A0366* **A two-stage laser induced model of sub-retinal fibrosis.** *Karis Little, M. Llorian-Salvador, M. Chen, H. Xu***.** Queen's University Belfast

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West Exhibition Hall A0509-A0548

Sunday, April 28, 2019 3:00 PM-4:45 PM

Multidisciplinary Ophthalmic Imaging Group

168 OCT - New Biomarkers and Technical Improvements

Moderators: Vivek J. Srinivasan and Xincheng Yao

1264 — *A0509* **Retinal Blood Flow Measurements by Doppler Optical Coherence Tomography Flowmeter Can Reflect Condition of Aortic Stenosis.** *Youngseok Song[1, 2], T. Yoshioka[1], K. Takahashi[1], T. Tani[1], M. Akiba[3], J. Sakai[3], S. Nakamura[3], K. MINAMIDE[3], S. Ishiko[1], Y. Yanagi[1, 2], A. Yoshida[1].* [1]Asahikawa Medical University; [2]Singapore Eye Research Institute; [3]Topcon corporation **CR*

1265 — *A0510* **Real time dynamic imaging of retinal samples with full field OCT.** *Jules Scholler[1], K. Groux[1], J. A. Sahel[3, 2], M. Fink[1], C. Boccara[1], K. Grieve[3].* [1]Institut Langevin, ESPCI; [2]Department of Ophthalmology, University of Pittsburgh School of Medicine; [3]Vision Institute, Quinze Vingts National Ophthalmology Hospital

1266 — *A0511* **Ultra-High Resolution Imaging of Cornea In Non-Human Primates.** *Veluchamy A. Barathi[1, 2], K. Devarajan[3], B. Tan[3], J. Chua[3, 2], R. M. Werkmeister[4], L. Schmetterer[3, 5].* [1]Translational Pre-Clinical Model Platform, Singapore Eye Research Institute; [2]Eye-ACP, Duke-NUS Graduate Medical School; [3]Ocular Imaging, Singapore Eye Research Institute; [4]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [5]Department of Ophthalmology, Lee Kong Chian School of Medicine, Nanyang Technological University

1267 — *A0512* **Automated 2D and 3D assessment of choroidal thickness and vasculature with swept-source OCT.** *Hao Zhou[1], Z. Chu[1], Q. Zhang[1], Y. Dai[3], G. Gregori[2], P. J. Rosenfeld[2], R. K. Wang[1].* [1]University of Washington; [2]Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Shanxi Eye Hospital **CR*

1268 — *A0513* **Robotically Aligned OCT Scanner for Automated Patient Tracking Retinal Imaging.** *Mark Draelos[1], P. Ortiz[1], R. Qian[1], C. Viehland[1], K. Hauser[2], A. N. Kuo[3], J. A. Izatt[1].* [1]Biomedical Engineering, Duke University; [2]Eletrical and Computer Engineering, Duke University; [3]Duke University Medical Center, Ophthalmology **CR*

1269 — *A0514* **Retinal layer volumes and their relationship with white and grey matter volumes. The Rhineland Study.** *Matthias M. Mauschitz[1, 2], J. Kramme[1], V. Lohner[1], F. G. Holz[2], R. P. Finger[2], M. M. Breteler[1, 3].* [1]Population Health Sciences, German Center for Neurodegenerative Diseases (DZNE); [2]Department of Ophthalmology, Faculty of Medicine, University of Bonn; [3]Institute for Medical Biometry, Informatics and Epidemiology, Faculty of Medicine, University of Bonn **CR*

1270 — *A0515* **In-vivo angle independent Doppler flow calculations using synthetic subapertures in a line field OCT system.** *Laurin Ginner[1], A. Wartak[2], M. Salas[1], M. Niederleithner[1], L. Wurster[1], R. A. Leitgeb[1].* [1]Medical University of Vienna, Center of Biomedical Engineering and Physics; [2]Massachusetts General Hospital, Wellmann Center for Photomedicine

1271 — *A0516* **Retinal thickness as biomarker in patients with amyloid proven Alzheimer's disease.** *Frank D. Verbraak[1], J. den Haan[2], A. van de Kreeke[3], F. Barkhof[2], B. van Berckel[2], C. Teunissen[2], P. Scheltens[2], P. Visser[2], F. Bouwman[2].* [1]Ophthalmology, Amsterdam University Medical Center; [2]Neurology, Amsterdam University Medical Center; [3]Ophthalmology, Amsterdam University Medical Center

1272 — *A0517* **Advanced image processing for visible-light OCT oximetry in rodents.** *Brian Soetikno, L. Beckmann, D. Qiao, N. Benson, X. Zhang, X. Shu, I. Rubinoff, R. Kuranov, A. A. Fawzi, H. F. Zhang***.** Northwestern University

1273 — *A0518* **Deformation Analysis of 3D Optic Cup Surface in Healthy and Glaucoma Patients.** *Hidemasa Muta[1], B. Antony[1], K. Halupka[1], S. Sedai[1], H. Ishikawa[2], G. Wollstein[2], J. S. Schuman[2].* [1]IBM Research - Australia; [2]NYU Langone Health, NYU Eye Center **CR*

1274 — *A0519* ***In vivo*** **Wavefront-correctionless Full-field OCT Human Retinal Imaging.** *Peng XIAO[2], P. Mecê[1], V. Mazlin[1], M. Fink[1], C. Boccara[1], J. Yuan[2].* [1]Insititut Langevin; [2]Zhongshan Ophthalmic Center, Sun Yat-Sen Univ.

1275 — *A0520* **Comprehensive multifunctional retinal imager based on simplified polarization-sensitive Jones matrix OCT.** *Yoshiaki Yasuno[1, 2], S. Azuma[1, 2], S. Makita[1, 2], T. Mino[3], T. Yamaguchi[3], M. Miura[4, 2].* [1]Computational Optics Group, Univ. Tsukub, University of Tsukuba; [2]Computational Optics and Ophthalmology Group; [3]Topcon Corporation; [4]Department of Ophthalmology, Tokyo Medical University Ibaraki Medical Center **CR*

1276 — *A0521* **Automated instrument-tracking using deep-learning-based adaptively-sampled spectrally encoded coherence tomography and reflectometry (SECTR).** *Eric Tang, M. El-Haddad, J. D. Malone, Y. Tao***.** Biomedical Engineering, Vanderbilt University **CR*

1277 — *A0522* **B-scan imaging along retinal vessels using OCT with tracking.** *Sylvia Desissaire[1], F. Beer[1], M. Salas[1], F. Schwarzhans[2], M. Sugita[1], B. Baumann[1], G. Fischer[2], C. Vass[3], M. Pircher[1], C. K. Hitzenberger[1].* [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]Institute of Medical Information Management, Medical University of Vienna; [3]Department of Ophthalmology, Medical University of Vienna **CR*

1278 — *A0523* **Automated Diagnosis of Diabetic Retinopathy using Optical Coherence Tomography and Optical Coherence Tomography Angiography.** *Harpal S. Sandhu[1], N. Eladawi[2], A. ElTanboly[2], M. Elmogy[2], o. helmy[3], M. Ghazal[4], R. Keynton[2], S. Schaal[3], A. El-Baz[2].* [1]Ophthalmology and Visual Sciences, University of Louisville School of Medicine; [2]Bioengineering, University of Louisville Speed School of Engineering; [3]Ophthalmology and Visual Sciences, University of Massachusetts; [4]Electrical and Computer Engineering, Abu Dhabi University **CR*

1279 — *A0524* **Resolving fine layers in the mouse retina with visible light OCT.** *Aaron M. Kho[1], T. Zhang[1], S. Lelea[1], V. J. Srinivasan[1, 2].* [1]Biomedical Engineering, University of California, Davis; [2]Ophthalmology and Vision Science, University of California, Davis **CR*

1280 — *A0525* **Vessel Tortuosity Measurement in Epiretinal Membrane in Optical Coherence Tomography Angiography.** *haruka sekiryu[1], S. Nakao[1], T. Hayashi[2], Y. Kaizu[1], I. Wada[1], M. Arima[1], K. Ishikawa[1], N. Higashijima[2], K. Morooka[1], K. Sonoda[1].* [1]Kyushu University; [2]Okayama University **CR*, ↗

1281 — *A0526* **OCT in Unconscious and Systemically Unwell Patients in the Critical Care Unit Using a Mobile OCT Device.** *Nicholas I. Capewell[1], X. Liu[2, 1], A. Kale[2, 1], N. Talbot[1], T. Veenith[1], P. A. Keane[3], S. Mollan[1], R. J. Blanch[1, 2], A. K. Denniston[1, 2].* [1]Queen Elizabeth Hospital Birmingham NHS Foundation Trust; [2]University of Birmingham; [3]Moorfields Eye Hospital **CR*

1282 — *A0527* **Choroidal morphological changes at the posterior segment in central serous chorioretinopathy imaged by ultrawide-field optical coherence tomography.** *Takahiko Izumi[1], I. Maruko[1], R. Hirose[2], T. Kawano[1], M. Sakaihara[2], T. Iida[1].* [1]Tokyo Women's Medical University; [2]Topcon Corporation **CR*

1283 — *A0528* **Compact dual path-dual focus SS-OCT system for whole anterior segment and retinal imaging.** *Ana Rodriguez-Aramendia[1, 2], F. Diaz Douton[2], J. Pujol[2], J. Güell[1], I. Grulkowski[3].* [1]Instituto de Microcirugía Ocular; [2]Center for Sensors, Instruments and Systems Development, CD6, Universitat Politècnica de Catalunya; [3]Faculty of Physics, Nicolaus Copernicus University

1284 — *A0529* **Motion-free, multi-contrast optical coherence tomography by Lissajous scan.** *Shuichi Makita[1], S. Azuma[1], M. Miura[2], T. Yamaguchi[3], T. Mino[3], Y. Yasuno[1].* [1]Computational Optics Group, University of Tsukuba; [2]Ophthalmology, Tokyo Medical University Ibaraki Medical Center; [3]Topcon Corporation **CR*

1285 — *A0530* **Magnetomotive OCT for specific visualization of ocular surface inflammation.** *Jens Horstmann[1, 2], A. Setu[1, 2], H. Schulz-Hildebrandt[4, 5], D. Heß[1, 2], U. Gehlsen[1, 2], U. Oberheide[3], G. Huttmann[4, 5], P. Steven[1, 2].* [1]Department of Ophthalmology, University Hospital Cologne; [2]Cluster of Excellence: Cellular Stress Responses in Aging-associated Diseases (CECAD); [3]Institute of Applied Optics and Electronics, TH Koeln - University of Applied Sciences Cologne; [4]Institute of Biomedical Optics, University of Lübeck; [5]Airway Research Center North (ARCN), German Center for Lung Research (DZL)

1286 — *A0531* **Analysis of vascular changes in Alzheimer's disease and cerebrovascular accident patients via OCT angiography and MRI imaging.** *Sahil G. Shah[1], S. Leeman[1], C. Noone[1], o. helmy[1], B. Silver[2], S. Schaal[1].* [1]Department of Ophthalmology & Visual Sciences, University of Massachusetts Medical School; [2]Department of Neurology, University of Massachusetts Medical School

1287 — *A0532* **Intra- and Inter-Subject Variability of Retinal Oximetry on Healthy Eyes Using Visible-Light OCT.** *Zeinab Ghassabi[1], K. Lucy[1], M. Wu[1, 2], G. Wollstein[1], J. S. Schuman[1], B. Soetinko[4], Y. Wang[3], R. Kuranov[3, 4], H. F. Zhang[4], H. Ishikawa[1].* [1]Ophthalmology, NYU Langone Health, NYU Eye Center, New York, NY; [2]Division of Biostatistics, Departments of Population Health and Environmental Medicine, NYU School of Medicine, New York, NY.; [3]Opticent Inc. Evanston IL 60208; [4]Department of Biomedical Engineering, Northwestern University, Evanston IL 60208 **CR*

1288 — *A0533* **Optical coherence elastography based corneal strain mapping during low-amplitude intraocular pressure modulation.** *Sabine Kling, H. Khodadadi***.** Department of Information Technology and Electrical Engineering, Swiss Federal Institute of Technology

1289 — *A0534* **Repeatability and Reproducibility of Ellipsoid Zone Intensity Measurements on SD-OCT Images.** *Steven Seto[2], A. L. Huckenpahler[1], E. Warr[2], A. E. Salmon[1], J. Carroll[2, 1].* [1]Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin; [2]Ophthalmology & Visual Sciences, Medical College of Wisconsin

1290 — *A0535* **Visual Analytics of OCT data: Utility of deviation maps in describing retinal layer thickness changes.** *Oliver Stachs[1, 2], R. Prakasam[1], D. C. Fischer[3], H. Schumann[4], A. Matuszewska[5], D. Tschöpe[6], H. J. Hettlich[5], M. Röhlig[4].* [1]Department of Ophthalmology, University Rostock; [2]Department Life, Light & Matter, University Rostock; [3]Department of Pediatrics, University Rostock; [4]Institute for Computer Science, University Rostock; [5]Department of Ophthalmology, Ruhr University Bochum, Johannes Wesling Hospital Minden; [6]Diabetes Center at Heart and Diabetes Center NRW, Ruhr University Bochum

1291 — *A0536* **Vitreous body imaging with long-range swept-source optical coherence tomography for detection of opacities.** *Ireneusz Grulkowski[1], A. Rodriguez-Aramendia[2, 3], D. Ruminski[1], S. Manzanera[4], Y. Chen[4], J. Mompeán[4], F. Diaz Douton[3], J. Pujol[3], J. Sebag[5], P. Artal[4].* [1]Institute of Physics, Nicolaus Copernicus University; [2]Instituto de Microcirugía Ocular; [3]Center for Sensors, Instruments and Systems Development (CD6), Universidad Politécnica de Cataluña; [4]Laboratorio de Óptica, Universidad de Murcia; [5]VMR Institute for Vitreous Macula Retina

1292 — *A0537* **DRIL thickness and post-ERM peeling visual acuity.** *Renata J. Moura[1], A. Daré[1, 3], L. C. Castro[1, 2].* [1]HOIP - Hospital Oftalmológico do Interior Paulista; [2]IDECO - Instituto de Diagnóstico Especializado e Cirurgia em Oftalmologia; [3]CRV - Consultores de Retina e Vítreo

1293 — *A0538* **Effects of Systemic Profiles on Choroidal Vascularity Index in Eyes with Advanced Diabetic Retinopathy.** *Jee Taek Kim***.** Ophthalmology, Chung-Ang university hospital

1294 — *A0539* **Light induced water movement in the outer retina investigated by Optical Coherence Tomography.** *Robert J. Zawadzki[2, 1], P. Zhang[2], R. Meleppat[2], S. K. MANNA[2], E. N. Pugh[2, 1].* [1]Ophthalmology & Vision Science, University of California Davis; [2]EyePod Small Animal Ocular Imaging Laboratory, University of California Davis

1295 — *A0540* **Hand-held high-speed whole-eye OCT: Simultaneous SSOCT of the anterior segment and retina using a compact probe.** *Al-Hafeez Dhalla[1, 2], R. P. McNabb[2, 1], P. Ortiz[1], M. Jackson-Atogi[1], G. Waterman[1], J. A. Izatt[1, 2], A. N. Kuo[2, 1].* [1]Biomedical Engineering, Duke University; [2]Ophthalmology, Duke University Health System **CR*

1296 — *A0541* **MHz swept-source optical coherence tomography with a 90 degree field of view.** *Michael Niederleithner[1], M. A. Arain[2], H. Ren[2], R. Williams[2], S. Bello[2], L. Ginner[1], M. Salas[1], J. Straub[2], W. Drexler[1], R. A. Leitgeb[1], T. Schmoll[1, 2].* [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]Carl Zeiss Meditec **CR*

1297 — *A0542* **Enhanced imaging of the outer retina layers using speckle-reduced visible-light optical coherence tomography.** *Roman V. Kuranov[1, 2], I. Rubinoff[1], Y. Wang[2], L. Beckmann[1], X. Zhang[1], A. A. Fawzi[3], H. Ishikawa[4], J. Schuman[4], H. F. Zhang[1].* [1]Biomedical Engineering, Northwestern University; [2]Opticent Health; [3]Ophthalmology, Northwestern University; [4]Ophthalmology, New York University **CR*

1298 — *A0543* **Evaluation of glaucoma diagnosis machine learning models based on color optical coherence tomography and color fundus images.** *Masahiro Akiba[1, 2], G. An[1, 2], H. yokota[2], K. Omodaka[3], K. Hashimoto[3], S. Tsuda[3], Y. Shiga[3], n. takada[3], t. kikawa[1], T. Nakazawa[3].* [1]R&D, Topcon Corporation; [2]Center for Advanced Photonics, RIKEN; [3]Graduate School of Medicine, Tohoku University **CR*

1299 — *A0544* **Imaging the fibrous structure of the ocular sclera with UHR-OCT.** *LE HAN[1], Z. Hosseinaee[1, 2], E. L. Irving[3], D. Hileeto[3], C. Chan[4], K. K. Bizheva[1, 2].* [1]Department of physics and astronomy, University of Waterloo; [2]System Design Engineering, University of Waterloo; [3]School of Optometry and Vision Science, University of Waterloo; [4]Department of Ophthalmology, University of Toronto

1300 — *A0545* **Dual-conjugate SSOCT Whole Eye Biometry System (WEBS).** *R D. Ferguson[1], Y. Lu[1], M. Mujat[1], G. N. Maguluri[1], N. Iftimia[1], J. D. Akula[2], H. De Bruyn[2], A. B. Fulton[2].* [1]Biomedical Optical Technologies, Physical Sciences Inc; [2]Ophthalmology, Boston Children's Hospital, Harvard Medical School **CR*

1301 — *A0546* **Automated Analysis of Anterior Chamber Inflammation by Spectral-Domain Optical Coherence Tomography in Cataract Surgery Patients.** *Sumit Sharma, R. Gans, K. Baynes, E. Fisher, P. K. Kaiser, A. Venkat, C. Lowder, S. K. Srivastava***.** Cleveland Clinic - Cole Eye Institute **CR*, ↗

1302 — *A0547* **Retinal Imaging Findings in PSEN-1-associated Early Onset Familial Alzheimer's Disease before Onset of Cognitive Symptoms.** *Jeayoung Park[2, 1], G. W. Armstrong[2], M. A. Kasety[2], R. Silverman[2], R. Zeng[2], L. A. Kim[2], J. Arboleda-Velasquez[1], Y. T. Quiroz[3], J. B. Miller[2].* [1]Schepens Eye Research Institute; [2]Retina Department, Massachusetts Eye & Ear Infirmary; [3]Psychiatry, Massachusetts General Hospital

1303 — *A0548* ***In vivo* visualization of inner plexiform layer lamination by visible light OCT with spectral shaping.** *Tingwei Zhang[1], J. Garcia[2], V. J. Srinivasan[1, 3].* [1]Biomedical Engineering Department, University of California, Davis; [2]Electrical and Computer Engineering Department, University of California, Davis; [3]Ophthalmology and Vision Science, University of California, Davis **CR*

West Exhibition Hall B0051-B0066

Sunday, April 28, 2019 3:00 PM-4:45 PM

Visual Psychophysics/Physiological Optics

169 Color. Adaptation and Sensitivity

Moderator: Carmen Canovas

1304 — *B0051* **Loss of color and flicker sensitivity in subjects at risk of developing diabetes.** *Marisa Rodriguez-Carmona, Q. Bastaki, J. L. Barbur***.** Centre for Applied Vision Research, City, University of London

1305 — *B0052* **"Dress sense": a twin study of colour perceptions of "the dress".** *Ammar Yusuf***.** King's College London

1306 — *B0053* **Analysis of the residual signals colour deficients can use to pass the D-15 test.** *Benjamin E. Evans, M. Rodriguez-Carmona, J. L. Barbur***.** Centre for Applied Vision Research, School of Health Sciences, City, University of London

1307 — *B0054* **Evaluation of Computerized Color Vision Testing in Ocular Pathologies.** *Katy Tai[1, 2], R. Della Rocca, MD[1], D. Della Rocca, MD[1], H. Reddy, MD[1], J. Chua[1].* [1]Ophthalmology Research, New York Eye and Ear Infirmary of Mount Sinai; [2]Ophthalmology, Icahn School of Medicine

1308 — *B0055* **Evaluation of congenital color vision deficiency using the Rabin cone contrast test.** *Maki Iwasa[2], S. Muraki[2, 1], S. Yamade[2], M. Ohji[2].* [1]Muraki eye clinic; [2]Department of Ophthalmology, Shiga University of Medical Science **CR*

1309 — *B0056* **Evaluation of gene therapy via intravitreal injection for disorders associated with loss of expression or function of L/M cone opsin.** *adam crain, J. A. Kuchenbecker, J. S. Rowlan, J. R. Chao, J. Neitz, M. Neitz***.** University of Washington **CR*

1310 — *B0057* **Examining color discrimination of anomalous trichromats using the Colour Assessment and Diagnosis test and the Rayleigh anomaloscope.** *Rebecca Mastey[1], E. J. Patterson[1], E. Curran[1], J. S. Rowlan[2], J. Neitz[2], M. Neitz[2], J. Carroll[1].* [1]Ophthalmology & Visual Sciences, Medical College of Wisconsin; [2]Ophthalmology, University of Washington **CR*

1311 — *B0058* **Generation of mammalian Near-infrared vision by Upconversion nanoparticles.** *Jin Bao[1], Y. Ma[1], G. Han[2], T. Xue[1].* [1]School of Life Science, University of Science and Technology of China; [2]Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School

1312 — *B0059* **The Rayleigh limit of the parvocellular pathway.** *Daniel R. Coates[1], X. Jiang[2], J. A. Kuchenbecker[2], R. Sabesan[2].* [1]College of Optometry, University of Houston; [2]Department of Ophthalmology, University of Washington

1313 — *B0060* **Differences in axial eye length and retinal structure between patients with achromatopsia and blue cone monochromacy.** *Emily J. Patterson[3], R. Mastey[3], S. Connolly[3], M. Georgiou[1, 2], A. Kalitzeos[1, 2], N. Hirji[1, 2], K. M. Litts[3], C. S. Langlo[4], J. S. Rowlan[5], J. Neitz[5], M. Michaelides[1, 2], M. Neitz[5], J. Carroll[3, 4].* [1]Institute of Ophthalmology, University College London; [2]Moorfields Eye Hospital; [3]Ophthalmology & Visual Sciences, Medical College of Wisconsin; [4]Cell Biology, Neurology and Anatomy, Medical College of Wisconsin; [5]Ophthalmology, University of Washington **CR*

1314 — *B0061* **New screener for congenital and acquired colour deficiencies.** *John L. Barbur, B. Evans, M. Rodriguez-Carmona*. Applied Vision Res Centre, City, University of London

1315 — *B0062* **Is recovery of visual sensitivity to light affected by wearing "blue blocking lenses"?** *Maitreyee Roy, H. Alzahrani, S. Khuu***.** The University of New South Wales

1316 — *B0063* **Predicting the Appearance of Colored Stimuli Viewed through Colored Filters.** *Thomas Kuyk[1], J. Dykes[1], B. Novar[2], R. Singleton[1], P. Garcia[1], B. Goettl[2], L. N. McLin[2].* [1]Engility Corporation; [2]711HPW/RHDO, Air Force Research Laboratory

1317 — *B0064* **Perception of Motion Transparency: Reverse Phi.** *Mohana Kuppuswamy Parthasarathy, V. Lakshminarayanan*. School of Optometry and Vision Science, University of Waterloo

1318 — *B0065* **Less Sensitivity in Discrimination of Horizontal than Vertical Distances.** *Stephen Dopkins*. Psychology, George Washington University

1319 — *B0066* **Comparing Digital Cone-Contrast Threshold assessment in Healthy Normal Individuals with Conventional Standardized Color Vision Diagnostics.** *Clara Yuh[1], C. Frambasch[2], J. Doan[3], K. White[2], Y. Chen[4], C. Kenney[4], K. Jameson[4], A. Browne[4].* [1]College of Osteopathic Medicine of the Pacific, Western University of Health Sciences; [2]University of California Irvine, School of Medicine; [3]Medical College of Wisconsin; [4]Ophthalmology, Gavin Herbert Eye Institute

West Exhibition Hall

Sunday, April 28, 2019 5:00 PM-6:00 PM

170 All Posters and Networking

NOTES

Monday

April 29, 2019

ARVO Annual Meeting
Registration
Main Lobby
7am – 6pm

NAEVR Briefing:
NAEVR Defense-Related Vision
Research Opportunities
7 – 8am
West 109–110

Exhibit hours
8:30am – 5pm

WEAVR Luncheon
Harbour Ballroom
1:15 – 2:45pm

All Posters
6–7pm

Student/Trainee Social
West Pacific Terrace
7:30 – 9pm
(Everyone welcome)

ARVO 2019
APRIL 28 – MAY 2
VANCOUVER, B.C.

Monday, April 29 – Minisymposia, papers, section business meetings, special sessions

Time	Session	Title	Location
7 – 8am	201	NAEVR Defense-Related Vision Research Opportunities	West 109/110
8:15 – 10am	202	Advances in Retinoblastoma and Radiation Retinopathy [AP]	East 1
	203	Gene therapy and delivery [PH]	East 2/3
	204	Miscellaneous Maculopathies [RE]	East 8&15
	205	AMD Pathobiology and New Models [RC]	East 11/12
	206	Adaptive and Innate Immunity in Ocular Health and Disease [IM]	East Ballroom A
	207	AMD Imaging I [RE]	East Ballroom B
	208	**Frontiers in membrane dynamics and cellular communication: Impact on vision and disease mechanisms** — Minisymposium [BI, AP, GL, IM, PH, RE, RC, VN, GEN]	East Ballroom C
	209	Corneal Cell and Molecular Biology [CO]	West 211
	210	Circadian rhythms and photoreceptors [VN]	West 212-214
	211	Cataractogenesis and Cataract Treatment [LE]	West 217-219
	212	Impact of Visual Impairment [CL]	West 220
	213	Systemic Disorders: Basic and Translational Studies [EY]	West 221/222
	214	Accommodation: Morphology and Mechanisms [VI]	West 223/224
	215	**Healthcare transformation with AI: Impact in glaucoma and ophthalmology** — Minisymposium [GL, BI, CL, RE, VI]	ARVO Ballroom
	216	Dry Eye I [CO]	Harbour Ballroom
10:15 – 11am	202a	AP Section Business Meeting	East 1
	203a	PH Section Business Meeting	East 2/3
	205a	RC Section Business Meeting	East 11/12
	206a	IM Section Business Meeting	East Ballroom A
	207a	RE Section Business Meeting	East Ballroom B
	208a	BI Section Business Meeting	East Ballroom C
	209a	CO Section Business Meeting	West 211
	210a	VN Section Business Meeting	West 212-214
	211a	LE Section Business Meeting	West 217-219
	212a	CL Section Business Meeting	West 220
	213a	EY Section Business Meeting	West 221/222
	214a	VI Section Business Meeting	West 223/224
	215a	GL Section Business Meeting	ARVO Ballroom
11:15am – 1pm	226	Drug delivery, drug and gene delivery system [PH]	East 2/3
	227	Retinal Vascular Disease [RE]	East 8&15
	228	Retinal Bioenergetics and Metabolic Interactions [RC]	East 11/12
	229	Translational immunology in AMD, uveitis and thyroid eye disease [IM]	East Ballroom A
	230	Diabetic Retinopathy Therapeutics [RE]	East Ballroom B
	231	Molecular mechanisms of retinal function in health and disease [BI]	East Ballroom C
	232	Ocular Surface Disease [CO]	West 211
	233	**Of mice and men: Comparing primate and rodent retina** — Minisymposium [VN, AP, RE, RC]	West 212-214

Minisymposia highlighted in **boldface**

Monday, April 29 – Minisymposia, papers, section business meetings, special sessions

Time	Session	Title	Location
11:15am – 1pm (continued)	234	Mendelian Genetics and Animal Models of Retinal Disorder [GEN]	West 217-219
	235	Quality of life and the patient experience [CL]	West 220
	236	Strabismus and Nystagmus [EY]	West 221/222
	237	Advanced Imaging of Retinal Structure and Function in Healthy Eyes [VI]	West 223/224
	238	New Ideas in Glaucoma [GL]	ARVO Ballroom
1:15 – 2:45pm	253	Glia in blood-retina barrier disorders — SIG [RC, GL, IM]	East 1
	254	Next generation sequencing for pathogen discovery, ready for prime time? — SIG [IM, RE]	East 2/3
	255	Cellular and Molecular Imaging of the Retina in Health and Disease — SIG [RE, AP, BI, GL, IM, PH, RC, VI, VN, MOI]	East 8&15
	256	Tear Biomarkers of Ocular Surface Diseases in the Clinic — SIG [CO]	East 11/12
	257	Managing Patients with Diabetic Macular Edema, Diabetic Retinopathy, Neovascular and Non-Neovascular AMD, and Retinal Vein Occlusion: How Do We Best Utilize the Latest Data from Clinical Trials — SIG [RE, CL, CO, IM, PH, VI, VN, GEN, MOI]	East Ballroom A
	258	Multidisciplinary Ophthalmic Imaging Group — OCT advances in vascular and functional imaging [MOI]	East Ballroom B
	259	Aging as a factor in eye diseases — SIG [BI, CO, GL, LE, RE, RC, VN, LV]	East Ballroom C
	260	Members-in-Training career forum: Preparing for your future career NOW!	West 211
	261	Getting published: The light and dark sides...	West 212-214
	262	Health disparities, social justice and vision research — SIG [CL, CO, EY, GL, GEN, LV]	West 217-219
	263	Lipids in diverse functions and pathologies of the eye — SIG [BI, GL, IM, PH, RE, RC]	West 220
	264	NIH-CSR peer review workshop	West 221/222
	265	VSS at ARVO — Vision after sight restoration	West 223/224
3 – 3:45pm	266	Friedenwald Award and Lecture	ARVO Ballroom
4 – 5:45pm	267	Aqueous humor dynamics and IOP [PH]	East 2/3
	268	Imaging the Posterior Segment-Clinical [RE]	East 8&15
	269	**Emerging cell-based therapies to tackle retinal diseases** — Minisymposium [RC, RE]	East 11/12
	270	Deep learning for classification and segmentation [MOI]	East Ballroom A
	271	AMD-clinical research [RE]	East Ballroom B
	272	Corneal surgery:non-refractive [CO]	West 211
	273	Corneal Tissue Engineering and Regenerative Medicine [CO]	West 212-214
	274	Lens Cell Biology [LE]	West 217-219
	275	Visual Impairment and Multi-Morbidity [LV]	West 221/222
	276	Biomechanics [GL]	ARVO Ballroom
	277	Neuroprotection [GL]	Harbour Ballroom
7:30 – 9pm	295	Diabetic Retinopathy Treatments: Clinically Relevant Results From the Diabetic Retinopathy Clinical Research Network — Special Session	West 211
	296	New Clinical Trial Results in Retinal Vein Occlusion: SCORE2 and LEAVO Trials — Special Session	West 212-214
	297	Changing What It Means To Be Blind: We're All in This Together — Special Session	West 217-219
	298	New tools and techniques for functional and anatomical retinal circuit dissection — Special Session	West 223/224

Minisymposia highlighted in **boldface**

Time	Session	Title	Board No.
8:15 – 10am	217	Imaging Science and Vision Assessment [VI, RC, VN]	A0102 - A0116
	218	Machine Learning I [MOI]	A0117 - A0160
	219	Machine Learning II [MOI]	A0161 - A0205
	220	Deep Learning & AI [RE]	A0206 - A0225
	221	Imaging: posterior segment, clinical [RE, LV, MOI, VI]	A0302 - A0360
	222	Glaucoma Genetics [GEN]	A0481 - A0507
	223	Retinal Vascular Biology [RC]	B0265 - B0277
	224	Retinal Angiogenesis and ROP [RC]	B0278 - B0301
	225	Metabolic and Oxidative Control of Retinal Homeostasis and Diseases [RC, RE]	B0302 - B0338
11:15am – 1pm	239	Accommodation, Binocular Function, TBI [VI]	A0056 - A0083
	240	Visual Impairment - Measures of Visual Function [LV, CL]	A0084 - A0101
	241	OCT - Clinical Applications I [MOI]	A0226 - A0262
	242	OCT - Clinical Applications II [MOI]	A0263 - A0301
	243	RPE Biology [RC, RE]	A0436 - A0463
	244	RPE: Potential Therapies [RC, RE]	A0464 - A0480
	245	Glaucoma risk factors, progression, and management [CL]	A0508 - A0551
	246	Vitreoretinal interface disease [RE]	B0019 - B0038
	247	Endophthalmitis: clinical [RE]	B0039 - B0059
	248	Cataract Surgery II [LE]	B0339 - B0374
	249	Posterior Capsular Opacification [LE]	B0375 - B0384
	250	Cornea and lens [PH, VI]	B0385 - B0400
	251	Corneal imaging and topography [CO, CL]	B0401 - B0448
	252	Corneal Endothelium I [CO]	B0449 - B0483
4 – 5:45pm	278	Optic Neuropathy [EY]	A0001 - A0021
	279	Multiple Sclerosis and the Eye [EY]	A0022 - A0034
	280	Idiopathic Intracranial Hypertension, Dementia and Neurodegerative Disorders [EY]	A0035 - A0055
	281	Retinoblastoma [AP]	A0361 - A0380
	282	Biochemistry and Molecular Biology of the Retina [BI]	A0381 - A0435
	283	Clinical Studies [GL]	A0552 - A0568
	284	IOP Measurement [GL]	A0569 - A0601
	285	Visual Fields, Psychophysics, and Electrphysiology [GL, RC]	A0602 - A0654
	286	Advances in Human Electrophysiology [VN]	A0655 - A0674
	287	Ocular Trauma [CL]	B0001 - B0018
	288	Fundamentals of ocular infection 1 [IM]	B0060 - B0084
	289	Retinal Vascular Diseases II [RE]	B0085 - B0127
	290	Diabetic Macular Edema Clinical Research [RE]	B0128 - B0179
	291	Biochemistry and molecular mechanisms of diabetic retinopathy [BI]	B0180 - B0212
	292	Diabetic Retinopathy: Pathogenic Mechanisms [RC, RE]	B0213 - B0249
	293	New Therapeutic Avenues in Diabetic Retinopathy [RC]	B0250 - B0264
	294	Corneal Dry Eye Clinical II Epidemiology [CO]	B0484 - B0525

Poster board numbers correspond to poster location in Exhibit Hall; A = Poster Area A , B = Poster Area B

West 109/110

Monday, April 29, 2019 7:00 AM-8:00 AM

201 NAEVR Defense-Related Vision Research Opportunities

The Vision Research Program (VRP) within the Department of Defense (DOD) has become an important funding stream for researchers of deployment-related eye trauma, including penetrating eye injuries and visual dysfunction from Traumatic Brain Injury (TBI). Since Congress first funded the VRP in Fiscal year (FY) FY2009 and through FY2017, it has awarded 85 grants totaling $85 million to researchers addressing penetrating eye injuries, corneal healing, retinal/corneal protection, TBI-related visual dysfunction, eye blast phenomenon, and vision rehabilitation.

In the FY2017 cycle, DOD's Congressionally-Directed Medical Research Programs (CDMRP), which manages the VRP, funded 8 research projects for approximately $18 Million in Technology/ Therapeutic Development Awards (up to $2.1 M each) and Clinical Awards (up to $5.25 M each). The VRP is currently finalizing awards for FY2018—with an emphasis on investigator-initiated research—and expects to release the FY2019 Program Announcement shortly. The VRP was funded at $15 million in each FY2017 and FY2018, and was increased by $5 million in FY2019 to $20 million.

NAEVR has invited VRP Program Manager Tian Wang, PhD, to speak about DOD-identified vision trauma research gaps and funding opportunities, as well as past DOD awardees to offer insights into how researchers can be most responsive to funding requests.

East 1

Monday, April 29, 2019 8:15 AM-10:00 AM

Anatomy and Pathology/Oncology

202 Advances in Retinoblastoma and Radiation Retinopathy

Moderators: Anthony B. Daniels and Helen Dimaras

1320 — *8:15* **MYCN Overexpression Induces Cone Precursor Proliferation and Tumorigenesis in Explanted Retinae.** *Hardeep P. Singh[1, 2], M. Thornton[3], B. Grubbs[3], D. Cobrinik[1, 4].* [1]Department of Surgery, The Vision Center, Children's Hospital Los Angeles; [2]The Saban Research Institute, Children's Hospital Los Angeles; [3]Department of Obstetrics and Gynecology, University of Southern California; [4]Department of Ophthalmology, USC Roski Eye Institute, Keck School of Medicine of the University of Southern California

1321 — *8:30* **The Histone Methyltransferase NSD2 is a New Histopathologic Biomarker and Potential Therapeutic Target for Human Retinoblastoma.** *Rajesh C. Rao[1, 2], Z. Zou[1].* [1]Ophthalmology and Visual Sciences, University of Michigan Medical School; [2]Pathology, University of Michigan

1322 — *8:45* ***In vivo* assessment of novel intra-arterial and intravitreal chemotherapy compounds using a tumor-bearing rabbit model of intra-arterial chemotherapy: Efficacy without toxicity.** *Anthony B. Daniels[2, 1], C. M. Bogan[2], M. T. Froehler[3], J. V. Kaczmarek[2], J. M. Pierce[2], A. H. Nunnally[2], K. L. Boyd[4, 1], Y. Tao[5, 2], S. Chen[6], L. Du[6], D. Friedman[7], A. Richmond[8, 9].* [1]Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center; [2]Department of Ophthalmology & Visual Sciences, Vanderbilt University Medical Center; [3]Cerebrovascular Program, Vanderbilt University Medical Center; [4]Department of Pathology, Microbiology and Immunology, Vanderbilt University Medical Center; [5]Department of Biomedical Engineering, Vanderbilt University; [6]Center for Quantitative Sciences, Vanderbilt University Medical Center; [7]Department of Pediatrics, Vanderbilt University Medical Center; [8]Tennessee Valley Healthcare System, Department of Veterans Affairs; [9]Department of Pharmacology, Vanderbilt University **CR*

1323 — *9:00* **Optical coherence tomography guided precision management strategies for retinoblastoma.** *Sameh Gaballah, C. Vandenhoven, L. Mackeen, B. L. Gallie.* Ophthalmology, Hospital for Sick Children, University of Toronto

1324 — *9:15* **Delayed enucleation of eyes with advanced intraocular retinoblastoma increases metastatic death.** *Zhao Xun Feng[1], M. Wei[2], G. Liu[3], C. Solarte[4], B. Li[5], C. Zhang[6], Y. Wang[5], B. L. Gallie[7, 8], J. Zhao[6].* [1]University of Ottawa; [2]Department of Ophthalmology, Liuzhou Maternity and Child Health Care Hospital; [3]Department of Ophthalmology, Qilu Children's Hospital of Shandong University; [4]Department of Ophthalmology, University of Alberta; [5]Department of Ophthalmology, Beijing Tongren Hospital; [6]Department of Ophthalmology, Beijing Children's Hospital; [7]Department of Ophthalmology and Vision Sciences, The Hospital for Sick Children; [8]Departments of Ophthalmology, Medical Biophysics, and Medical Genetics, University of Toronto

1325 — *9:30* **Influence of ranibizumab on radiation retinopathy after irradiation of choroidal melanoma (RadiRet) – a randomized controlled trial.** *Antonia M. Joussen[1], I. Seibel[1], M. Hellmich[2].* [1]Department of Ophthalmology, Charite, University Medicine Berlin; [2]Institute of Medical Statistics and Computational Biology (IMSB, University of Cologne **CR*, ↗

1326 — *9:45* **Intravitreal Bevacizumab for the Prevention of Radiation Maculopathy.** *Brittany Powell[1], P. T. Finger[2, 3].* [1]Retina, New York Eye and Ear Infirmary of Mount Sinai; [2]New York Eye Cancer Center; [3]The Eye Cancer Foundation

East 2/3

Monday, April 29, 2019 8:15 AM-10:00 AM

Physiology/Pharmacology

203 Gene therapy and delivery

Moderators: Brian C. Gilger and Robert E. MacLaren

1327 — *8:15* **Intrastromal injection using a 31 gauge or precise corneal injection (PCI) needle for gene therapy.** *Brian C. Gilger[1, 2], A. Blanchard[1], E. Crabtree[1], L. Song[3, 4], J. Salmon[1], M. Hirsch[3, 4].* [1]Clinical Sciences, North Carolina State University; [2]Theia Medical, Inc.; [3]Ophthalmology, University of North Carolina; [4]Gene Therapy Center, University of North Carolina **CR*

1328 — *8:30* **Melanopsin: targeted ectopic expression for optogenetic visual restoration.** *Michael James Gilhooley[1, 2], M. Lindner[1], S. Hughes[1], M. W. Hankins[1].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Moorfields Eye Hospital

1329 — *8:45* **Preliminary results in 18 patients undergoing retinal gene therapy for X-linked retinitis pigmentosa with codon-optimized AAV8-RPGR.** *Robert E. MacLaren[1], J. L. Davis[2], N. Gregori[2], J. Kapetanovic[1], B. L. Lam[2], A. Lotery[3], C. Martinez-Fernandez dela Camara[1], A. Nanda[1], A. Salvetti[1], P. Stanga[4], K. Xue[1].* [1]Nuffield Lab of Ophthalmology, University of Oxford; [2]Bascom Palmer Eye Institute; [3]University of Southampton; [4]Manchester Royal Eye Hospital **CR*, ↗

1330 — *9:00* **Highly Efficient Foveal Cone Transduction by AAV44.9 and AAV2(4pMutΔHS) Mediated by Lateral Spread Following Extrafoveal Subretinal Injection.** *Ryan F. Boyd[1], J. T. Bartoe[1], T. S. Vihtelic[1], J. J. Peterson[2], H. Zhang[2], S. L. Boye[3], S. E. Boye[2].* [1]Ophthalmology Services, Charles River Laboratories; [2]Department of Ophthalmology, University of Florida College of Medicine; [3]Department of Pediatrics, University of Florida

1331 — 9:15 rAAV-Compatible MiniPromoters with Restricted Expression in the Retinal ON Bipolar, Müller Glia, and Cone Photoreceptor cells, the Corneal Stroma, and the Endothelial cells of the Blood Retina Barrier. Andrea Korecki2, J. Cueva Vargas3, J. Agostinone3, R. A. Farkas2, O. Fornes2, S. Lam2, A. Mathelier2, M. Zhou2, W. W. Wasserman2, 1, A. Di Polo3, E. M. Simpson2, 1. 1Department of Medical Genetics, University of British Columbia; 2Centre for Molecular Medicine and Therapeutics at BC Children's Hospital, University, University of British Columbia; 3Department of Neuroscience and Centre de Recherche du Centre Hospitalier de l'Université de Montréal, Université de Montréal

East 8&15

Monday, April 29, 2019 8:15 AM-10:00 AM

Retina

204 Miscellaneous Maculopathies

Moderators: Richard F. Spaide, Jennifer I. Lim and Peter Charbel Issa

1332 — *8:15* **Fundus Autofluorescence Emission Spectra in *ABCA4*-related Retinopathy.** *Philipp L. Mueller[1], C. Dysli[1, 2], K. Heß[1], F. G. Holz[1], P. Herrmann[1].* [1]Department of Ophthalmology, Universtity of Bonn; [2]Department of Ophthalmology, University of Bern **CR*

1333 — *8:30* **Quantitative fundus autofluorescence in macular and cone/cone-rod dystrophies.** *Martin Gliem[1, 2], J. Birtel[3], P. L. Mueller[3], F. G. Holz[2], P. Charbel Issa[1, 2].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Oxford Eye Hospital; [3]University Eye Hospital Bonn **CR*

1334 — *8:45* **Dark adaptation in macular telangiectasia type 2.** *Simone Tzaridis[1], K. Heß[1], T. Heeren[2, 5], C. Mai[1], P. Herrmann[1], P. Charbel Issa[3, 4], F. G. Holz[1].* [1]Ophthalmology, University Hospital Bonn; [2]Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust; [3]Ophthalmology, Oxford University Hospitals NHS Foundation Trust; [4]Clinical Neurosciences, Nuffield Laboratory of Ophthalmology, University of Oxford; [5]Ophthalmology, University College London **CR*

1335 — *9:00* **A New Classification for Macular Telangiectasia type 2 based on multi-modal imaging.** *Emily Y. Chew[1], T. Peto[5], T. E. Clemons[4], D. Pauleikhoff[6], F. B. Sallo[2], T. Heeren[2], C. A. Egan[2], P. Charbel Issa[3], K. Balaskas[2], A. C. Bird[2].* [1]Epidemiology & Clinical Applications, National Eye Inst/NIH; [2]Moorfields Eye Hospital; [3]Oxford Eye Hospital; [4]The Emmes Corporation; [5]Queen's University; [6]St**.** Franziskus-Hospital Münster **CR*

1336 — *9:15* **Stargardt disease ALK-001 phase 2 clinical trial: 12-month interim data.** *Hendrik P. Scholl[2, 1], S. H. Tsang[3], C. N. Kay[4], T. B. Connor[5], M. B. Gorin[6], P. S. Bernstein[7], B. L. Lam[8], Z. Strecker[9], J. T. Zaremba[9], G. DeBartolomeo[9], I. Washington[9], L. Saad[9].* [1]Dept**.** of Ophthalmology, University of Basel; [2]Institute of Molecular and Clinical Ophthalmology (IOB); [3]Ophthalmology, Columbia University Medical Center; [4]Ophthalmology, Vitreoretinal Associates; [5]Ophthalmology, Medical College of Wisconsin; [6]Ophthalmology, UCLA/Stein Eye; [7]Ophthalmology, University of Utah/Moran Eye Center; [8]Ophthalmology, University of Miami/Bascom Palmer Eye Institute; [9]Ophthalmology, Alkeus Pharmaceuticals **CR*, ↗

1337 — *9:30* **Genotype-Phenotype Correlations in Stargardt/ABCA4 Disease Patients of Advanced Age.** *Winston Lee[1], J. Zernant[1], S. Tsang[1, 2], R. Allikmets[1, 2].* [1]Ophthalmology, Columbia University; [2]Pathology & Cell Biology, Columbia University

1338 — *9:45* **Mild deep-intronic *ABCA4* variants explain genetically unsolved cases of very late-onset Stargardt disease.** *E.H. H. Runhart[1, 2], D. Valkenburg[1, 2], S. Cornelis[2, 3], M. Khan[2, 3], R. Sangermano[2, 3], G. D. Astuti[3], S. Albert[2, 3], n. m. bax[1, 2], J. R. Pott[4], J. B. Verheij[5], E. A. Blokland[3], F. P. Cremers[2, 3], L. I. van den Born[6], C. C. Hoyng[1, 2].* [1]Ophthalmology, Radboud university medical center; [2]Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center; [3]Human Genetics, Radboud university medical center; [4]Ophthalmology, University Medical Center Groningen; [5]Medical Genetics, University Medical Center Groningen; [6]The Rotterdam Eye Hospital and the Rotterdam Ophthalmic Institute

East 11/12

Monday, April 29, 2019 8:15 AM-10:00 AM

Retinal Cell Biology

205 AMD Pathobiology and New Models

Moderators: Patricia Boya and Joshua L. Dunaief

1339 — *8:15* **Establishment of an *in vitro* photoreceptor model suitable for AMD research.** *Natalie Wagner[1], M. Gammel[1], S. Reinehr[1], J. Hurst[2], S. Schnichels[2], B. Dick[1], S. C. Joachim[1].* [1]Experimental Eye Research Institute, University Eye Hospital; [2]Centre for Ophthalmology, University Eye Hospital

1340 — *8:30* **Microengineered model of the RPE-choroid complex for the study of AMD.** *Sunghee E. Park[1], W. Yang[3], D. Stambolian[2], D. Huh[1].* [1]Bioengineering, University of Pennsylvania; [2]Ophthalmology, University of Pennsylvania; [3]University of Pennsylvania

1341 — *8:45* **Components of RPE-Basal lamina-Bruch's membrane (BrM) complex: histologic thickness at different stages of age-related macular degeenration (AMD).** *Amol Sura, G. McGwin, C. A. Curcio.* Ophthalmology, University of Alabama at Birmingham **CR*

1342 — *9:00* **Choroidal vascular changes in early and advanced AMD: relationship with *ARMS2* genotype.** *Robert F. Mullins[2, 1], E. H. Sohn[2, 1], M. J. Flamme-Wiese[2, 1], M. A. Luse[2, 1], A. J. Reutzel[2, 1], B. Tucker[2, 1], E. M. Stone[2, 1].* [1]Ophthalmology and Visual Sciences, University of Iowa; [2]Institute for Vision Research

1343 — *9:15* **Hepatic Lipase C knockout mouse has diminished ERGs and Bruch's lipid deposits.** *Venkata R. Chavali, N. Haider, B. A. Bell, Y. Song, J. L. Dunaief.* Ophthalmology, University of Pennsylvania

1344 — *9:30* ***Mitf$^{K243R/K243R}$;Tyr::Cre* mice, a novel mouse model of retinal geographic atrophy (GA).** *Andrea García Llorca[1, 2], A. Sabaté[3], M. H. Ögmundsdóttir[2], L. Larue[4], F. Gesbert[4], E. Steingrímsson[2], T. Eysteinsson[1].* [1]Physiology, BioMedical Center, Faculty of Medicine, University of Iceland; [2]Biochemistry and Molecular Biology, BioMedical Center, Faculty of Medicine, University of Iceland; [3]Anatomy, BioMedical Center, Faculty of Medicine, University of Iceland; [4]Normal and Pathological Development of Melanocytes, Institut Curie

1345 — *9:45* **Role of Lipocalin-2 in iron homeostasis and inflammasome activation in pathogenesis of age-related macular degeneration (AMD).** *Sayan Ghosh[1], P. Shang[1], M. Yazdankhah[1], I. A. Bhutto[1], N. A. Stepicheva[1], J. Weiss[1], S. L. Hose[1], G. A. Lutty[2], J. S. Zigler, Jr[2], D. Sinha[1, 2].* [1]University of Pittsburgh; [2]Ophthalmology, Wilmer Eye Institute, Johns Hopkins University School of Medicine

East Ballroom A

Monday, April 29, 2019 8:15 AM-10:00 AM

Immunology/Microbiology

206 Adaptive and Innate Immunity in Ocular Health and Disease

Moderators: Holly L. Rosenzweig, Derek J. Royer and Mihaela G. Gadjeva

1346 — *8:15* **The role of resident dendritic cells in the maintenance of corneal epithelial sensory nerves.** *Holly R. Chinnery[1], H. Jiao[1], C. Naranjo Golborne[2].* [1]Optometry and Vision Sciences, University of Melbourne; [2]Monash University

1347 — *8:30* **Depletion of ocular surface CD11c+ dendritic cells prevents the generation of contrasuppressor cells and restores immune privilege of corneal allografts.** *Sudha neelam, J. Mellon, J. Y. Niederkorn.* UTSouthwestern

1348 — *8:45* **Short Ragweed Pollen Primes Macrophage Polarization toward an Alternatively Activated Phenotype via TSLP/TSLPR Signaling Pathway in Allergic Conjunctivitis.** *De-Quan Li[1], R. Deng[1, 2], X. Chen[1, 2], N. Gao[1], J. Hu[1], Y. Zhang[1], F. Bian[1], S. C. Pflugfelder[1].* [1]Ocular Surface Center, Cullen Eye Institute, Ophthalmology, Baylor College of Medicine; [2]School of Optometry and Ophthalmology, Wenzhou Medical University

1349 — *9:00* **Recovery of ocular immune privilege after uveitis requires melanocortin 5 receptor expression.** *Andrew W. Taylor, A. Manhapra, D. Cluckey, T. Ng.* Ophthalmology, Boston University School of Medicine **CR*

1350 — *9:15* **Lipoxin A_4 Regulates T Effector Cell Trafficking in Autoimmune Uveitis.** *Jessica Wei[1, 2], R. Horai[2], Y. Jittayasothorn[2], M. J. Mattapallil[2], H. Sen[2], R. R. Caspi[2], K. Gronert[1].* [1]Vision Science, UC Berkeley; [2]Laboraorty of Immunology, NEI

1351 — *9:30* **Mapping the generation and fate of Tregs associated with recovery of EAU.** *Darren J. Lee[1, 2], F. Muhammad[2].* [1]Ophthalmology/ Dean McGee Eye Institute, University of Oklahoma Health Sciences Center; [2]Microbiology and Immunology, University of Oklahoma Health Sciences Center

1352 — *9:45* **Novel alterations to the corneal neuroimmune phenotype in mice with central nervous system tauopathy.** *Haihan Jiao[1], L. E. Downie[1], S. Oberrauch[2, 3], M. Wu[1], H. R. Chinnery[1], L. Jacobson[2, 3].* [1]Department of Optometry and Vision Sciences, University of Melbourne; [2]Florey Institute of Neuroscience and Mental Health; [3]Department of Pharmacology and Therapeutics, University of Melbourne

Monday Papers/ Minisymposia 8:15 am – 10:00 am

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

East Ballroom B

Monday, April 29, 2019 8:15 AM-10:00 AM

Retina

207 AMD Imaging I

Moderators: Mingguang He and Aaron Y. Lee

1353 — *8:15* **Off-Axis Full-Field Time-Domain OCT allows retinal self-scan in the patients with retinal diseases.** *Claus von der Burchard[1], J. Tode[1], M. Moltmann[2], C. Ehlken[1], P. Koch[2], H. Sudkamp[2], M. vom Endt[2], D. Theisen-Kunde[2], R. Birngruber[2], G. Huttmann[2], J. Roider[1].* [1]University of Kiel, Germany; [2]Medical Laser Center Lübeck ♂

1354 — *8:30* **Drusen Regression and morphologic retinal characteristics in the course of early to intermediate AMD.** *Ferdinand G. Schlanitz[1], M. Baratsits[1], S. Sacu[1], E. Pablik[2], H. Bogunovic[1], G. S. Reiter[1], M. Schranz[1], U. Schmidt-Erfurth[1].* [1]Ophthalmology, Medical University Vienna; [2]CeMSIIS, Section for Medical Statistics, Medical University of Vienna

1355 — *8:45* **Prediction of disease conversion in intermediate AMD from longitudinal OCT using self-supervised deep learning.** *Antoine Rivail, W. Vogl, F. G. Schlanitz, M. Baratsits, U. Schmidt-Erfurth, H. Bogunovic.* Ophthalmology, Medical University Of Vienna **CR*

1356 — *9:00* **Towards a normative spatio-temporal atlas of disease progression in intermediate AMD.** *Wolf-Dieter Vogl[2], S. M. Waldstein[2], H. Bogunović[2], A. Sadeghipour[2], S. Klimscha[2], A. Osborne[1], U. Schmidt-Erfurth[2].* [1]Genentech; [2]Department of Ophthalmology, Medical University of Vienna **CR*

1357 — *9:15* **Signs of conversion in intermediate AMD quantified by deep learning on a population level.** *Sebastian M. Waldstein[1], W. Vogl[1], H. Bogunović[1], A. Sadeghipour[1], S. Klimscha[1], A. Osborne[2], U. Schmidt-Erfurth[1].* [1]Department of Ophthalmology, Medical University of Vienna; [2]Genentech **CR*

1358 — *9:30* **The Development and Validation of a Deep Learning Algorithm for the Detection of Neovascular Age-Related Macular Degeneration from Color Fundus Photographs.** *Stuart Keel[1], Z. Le[2], J. Scheetz[1], M. He[1, 2].* [1]Centre for Eye Research Australia; [2]Zhongshan Ophthalmic Center **CR*

1359 — *9:45* **Visual outcomes predicted by macular morphology of patients with neovascular age-related macular degeneration or polypoidal choroidal vasculopathy using an automated segmentation algorithm.** *MINSU JANG, H. Lee, H. Kim, H. Chung.* Ophthalmology, Konkuk university medical center

East Ballroom C

Monday, April 29, 2019 8:15 AM-10:00 AM

Biochemistry/Molecular Biology / Anatomy and Pathology/Oncology / Genetics / Glaucoma / Immunology/Microbiology / Physiology/ Pharmacology / Retina / Retinal Cell Biology / Visual Neuroscience

208 Frontiers in membrane dynamics and cellular communication: Impact on vision and disease mechanisms - Minisymposium

Plasma membrane is a dynamic structure that plays essential roles in maintaining cellular architecture and homeostasis**.** This Minisymposium will cover recent advances in plasma membrane biology by focusing on specific structural elements and interactions that enable cellular communication**.** Through specific structures and molecular components, such as the cilium, the synapse, transmembrane receptors, adhesion proteins, and points of contact between the plasma membrane and intracellular organelles, the plasma membrane integrates extra- and intracellular signals within complex functional pathways**.** This information will be put in the context of diverse ocular disorders, ranging from retinal degenerations and congenital night blindness to glaucoma and uveal melanoma**.** Understanding the fundamental processes that contribute to cellular communication pathways and context-related signaling provides a solid basis for uncovering therapeutic interventions for a wide-range of ocular diseases**.**

Moderators: Astra Dinculescu, Luminita I. Paraoan and Elfride De Baere

1360 — *8:15* **How to build a photoreceptor disc?** *Vadim Y. Arshavsky.* Ophthalmology, Duke University

1361 — *8:35* **Sorting and renewal of photoreceptor membrane proteins.** *Yoshikazu Imanishi.* Case Western Reserve Univesity

— *8:50* **Q&A**

1362 — *8:55* **Dynamic interactions at the RPE plasma membrane: implications for ocular disorders.** *Kapil Bharti.* NEI, National Institutes of Health

1363 — *9:10* **Molecular organization of the first visual synapse.** *Kirill A. Martemyanov.* Department of Neuroscience, The Scripps Research Institute

1364 — *9:25* **PERP-ing the points of contact between ER and plasma membrane: modulation of ER stress and apoptosis in uveal melanoma.** *Luminita I. Paraoan[1, 2].* [1]Eye and Vision Science, University of Liverpool; [2]Institute of Ageing and Chronic Disese

1365 — *9:40* **The role of cadherins in glaucomatous trabecular signaling and the regulation of IOP.** *Abbot F. Clark.* Department of Pharmacology and Neuroscience, University of North Texas HSC **CR*

— *9:55* **Q&A**

West 211

Monday, April 29, 2019 8:15 AM-10:00 AM

Cornea

209 Corneal Cell and Molecular Biology

Moderators: Judith A. West-Mays, Peter Y. Lwigale and Mitchell A. Watsky

1366 — *8:15* **Nephronectin: A novel regulator of periocular neural crest migration and corneal development.** *Justin Ma, L. Bi, P. Y. Lwigale.* Biosciences, Rice University

1367 — *8:30* **Comparative analysis of human mesenchymal stem cells for their keratocyte-lineage differentiation capacity.** *Aurelie Dos Santos[1], A. Balayan[1], M. L. Funderburgh[2], K. Zhuo[1], I. Khandaker[2], E. Baclagon[1], J. L. Funderburgh[2], S. X. Deng[1].* [1]UCLA - Stein Eye Institute; [2]University of Pittsburgh

1368 — *8:45* **New insights into gene expression profiling of human aniridic corneal stromal cells.** *Carla Sanchez Martinez[1], V. E. Tovell[1], S. J. Tuft[2], J. T. Daniels[1].* [1]UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital NHS Foundation Trust

1369 — *9:00* **Functional mechanism underlying the *RXRA-COL5A1* signal associated with central cornea thickness and keratoconus.** *Mohammad Z. Mustafa, C. Stanton, N. Dellepiane, Y. Kumar, I. Jackson, W. Bickmore, V. Vitart.* Institute of Genetics and Molecular Medicine, University of Edinburgh

1370 — *9:15* **Single cell RNA seq (scRNA-seq) defines the early and late corneal epithelial transit amplifying (TA) cells.** *Han Peng, N. Kaplan, R. M. Lavker.* Northwestern University

1371 — *9:30* **Ocular epithelial cell-derived exosomes induce cell transdifferentiation.** *Tiago Andre da Silva Ramos, M. Parekh, S. Ahmad.* University College London

1372 — *9:45* **ScRNA-Seq Identifies The Complex Role Of AP-2β In Anterior Segment Development.** *Trevor Williams[1], H. Li[1], A. Taiyab[2], M. Akula[2], J. A. West-Mays[2].* [1]Craniofacial Biology and Cell and Developmental Biology, University of Colorado, Denver; [2]Pathology and Molecular Medicine, McMaster University

West 212-214

Monday, April 29, 2019 8:15 AM-10:00 AM

Visual Neuroscience

210 Circadian rhythms and photoreceptors

Moderators: Tiffany M. Schmidt and Steven A. Barnes

1373 — *8:15* **An S-cone amacrine cell in the primate retina sets the circadian clock at sunrise and sunset.** *Sara Patterson[1, 2], J. A. Kuchenbecker[1], J. Anderson[3], M. Neitz[1], J. Neitz[1].* [1]Department of Ophthalmology, University of Washington; [2]Neuroscience Graduate Program, University of Washington; [3]John Moran Eye Center, University of Utah Health Science Center

1374 — *8:30* **GABAergic ipRGCs in the mouse retina.** *Tiffany M. Schmidt, T. Sonoda.* Neurobiology, Northwestern University

1375 — *8:45* **Glycinergic suppression of a M1-ipRGC subpopulation by vGluT3 amacrine cells in the mouse retina.** *Seunghoon Lee[1], M. Chen[1], Y. Shi[1], X. Yang[1], Z. Zhou[1, 2].* [1]Ophthalmology and Visual Science, Yale University; [2]Cellular and Molecular Physiology, Yale University

1376 — *9:00* **Electrophysiological characterization of human embryonic stem cells-derived photoreceptor precursors.** *Nairouz Farah[1], R. Schick[1], A. Markus[1], Y. Mandel[1, 2].* [1]Life sciences school of optometry, Bar Ilan; [2]Bar-Ilan Institute for Nanotechnology and Advanced Materials (BINA), Bar Ilan

1377 — *9:15* **Voltage-Clamp Currents And Light Responses Of Mouse Cones.** *Norianne T. Ingram[1, 2], G. L. Fain[1, 2], A. P. Sampath[1].* [1]Stein Eye Institute, UCLA; [2]Integrative Biology and Physiology, UCLA

1378 — *9:30* **Roles of Cone Photoreceptor Connexin-36 in Light Adaptation and Circadian Regulation of the Photopic ERG.** *Shuo Zhang[3, 1], P. Lyubslavsky[1], J. A. Dixon[1], M. A. Chrenek[1], J. Sellers[1], C. Ribelayga[2], Z. Zhang[2], X. Xia[3], P. Iuvone[1, 4].* [1]Ophthalmology, Emory University; [2]Ophthalmology, University of Texas Health Science Center at Houston; [3]Ophthalmology, Xiangya Hospital, Central South University; [4]Pharmacology, Emory University

1379 — *9:45* **GABA inhibitory feedback from horizontal cells to cones is strongest at night in the dark and suppressed by light.** *Stuart C. Mangel.* Dept of Neuroscience, Ohio State Univ Coll of Med

West 217-219

Monday, April 29, 2019 8:15 AM-10:00 AM

Lens

211 Cataractogenesis and Cataract Treatment

Moderators: Sergiu Socea and Suraj P. Bhat

1380 — *8:15* **Immune Surveillance of the Lens – Can Protection Lead to Disease?** *A Sue Menko[2, 1], J. L. Walker[1], J. DeDreu[2], C. Bowen[2], S. Pal-Ghosh[3], M. Stepp[3].* [1]Ophthalmology, Thomas Jefferson University; [2]Pathology, Anatomy and Cell Biology, Thomas Jefferson University; [3]Department of Anatomy and Regenerative Biology, The George Washington University School of Medicine and Health Sciences

1381 — *8:30* **Absence of Single Cell Transcriptional Heterogeneity in the transgenic paradigm of the inherited Lamellar cataract.** *Suraj P. Bhat[4, 1], R. K. Gangalum[4], D. Kim[4], S. Mangul[2], R. Kashyap[4], X. Zhou[3], D. Elashoff[8].* [1]Molecular Biology Institute and Brain Research Institute, UCLA; [2]Dept. of Computer Science and Human Genetics, UCLA; [3]Dept. of Medicine, UCLA; [4]Stein Eye Institute, UCLA

1382 — *8:45* **The Congenital Cataract Mutation E151K in Vimentin Creates A SUMOylation Site Allowing in Vivo Sumoylation, Preventing Its Polymerization, and Leading to Cataractogenesis.** *xiaodong gong, D. W. Li.* Zhongshan Ophthalmic Center, Sun Yat-sen University

1383 — *9:00* **Altered ubiquitin signaling in mammalian lens development causes metabolic and mitochondrial dysfunction leading to cataractogenesis.** *Sheldon Rowan[1, 2], E. Whitcomb[1], E. Bejarano[1], F. Shang[1, 6], K. Liu[1, 7], R. L. Pfeiffer[3], R. Calitri[4], J. D. Baleja[4], B. W. Jones[3], P. G. FitzGerald[5], A. Taylor[1, 2].* [1]Human Nutrition Research Center on Aging, Tufts University; [2]Dept. Ophthalmology, Tufts University School of Medicine; [3]Moran Eye Center, University of Utah; [4]Dept. Developmental, Molecular & Chemical Biology, Tufts University School of Medicine; [5]Dept. Cell Biology and Human Anatomy, University of California - Davis; [6]Zhongshan Ophthalmic Center, Sun Yat-sen University; [7]College of Life Science, Sichuan University

1384 — *9:15* **Kinostat® Clinically Prevents Diabetic Cataracts Independent of Hyperglycemia Levels.** *Peter F. Kador[2, 1], L. Smith[1], M. Wyman[2], M. Paulos[2], K. Blessing[2, 1].* [1]Univ of Nebraska Medical Ctr; [2]Therapeutic Vision, Inc **CR*

1385 — *9:30* **Drops for Presbyopia: Results of CSF-1, a multicenter randomized double-masked placebo-controlled crossover study.** *Sergiu Socea[1], M. Mimouni[1], V. Andreja[2], E. Blumenthal[1].* [1]Ophthalmology, Rambam Health Care Campus; [2]VID Medical Center **CR*, ↗

West 220

Monday, April 29, 2019 8:15 AM-10:00 AM

Clinical/Epidemiologic Research

212 Impact of Visual Impairment

Moderators: Lisa Keay and Dean A. VanNasdale

1386 — *8:15* **Assessing the Relative Frequency of Mobility Limitations in the Visually Impaired Population in the United States.** *Dean A. VanNasdale, L. Jordan.* Optometry, Ohio State Univ College of Optometry

1387 — *8:30* **Prevalence and Determinants of Vision Impairment in Indigenous Australians: The Predicting Renal, Ophthalmic and Heart Events in the Aboriginal Community (PROPHECY) Study.** *Jose J. Estevez[1, 2], N. Howard[2], J. Landers[1], J. E. Craig[1], A. Brown[2].* [1]Ophthalmology, Flinders University; [2]Aboriginal Health Unit, South Australian Health and Medical Research Institute (SAHMRI)

1388 — *8:45* **Impact of visual impairment and major eye diseases on mortality in Asians.** *Charumathi Sabanayagam[1, 2], M. Chee[1], Y. Tham[1], D. Cheung[1], S. Poh[1], Y. Tao[1], C. Cheng[1, 2], T. Y. Wong[1, 2].* [1]Singapore Eye Research Institute, Singapore National Eye Centre; [2]Eye-ACP, Duke-NUS Medical School

1389 — *9:00* **Reductions in the incidence of falls after first and second eye cataract surgery.** *Lisa Keay[1, 2], K. Ho[1, 2], K. Rogers[6], P. J. McCluskey[3], A. J. White[4], N. Morlet[5], J. Ng[5], E. L. Lamoureux[7], K. Pesudovs[8], F. Stapleton[2], R. Q. Ivers[1], A. Palagyi[9].* [1]Injury Division, The George Institute for Global Health, UNSW; [2]School of Optometry and Vision Science, UNSW Sydney; [3]Save Sight Institute, University of Sydney; [4]Westmead Institute for Medical Research, University of Sydney; [5]Eye and Vision Epidemiology Research Group, University of Western Australia; [6]Statistics, The George Institute for Global Health, UNSW Sydney; [7]Population Health, Singapore National Research Institute; [8]Flinders University; [9]Centre for Health Systems Science, The George Institute for Global Health, UNSW Sydney

1390 — *9:15* **Patterns of Chronic Conditions and Their Association with Visual Impairment.** *Dandan D. Zheng[1], S. L. Christ[2], B. L. Lam[3], D. J. Feaster[1], K. McCollister[1], D. J. Lee[1].* [1]Dept. of Public Health Sciences, University of Miami; [2]Dept. of Human Development and Family Studies, Purdue University; [3]Bascom Palmer Eye Institute

1391 — *9:30* **Adopting contrast sensitivity screening in a drivers license program: Results from a pilot study of 346 subjects.** *Asad F. Durrani[1], E. Sejdic[2], T. R. Friberg[1].* [1]Ophthalmology, University of Pittsburgh School of Medicine; [2]Bioengineering, University of Pittsburgh Swanson School of Engineering **CR*

1392 — *9:45* **Binocular visual fields, simulated driving performance and self-reported driving in glaucoma.** *John P. Bader[1], D. Anderson[2], M. Sharp[2], M. Rizzo[2], D. A. Ghate[3].* [1]College of Medicine, University of Nebraska Medical Center; [2]Neurological Sciences, University of Nebraska Medical Center; [3]Ophthalmology and Visual Sciences, University of Nebraska Medical Center

West 221/222

Monday, April 29, 2019 8:15 AM-10:00 AM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

213 Systemic Disorders: Basic and Translational Studies

Moderators: Joseph Demer, Birgit Lorenz and Vallabh E. Das

1393 — *8:15* **Oral human-equivalent L-DOPA/Carbidopa dosages administered during the postnatal critical period of neuroplasticity rescues retinal morphology and visual function in a mouse model of human albinism.** *Aida Sanchez-Bretano, J. A. Scott, T. Newall, S. Lynn, H. Griffiths, A. Salman, A. Lotery, J. Ratnayaka, J. E. Self, H. Lee.* Clinical and Experimental Sciences, University of Southampton

1394 — *8:30* **Kruppel-like factor (KLF4) knockout in retinal ganglion cells improves visual function in Experimental Autoimmune Encephalomyelitis (EAE) mice model of optic neuritis.** *Venu Talla, R. D. Koilkonda, J. Guy.* Ophthalmology, Bascom Palmer Eye institute, University of Miami

1395 — *8:45* **Inhibition of Hif1 Signaling and Increased Lipid Metabolism are Associated with Retinal Ganglion Cell Protection in a Mouse Model of Multiple Sclerosis.** *Oliver W. Gramlich, A. J. Brown, K. Gonsalves, R. H. Kardon.* Dept. of Ophthalmology & Visual Sciences, The University of Iowa

1396 — *9:00* **Radiation Resistance and Muscle Stem Cells in Extraocular Muscles from a Mouse Model of Muscular Dystrophy.** *Linda K. McLoon.* Ophthalmology and Visual Neurosciences, University of Minnesota

1397 — *9:15* **Photopic electroretinogram (ERG) and colour vision (CV) evaluation in a presumptive sporadic Duchenne muscular dystrophy (DMD) cohort in northern India.** *Zia Chaudhuri[1], L. Paliwal[1], S. Sharma[2], O. Prakash[1], S. K. Mishra[3].* [1]Department of Ophthalmology, Lady Hardinge Medical College, University of Delhi; [2]Department of Pediatric Neurology, Lady Hardinge Medical College, University of Delhi; [3]Dr RP Centre for Ophthalmic Sciences, All India Institute of Medical Sciences

1398 — *9:30* **A tractable preclinical model of optic nerve demyelination.** *Peter van Wijngaarden[1, 2], J. P. Paul[1, 2], V. H. Wong[3], B. V. Bui[3], T. D. Merson[4].* [1]Centre for Eye Research Australia; [2]Ophthalmology, Department of Surgery, University of Melbourne; [3]Optometry and Vision Sciences, University of Melbourne; [4]Australian Regenerative Medicine Institute, Monash University

West 223/224

Monday, April 29, 2019 8:15 AM-10:00 AM

Visual Psychophysics/Physiological Optics

214 Accommodation: Morphology and Mechanisms

Moderators: Shrikant R. Bharadwaj and Fabrice Manns

1399 — *8:15* **Does close work affect the ciliary muscle morphology?** *Sandra Wagner[1], F. Schaeffel[3], E. Zrenner[1, 2], T. Strasser[1].* [1]Institute for Ophthalmic Research, Centre for Ophthalmology; [2]Werner Reichardt Centre for Integrative Neuroscience (CIN); [3]Section Neurobiology of the Eye, Centre for Ophthalmology

1400 — *8:30* **Dynamic Imaging of Ciliary Muscle and Pupil Changes During Accommodation.** *Yu-Cherng Chang[1, 2], F. Cabot[1, 3], M. Ruggeri[1], A. Ho[1, 4], S. H. Yoo[1, 3], J. Parel[1, 4], F. Manns[1, 2].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine ; [2]Department of Biomedical Engineering, University of Miami College of Engineering; [3]Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [4]Brien Holden Vision Institute **CR*

1401 — *8:45* **Iris Bowing is A Factor Influencing Pupil Size of the Accommodated Eyes among Young Adults.** *Ji C. He.* New England College of Optometry

1402 — *9:00* **Peripheral stimulation can override foveal stimulation in driving accommodation.** *Vivek Labhishetty, S. Cholewiak, M. Banks.* School of Optometry and Vision Science, University of California Berkeley

1403 — *9:15* **Refraction and Double Refraction of Light in the Human Macula Generate a Unique Functional Area in which Cones Can Specify Ocular Focus for Accommodation: the FOCAL Annulus.** *Marion S. Eckmiller.* C. and O. Vogt Institute for Brain Research, Heinrich Heine University Hospital Duesseldorf

1404 — *9:30* **Customized optical models describe ocular aberrations across the visual field during accommodation.** *Larry N. Thibos, T. Liu.* Optometry, Indiana University

1405 — *9:45* **Reduction of visual fatigue with near addition and yellow tint measured objectively.** *Daniel P. Spiegel[1], E. Lim[1], T. de Ayguavives[2], B. Drobe[1].* [1]Essilor R&D Singapore; [2]Essilor R&D France **CR*

ARVO Ballroom

Monday, April 29, 2019 8:15 AM-10:00 AM

Glaucoma / Biochemistry/Molecular Biology / Clinical/Epidemiologic Research / Retina / Visual Psychophysics/Physiological Optics

215 Healthcare transformation with AI: Impact in glaucoma and ophthalmology - Minisymposium

Artificial Intelligence (AI) is a field that has recently seen unprecedented growth with applications across all fields or medicine including ophthalmology. In ophthalmology, AI has strong potential to significantly improve disease screening, diagnosis, prognosis, and eventually lead the way to personalised treatment. AI may also help us re-define pathologies. While AI is not yet used in the ophthalmology clinic, within the next 10-20 years, it is extremely likely that clinicians and ophthalmic surgeons will need to rely or interact with AI software/technologies in their day-to-day clinical routine. This minisymposium aims to understand how AI will change the clinical landscape in Ophthalmology, particularly focusing on glaucoma as an example, as this is an important example of a chronic, aging disease with a significant health-economic burden. It will discuss current and future research and industry trends that are likely to make an impact in the clinic. It will also discuss the strong limitations inherent to AI. This symposium aims to gather clinicians and scientists with an interest in AI, engineers and computer scientists that are developing the next generation of AI algorithms, and industry members and policy makers who will play a critical role in the introduction of AI to the ophthalmology clinic.

Moderators: Michael J. Girard, C R. Ethier and M. Francesca Cordeiro

1406 — *8:15* **OCTAGON: Optical Coherence Tomography & Artificial Intelligence for Glaucomatous Optic Neuropathy.** *Alexander Thiery.* National University of Singapore **CR*

— *8:28* **Q&A**

1407 — *8:36* **Artificial Intelligence for Glaucoma Diagnosis.** *C Gustavo De Moraes.* Columbia University Medical Center

— *8:49* **Q&A**

1408 — *8:57* **AI to assess mechanisms of glaucoma and other diseases.** *Anil Bharath.* Imperial College **CR*

— *9:10* **Q&A**

1409 — *9:18* **Using AI to infer function from structure in retinal imaging.** *Aaron Y. Lee.* Department of Ophthalmology, University of Washington **CR*

— *9:31* **Q&A**

1410 — *9:39* **AI in ophthalmology: commercial considerations.** *Carlos Ciller.* Advanced Imaging Group, RetinAI Medical AG **CR*

— *9:52* **Q&A**

Harbour Ballroom

Monday, April 29, 2019 8:15 AM-10:00 AM

Cornea

216 Dry Eye I

Moderators: Helen P. Makarenkova, Stephen C. Pflugfelder and Margarita Calonge

1411 — *8:15* **An optimized model of dry eye disease using benzalkonium chloride in C57BL/6 mice: effects on the ocular surface.** *Richard Zhang[1], M. Park[1], A. Richardson[1], N. Tedla[1], C. S. De Paiva[2], S. L. Watson[3], D. Wakefield[1], N. Di Girolamo[1].* [1]Mechanisms of Disease and Translational Research, School of Medical Sciences, Faculty of Medicine, University of NSW; [2]Department of Ophthalmology, Baylor College of Medicine; [3]Save Sight Institute, Discipline of Ophthalmology, Sydney Medical School, University of Sydney

1412 — *8:30* **Meibomian Gland (MG) Acinar Regeneration from Atrophy in a *Fgfr2* Conditional Knockout Mouse Model.** *Lixing W. Reneker[1], X. Yang[2, 1], X. Zhong[2], A. J. Huang[3].* [1]Ophthalmology, University of Missouri-Columbia; [2]Zhongshan Ophthalmic Center, Sun Yat-sen University; [3]Ophthalmology & Visual Sciences, Washington Univ School of Med

1413 — *8:45* **Increased conjunctival monocyte/macrophage antigen presenting cells in Pinkie RXRα deficient mice with accelerated dry eye.** *Stephen C. Pflugfelder, R. G. de Souza, J. Alam, Z. Yu, C. S. De Paiva.* Ophthal-Ocular Surf Ctr, Baylor College of Medicine

1414 — *9:00* **Characterization of Vitamin D Levels in Ocular Surface Tissues and their Association with Dry Eye Disease.** *Ashley Bascom, R. L. Redfern, R. Y. Reins.* College of Optometry, University of Houston

1415 — *9:15* **Contribution of effector T helper 17/1 (eTh17/1) versus effector Th17 cells (eTh17) to memory pool in dry eye disease.** *Nai-Wen Fan, Y. Chen, A. Amouzegar, R. Dana.* Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School

1416 — *9:30* **High fat diet induced functional and pathological changes in lacrimal gland.** *Xin He[1], Z. Zhao[1], J. Bu[1], M. Zhang[1], J. Kang[1, 2], Y. Li[1], K. Li[3], Z. Liu[1, 2], W. Li[1, 2].* [1]Eye Institute of Xiamen University ; [2]Xiang'an Hospital of Xiamen University; [3]Datong Middle School

1417 — *9:45* **Function of lacrimal gland myoepithelial cells in homeostasis, aging and disease.** *Helen P. Makarenkova, T. Zyrianova, L. Basova, T. Umazume.* Molecular Medicine, The Scripps Research Institute

West Exhibition Hall A0102-A0116

Monday, April 29, 2019 8:15 AM-10:00 AM

Visual Psychophysics/Physiological Optics

217 Imaging Science and Vision Assessment

Moderator: Emily J. Patterson

1418 — *A0102* **Evaluating reading process using a novel screening method named R.A.D.A.R (Rapid Assessment of Dyslexia and Abnormalities in Reading).** *Ioannis Aslanides[1], M. Aslanidis[1], I. Aslanidi[1], V. Selimis[1], V. Andreadakis[2], I. Smyrnakis[2].* [1]Emmetropia Eye Institute; [2]Optotech Ltd **CR*

1419 — *A0103* **Improving reading by text motion for sentences masked with noise or with visual impairment.** *Ann E. Elsner[1, 2], R. N. Gilbert[1], S. E. Hassan[1], R. L. Warner[1], B. P. Haggerty[1], E. J. Kollbaum[1], C. A. Clark[1], M. S. Muller[2].* [1]Optometry, Indiana University; [2]Aeon Imaging, LLC **CR*

1420 — *A0104* **Clinical usefulness of the fundus visual acuity measurement using the super-retinal imaging display based on scanning laser technology.** *Satoshi Ishiko[1], T. Ro-Mase[2], K. Sugawara[2], M. Sugawara[3], M. Suzuki[3], Y. Yanagi[2, 4], A. Yoshida[2].* [1]Medicine and Engineering Comb Res Inst, Asahikawa Medical University; [2]Ophthalmology, Asahikawa Medical University; [3]QD Laser, Inc,; [4]Singapore Eye Research Institute **CR*

1421 — *A0105* **Improving the Two-wavelength Fundus Oximetry Method for Quantitatively Measuring Retinal Oxygen Saturation in an Eye Model.** *Marjaneh Hejazi[1], M. Sadeghifar[1], D. ramezani[2], H. Ahmadieh[3], A. Elyassi[1], S. Mashalchi Zadeh[1], M. Seydi[1].* [1]Medical Physics and Biomedical Engineering Department, School of Medicine, Tehran University of Medical Sciences; [2]Ophthalmic Epidemiology Research Center, Shahid Beheshti University of Medical Sciences; [3]Ophthalmic Research Center, Shahid Beheshti University of Medical Science

1422 — *A0106* **The Zilia imaging system: A novel technology to measure ocular oximetry.** *Kevin Messier, P. Forcier.* University of Montreal

1423 — *A0107* **Repeatability of Macular and Optic Nerve Head OCT Parameters In Advanced Glaucoma.** *Alexandre S. Reis[1], A. A. Jammal[1, 2], C. Zangalli[1], B. G. Ferreira[1], J. R. Vianna[3], P. H. Artes[4], V. P. Costa[1].* [1]Ophthalmology, Unicamp ; [2]Duke University; [3]Ophthalmology and Visual Sciences, Dalhousie University; [4]Plymouth University

1424 — *A0108* **Comparison of High Magnification Module for Spectralis to Adaptive Optics Scanning Laser Ophthalmoscopy.** *Dirk-Uwe G. Bartsch, M. Amador, K. Dans, M. Jhingan, M. Cavichini Cordeiro, W. R. Freeman.* Ophthalmology-Shiley Eye Ctr, Univ of California-San Diego

1425 — *A0109* **High-Resolution Second Harmonic Generation Images Of The Living Human Eye.** *Juan M. Bueno[1], R. M. Martinez-Ojeda[1], F. J. Avila[1], L. M. Mugnier[2], P. Artal[1].* [1]Laboratorio de Optica, Universidad de Murcia; [2]ONERA - The French Aerospace Lab

1426 — *A0110* **Optoretinogram: stimulus-induced optical changes in photoreceptors observed with phase-resolved line-scan OCT.** *Vimal Prabhu Pandiyan[1], A. Bertelli[1], J. A. Kuchenbecker[1], B. Park[2], D. V. Palanker[4], A. Roorda[3], R. Sabesan[1].* [1]Ophthalmology, University of Washington; [2]Bioengineering, University of Calfiornia; [3]School of Optometry, University of California, Berkeley; [4]Ophthalmology, Stanford University **CR*

1427 — *A0111* **Fully-Automated Estimation of Cone Metrics in Adaptive Optics Retinal Images.** *Robert F. Cooper[1, 2], G. K. Aguirre[3], J. I. Morgan[2, 4].* [1]Psychology, University of Pennsylvania; [2]Scheie Eye Institute, Ophthalmology, University of Pennsylvania; [3]Neurology, University of Pennsylvania; [4]Center for Advanced Retinal and Ocular Therapeutics, Ophthalmology, University of Pennsylvania **CR*

1428 — *A0112* **Normative database of cone spacing and density from adaptive optics montage.** *Snega Kalaparambath[1], R. F. Cooper[1, 2], G. Vergilio[1], G. K. Aguirre[3], J. I. Morgan[1, 4].* [1]Ophthalmology, Scheie Eye Institute; [2]Psychology, University of Pennsylvania; [3]Neurology, University of Pennsylvania; [4]Center for Advanced Retinal and Ocular Therapeutics **CR*

1429 — *A0113* **The Effect of Trial Lenses on AOSLO Image Scale.** *Heather Heitkotter[1], A. E. Salmon[1], R. E. Linderman[1], J. Porter[2], J. Carroll[1, 3].* [1]Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin; [2]College of Optometry, University of Houston; [3]Ophthalmology & Visual Sciences, Medical College of Wisconsin **CR*

1430 — *A0114* **New algorithms based on the voronoi diagram for early detection pathological changes of photoreceptors in tissues with diabetic retinopathy.** *Nazario Bautista-Elivar.* Tecnologico Nacional de México/Instituto Tecnologico de Pachuca

1431 — *A0115* **Automated cone identification in adaptive optics retinal images of Choroideremia using a convolutional neural network.** *Jessica I. Morgan[1, 2], M. Chen[3], G. Vergilio[1], A. M. Huang[1], J. Bennett[1, 2], A. M. Maguire[1, 2], T. S. Aleman[1, 2], R. F. Cooper[1, 4].* [1]Scheie Eye Institute, Ophthalmology, University of Pennsylvania; [2]Center for Advanced Retinal and Ocular Therapeutics, Ophthalmology; [3]Radiology, University of Pennsylvania; [4]Psychology, University of Pennsylvania **CR*

1432 — *A0116* **Study of cone outer segment length variability in retinitis pigmentosa using adaptive optics optical coherence tomography.** *Ayoub Lassoued, K. Kurokawa, F. Zhang, J. A. Crowell, D. T. Miller.* Optometry, Indiana University-Bloomington

West Exhibition Hall A0117-A0160

Monday, April 29, 2019 8:15 AM-10:00 AM

Multidisciplinary Ophthalmic Imaging Group

218 Machine Learning I

Moderators: Yuankai Tao and Yuanjie Zheng

1433 — *A0117* **Assistance from a deep learning system improves diabetic retinopathy assessment in optometrists.** *Rory Sayres[1], S. Xu[2], T. Saensuksopa[1], M. Le[1], D. R. Webster[1].* [1]Google; [2]Verily **CR*

1434 — *A0118* **Artificial intelligence effectively combined OCT and OCTA indices to improve early detection of diabetic retinopathy (DR).** *Nivedhitha Govindasamy[1, 2], D. Ratra[3], D. Dalan[3], T. B. Mochi[4], A. Sinha Roy[1, 2].* [1]Narayana Nethralaya Foundation; [2]Imaging Biomechanics Mathematical Modelling Solutions; [3]Sankara Nethralaya Eye Hospital; [4]Narayana Nethralaya Eye Hospital

1435 — *A0119* **Artificial intelligence for the automatic detection of diabetic retinopathy with feedback from key areas.** *Sabato Ceruso[1], S. Bonaque-González[2], A. Pareja-Ríos[1], J. Rodriguez-Ramos[2], J. Marichal-Hernández[1], D. Carmona-Ballester[1], R. Oliva[1].* [1]Universidad de La Laguna; [2]Wooptix

1436 — *A0120* **A Deep learning classifier for screening of diabetic retinopathy using simultaneous imaging with fundus and OCT.** *Thirumalesh Mochi Basavaraj[1], R. Sharma[2], Y. Singh[2], T. Dastidar[2], R. Pandey[2], A. Anand[2], A. Sinha Roy[1].* [1]Narayana Nethralaya; [2]Sigtuple Inc**.** **CR*

1437 — *A0121* **Predicting Tolerance to Extended Interval Dosing in Diabetic Macular Edema and Retinal Vein Occlusion via Subvisual Feature Assessment of Ultra-widefield Angiography: Preliminary Findings in the PERMEATE study.** *Azam Moosavi[1], N. Figueiredo[2], P. Prasanna[1], S. K. Srivastava[2], M. Hu[2], S. Sharma[2], J. L. Reese[2], J. Ehlers[2], A. Madabhushi[1].* [1]Biomedical Engineering Department, Case Western Reserve University; [2]Cole Eye Institute, Cleveland Clinic Foundation, 9500 Euclid Ave/i32, **CR*

1438 — *A0122* **Effect of Image Compression and Number of Fields on a Deep Learning System for Detection of Diabetic Retinopathy.** *Michelle Y. Yip[1, 2], G. Lim[3], V. Bellemo[1], Y. Xie[1], X. Lee[1], Q. Nguyen[1], H. Hamzah[4], J. Ho[4], C. Sabanayagam[1], C. Y. Cheung[5], G. S. Tan[1, 4], W. Hsu[3], M. Lee[3], T. Y. Wong[1, 4], D. S. Ting[1, 4].* [1]Singapore Eye Research Institute; [2]Duke-NUS Medical School; [3]National University of Singapore, School Of Computing; [4]Singapore National Eye Centre; [5]The Chinese University of Hong Kong **CR*

1439 — *A0123* **The Application of Deep Learning System to Screen for Diabetic Retinopathy in an Underprivileged African Population with Diabetes.** *Valentina Bellemo[1], Z. Lim[2], G. Lim[2], Q. Nguyen[1], M. Y. Yip[1, 4], Y. Xie[1], X. Lee[1], H. Hamzah[3], J. Ho[3], G. S. Tan[1, 3], W. Hsu[2], M. Lee[2], S. Sivaprasad[6], G. Menon[5], T. Y. Wong[1, 3], D. S. Ting[1, 3].* [1]Singapore Eye Research Intitute; [2]School of Computing, National University of Singapore; [3]Singapore National Eye Centre; [4]Duke-NUS Medical School; [5]Department of Ophthalmology, Frimley Park Hospital; [6]Retina Department, Moorfields Eye Hospital **CR*

1440 — *A0124* **Clinical Validation of a Deep Learning Automated Algorithm for the Detection of Diabetic Retinopathy and Macular Edema.** *Kristen Stebbins, Y. Wang, L. Tang, N. Suri, S. Wang, A. Purohit, M. Johnson, E. Chaum.* Welch Allyn **CR*

1441 — *A0125* **Clinical validation of a machine-learned algorithm for detection of diabetic retinopathy (DR) and diabetic macular edema (DME) in fundus images.** *Kira Whitehouse[4], S. Virmani[4], S. Jansen[4], P. Wubbels[4], F. Thng[4], D. Kwok[4], J. Han[4], D. Miller[4], A. Patwardhan[4], A. Moulton[4], A. Maciel[1], A. Misra[1], S. Barez[2], W. Li[2], H. Green[2], J. Cuadros[3, 2].* [1]Google; [2]University of California, Berkeley; [3]EyePACS LLC; [4]Verily Life Sciences LLC **CR*

1442 — *A0126* **Screening performance of an automated image analysis software for the detection of diabetic retinopathy using a conventional fundus photography or a confocal white LED device: a comparison study.** *Valentina Sarao[1, 2], D. Veritti[1, 2], P. Lanzetta[1, 2].* [1]Department of Medicine - Ophthalmology, University of Udine; [2]Istituto Europeo di Microchirurgia Oculare-IEMO **CR*

1443 — *A0127* **Opening the "black box" of deep learning in automated screening of eye diseases.** *Cristina González-Gonzalo[1], B. Liefers[1], A. Vaidyanathan[1], H. van Zeeland[1, 2], C. C. Klaver[3, 2], C. I. Sanchez[1, 2].* [1]EyeNED Research Group, Department of Radiology and Nuclear Medicine, Radboudumc; [2]Ophthalmology, Radboudumc; [3]Ophthalmology & Epidemiology, Erasmus MC

1444 — *A0128* **Deep neural network and human evaluation of referral-warranted diabetic retinopathy using smartphone-based retinal photographs.** *Michael Aaberg[1], T. Kim[1], P. Li[1], L. Niziol[1], M. Bhaskaranand[2], S. Bhat[2], C. Ramachandra[2], K. Solanki[2], J. Davila[1], F. Myers[3], C. Reber[3], D. C. Musch[1], T. Margolis[4], D. Fletcher[3], Y. M. Paulus[1, 5].* [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Eyenuk Inc.; [3]Department of Bioengineering, University of California Berkeley; [4]Department of Ophthalmology and Visual Sciences, Washington University School of Medicine; [5]Department of Biomedical Engineering, University of Michigan **CR*, ↗

1445 — *A0129* **Deep Learning Method to Identify Diabetic Retinopathy and Diabetic Macular Edema Characteristics.** *Hernan A. Rios[1, 2], O. J. Perdomo Charry[3], S. Rosenstiehl Colon[1, 2], F. E. Gomez[1], F. A. Gonzalez[3], F. Rodriguez[1, 2].* [1]Fundacion Oftalmologica Nacional; [2]Universidad del Rosario; [3]Universidad Nacional

1446 — *A0130* **Fundus Photograph-based Deep Learning for Estimation of Blood Bilirubin in a Chinese Population.** *Hua Wang[1, 2], J. Zhang[1, 3], Y. Yu[1, 2], K. Lu[1, 2], Y. Yuan[1, 2], X. Wang[1, 2], M. Bao[1, 3], S. Chen[8], S. Wu[7], w. wei[6], Y. Wang[4], J. B. Jonas[5, 4].* [1]School of Biological Science and Medical Engineering, Beihang University; [2]Hefei Innovation Research Institute, Beihang University; [3]Beijing Advanced Innovation Center for Big Data-Based Precision Medicine, Beihang University; [4]Beijing Institute of Ophthalmology, Beijing Tongren Hospital; [5]Ophthalmology, Medical Faculty Mannheim-Heidelberg; [6]Department of Ophthalmology, Beijing Tongren Hospital; [7]Cardiology, Kailuan General Hospital; [8]Health Care Center, Kailuan Group

1447 — *A0131* **Diagnosis of central serous chorioretinopathy using deep learning with choroidal vascular en face images.** *Yukihiro Aoyama, I. Maruko, T. Kawano, T. Yokoyama, y. ogawa, r. maruko, T. Iida.* Tokyo Women's Medical University **CR*

1448 — *A0132* **Deep Learning for Identifying Retinal Vein Occlusion Features in Fundus Images.** *Ashish Bora[1], J. Krause[1], A. Misra[1], C. Dunn[1], A. Zaidi[1, 2], O. Kuruvilla[1, 3], J. Carlson[1, 4], S. Balasubramanian[1], C. Semturs[1], L. Peng[1], D. R. Webster[1].* [1]Google AI Healthcare, Google LLC; [2]Pacific Eye Associates; [3]Eye and Laser Center; [4]Retina Associates of Southern Utah **CR*

1449 — *A0133* **Automatic Deep Learning OCT Analysis Algorithm Reliably Reproduces Expert-Evaluated Outcome of a Randomized Clinical Trial for Macular Telangiectasia Type 2 Treatment.** *Jessica Loo[1], T. E. Clemons[3], E. Y. Chew[2], M. Friedlander[4, 6], G. J. Jaffe[5], S. Farsiu[1, 5].* [1]Biomedical Engineering, Duke University; [2]Epidemiology and Clinical Applications, National Eye Institute; [3]Ophthalmology, Emmes; [4]Molecular Medicine, The Scripps Research Institute; [5]Ophthalmology, Duke University Eye Center; [6]The Lowy Medical Research Institute **CR*, ↗

1450 — *A0134* **Automated Machine Learning Pipeline for Predicting Retinal Sensitivity from Optical Coherence Tomography in Macular Telangiectasia Type 2.** *Yuka Kihara[1], T. Heeren[2, 3], y. wu[1], T. Spaide[1], S. Xiao[1], C. A. Egan[2, 3], C. S. Lee[1], A. Lee[1].* [1]Ophthalmology, University of Washington; [2]Moorfields Eye Hospital NHS Foundation Trust; [3]UCL Institute of Ophthalmology, University College London **CR*

1451 — *A0135* **Novel automated processing technique for standardization and normalization of fluorescein angiography images in patients with uveitis.** *Natasha P. Kesav[1, 2], Q. Yang[3], W. Losert[4], H. Sen[1].* [1]Section on Immunopathology, Laboratory of Immunology, National Eye Institute; [2]Northeast Ohio Medical University; [3]Department of Materials Science and Engineering, University of Maryland; [4]College of Computer, Mathematical, and Natural Sciences, University of Maryland

1452 — *A0136* **Prediction of Geographic Atrophy progression by deep learning applied to retinal imaging.** *Guillaume Normand[1], G. Quellec[2], R. Danno[3], B. Lay[3], G. Weissgerber[1], N. Zakaria[1], S. Chandra[1].* [1]Novartis Pharmaceuticals Corporation, Novartis; [2]INSERM UMR1101; [3]ADCIS SA **CR*

1453 — *A0137* **Automated Development of Deep Learning Models to Diagnose Retinal Disease from Fundus and Optical Coherence Tomography Images.** *Pearse A. Keane[1, 3], L. Faes[2, 1], S. Wagner[3], D. Fu[1], J. R. Ledsam[5], R. Chopra[3, 5], C. Kern[1], G. Moraes[1], N. PONTIKOS[3], M. Schmid[2], L. Bachmann[4], D. A. Sim[1], K. Balaskas[1, 3].* [1]Moorfields Eye Hospital NHS Foundation Trust; [2]Retina, Eye Clinic, Cantonal Hospital Lucerne; [3]NIHR Biomedical Research Center, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [4]medignition Inc; [5]DeepMind Technologies Ltd. **CR*

1454 — *A0138* **Automatic druse quantification in optical coherence tomography (OCT) using deep learning without manual annotation effort.** *Akshayaa Vaidyanathan[1], B. Liefers[1], C. González-Gonzalo[1], H. van Zeeland[1, 3], C. C. Klaver[2, 3], C. I. Sanchez[1, 3].* [1]EyeNED Research Group, Department of Radiology and Nuclear Medicine, Radboud University Medical Center; [2]Department of Ophthalmology & Epidemiology, Erasmus University Medical Center; [3]Department of Ophthalmology, Radboud University Medical Center

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

1455 — *A0139* **Prediction of areas at risk of developing geographic atrophy in color fundus images using deep learning.** *Bart Liefers[1], J. M. Colijn[2], C. González-Gonzalo[1], A. Vaidyanathan[1], H. van Zeeland[1, 3], P. Mitchell[4], C. C. Klaver[2, 3], C. I. Sanchez[1, 3].* [1]EyeNED Research Group, Department of Radiology and Nuclear Medicine, Radboudumc; [2]Ophthalmology & Epidemiology, Erasmus MC; [3]Ophthalmology, Radboudumc; [4]Clinical Ophthalmology & Eye Health, University of Sydney

1456 — *A0140* **Estimation of Haemoglobin A1c from Retinal photographs via Deep Learning.** *Yih Chung Tham[1], Y. Liu[1, 2], D. Ting[1], G. C. Tjio[2], A. Anees[2], G. S. Tan[1], C. Sabanayagam[1], R. Goh[2], T. Y. Wong[1], C. Cheng[1].* [1]Singapore Eye Research Institute, Singapore National Eye Centre; [2]Institute of High Performance Computing, A STAR

1457 — *A0141* **Development and Validation of a Cloud-based Deep Learning Platform for Detection of 37 Fundus Diseases in Retinal Photographs.** *Ling-Ping Cen[1], J. Ji[2], J. Lin[1], C. C. Pang[3], M. Zhang[1].* [1]STU-CUHK Joint Shantou International Eye Center; [2]Shantou University; [3]The Chinese University of Hong Kong

1458 — *A0142* **Development of a deep learning image system for detecting referable retinopathy of prematurity.** *Mingzhi Zhang[1], G. Zhang[1], J. Ji[2], j. wang[1], J. Lin[1].* [1]Ophthalmology, Joint Shantou International Eye Center; [2]Shantou University

1459 — *A0143* **Geographic Atrophy Lesion Segmentation Using a Deep Learning Network (U-net).** *Jasmine Patil[1], M. Kawczynski[2], S. S. Gao[1, 2], A. F. Coimbra[1].* [1]Clinical Imaging Group, Genentech; [2]Personalized Healthcare, Roche **CR*

1460 — *A0144* **Identifying glaucomatous optic nerve head features and glaucoma risk in fundus images at eye-care provider levels of accuracy using deep learning algorithms.** *Sonia Phene[1], N. Hammel[1], A. E. Huang[1], A. Y. Maa[2, 3], C. Dunn[1], C. Semturs[1], L. Peng[1], D. R. Webster[1].* [1]Google AI Healthcare, Google ; [2]Department of Ophthalmology, Emory University School of Medicine; [3]Ophthalmology Section, Atlanta Veterans Affairs Medical Center **CR*

1461 — *A0145* **Deep learning algorithm for diagnosis of Alzheimer's disease using multimodal retinal imaging.** *Clayton E. Wisely[2], D. Wang[4], R. Henao[1], D. S. Grewal[2], S. P. Yoon[2], B. Polascik[2], A. C. Thompson[2], J. R. Burke[3], L. Carin[4], S. Fekrat[2].* [1]Biostatistics and Bioinformatics, Duke University; [2]Ophthalmology, Duke University; [3]Neurology, Duke University; [4]Electrical and Computer Engineering, Duke University ↗

1462 — *A0146* **Estimating visual field functions in glaucoma patients using multi-regional neural networks on OCT images.** *Hsin-Hao Yu[1], S. Maetschke[1], B. J. Antony[1], H. Ishikawa[2], G. Wollstein[2], J. S. Schuman[2], S. Wail[1].* [1]Multimedia Analytics, IBM Research Australia; [2]NYU Langone Health, NYU Eye Center **CR*

1463 — *A0147* **Evaluation of the Pegasus Deep Learning System for identifying Glaucomatous Optic Neuropathy Based on Color Fundus Photographs.** *Lama Al-Aswad[1], R. Kapoor[1], C. Chu[1], S. Walters[1], D. Gong[1], a. garg[1], K. Gopal[1], V. Patel[1], S. Trikha[2, 3], T. Rogers[2], N. Jaccard[2], C. De Moraes[1], G. Moazami[1].* [1]Ophthalmology, Edward S**.** Harkness Eye Insititue, Columbia University Medical Center ; [2]Visulytix Ltd; [3]King's College Hospital NHS Foundation Trust **CR*

1464 — *A0148* **Assessing the Ability of Convolutional Neural Networks to Detect Glaucoma from OCT Probability Maps.** *Kaveri A. Thakoor[1], Q. Zheng[2], L. Nan[2], X. Li[1], E. Tsamis[5], R. Rajshekhar[5], I. Dwivedi[2], I. Drori[2], P. Sajda[3], D. C. Hood[4].* [1]Biomedical Engineering, Columbia University; [2]Computer Science, Columbia University; [3]Biomedical Engineering, Radiology, and Electrical Engineering, Columbia University; [4]Psychology and Ophthalmology, Columbia University; [5]Psychology, Columbia University **CR*

1465 — *A0149* **Forecasting Visual Field parameters at the Future visits using machine learning regression.** *Suman Sedai[1], B. Antony[1], H. Ishikawa[2], G. Wollstein[2], J. S. Schuman[2].* [1]Multimedia Analytics, IBM Research Australia; [2]NYU Langone Health, NYU Eye Center **CR*, ↗

1466 — *A0150* **Deep Learning Based Features Improves Forecasting OCT Measurements at the Future Visit.** *Hiroshi Ishikawa[1], S. Sedai[2], B. Antony[2], G. Wollstein[1], J. S. Schuman[1], S. Wail[2].* [1]NYU Langone Health, NYU Eye Center; [2]IBM Research Australia **CR*

1467 — *A0151* **Identifying Clinically Useful Markers in Glaucoma Suspects and Primary Open Angle Glaucoma Patients Using a Machine Learning J48 Decision Tree.** *Hardik A. Parikh, S. Sarrafpour, B. Chiu, A. Gupta, M. de los Angeles Ramos Cadena, H. Ishikawa, G. Wollstein, J. Schuman, J. A. Young.* Ophthalmology, NYU Langone Medical Center

1468 — *A0152* **Artificial Intelligence Deep Learning System for Predicting Chronic Kidney Disease from Retinal Images.** *Tien Y. Wong[3, 4], D. Xu[2], D. Ting[3, 4], S. Nusinovici[3], C. Cheung[1], T. Shyong[5], C. Cheng[3, 4], M. Lee[2], W. Hsu[2], C. Sabanayagam[3, 4].* [1]Department of Ophthalmology and Visual Sciences, Chinese University of Hong Kong; [2]School of Computing, National University of Singapore; [3]Singapore Eye Research Institute, Singapore National Eye Centre; [4]Eye-ACP, Duke-NUS Medical School; [5]Department of Medicine, National University of Singapore

1469 — *A0153* **Concordance between color photo interpretation of the optic nerve and an Unsupervised Learning Algorithm to determine optic nerve damage.** *Sandra Belalcazar[1], V. P. CARPIO ROSSO[1], S. Rosenstiehl Colon[1], O. J. Perdomo Charry[2], F. A. Gonzalez[2], H. A. Rios[1], C. Carbajal[1].* [1]Fundacion Oftalmologica Nacional ; [2]Universidad Nacional

1470 — *A0154* **Deep neural network based glaucoma detection using RNFL thickness map.** *Krunalkumar Ramanbhai Patel[1], G. C. Lee[2], M. K. Durbin[2], M. Wall[3, 6], P. H. Artes[4], J. G. Flanagan[5].* [1]CARIn, Carl Zeiss India; [2]R & D, Carl Zeiss Meditec, Inc**.**, Dublin, CA; [3]Ophthalmology and Visual Sciences, The University of Iowa, Iowa City, Iowa, USA;; [4]School of Health Professions, Plymouth University, Plymouth, UK; [5]School of Optometry and Vision Science Program, University of California Berkeley, Berkeley, California, USA; [6]Iowa City Veterans Administration Medical Center, University of Iowa, Iowa City, IA **CR*

1471 — *A0155* **Artificial Intelligence: A framework that can distinguish cavernous hemangioma and neurilemmoma automatically.** *Shaowei Bi, H. Lin, K. Zhang, H. Yang.* Zhongshan Ophthalmic Center

1472 — *A0156* **Detecting Glaucoma and Suspect Progression through Longitudinal Fundus Photos.** *Joelle Hallak, N. Mojab, J. Baker, V. Noroozi, D. T. Azar, M. Rosenblatt.* Ophthalmology & Visual Sciences, University of Illinois at Chicago/ Illinois Eye & Ear Infirmary

1473 — *A0157* **Predicting the positivity for thioflavin fluorescence of retinal deposits by their polarization properties in association with Alzheimer's disease.** *yunyi Qiu, M. C. Campbell, T. Jin, E. Mason, R. Redekop, L. Emptage, M. Kitor.* Physics, University of Waterloo **CR*

1474 — *A0158* **A 3D Deep Learning System for Detecting Referrable Glaucoma Using Full OCT Macular Cube Scans.** *Daniel B. Russakoff[1], S. S. Mannil[2], J. D. Oakley[1], R. Chang[2].* [1]Voxeleron LLC; [2]Byers Eye Institute, Stanford University **CR*

1475 — *A0159* **Fundus Photograph-based Deep Learning for Discrimination of Chronic Kidney Disease in a Chinese Population.** *Jicong Zhang[1, 2], H. Wang[1, 3], X. Wang[1, 3], M. Bao[1, 2], Y. Yuan[1, 3], K. Lu[1, 3], Y. Yu[1, 3], S. Chen[7], S. Wu[6], w. wei[8], Y. Wang[4], J. B. Jonas[5, 4].* [1]School of Biological Science and Medical Engineering, Beihang University; [2]Beijing Advanced Innovation Center for Big Data-Based Precision Medicine, Beihang University; [3]Hefei Innovation Research Institute, Beihang University; [4]Beijing Institute of Ophthalmology, Beijing Tongren Hospital; [5]Department of Ophthalmology, Mannheim of the Ruprecht-Karls-University; [6]Cardiology Department, Kailuan General Hospital; [7]Health Care Center, Kailuan Group; [8]Department of Ophthalmology, Beijing Tongren Hospital

1476 — *A0160* **Brain and Optic Nerve Study with Artificial Intelligence (BONSAI).** *Dan Milea[1], Z. Jiang[2], C. Vasseneix[3], C. Fraser[4], P. Goher[7], R. Najjar[1], S. SInghal[1], D. Ting[1], A. Selvakumar[5], J. B. Jonas[8], N. Newman[6], N. Miller[9], Y. Liu[2], V. Biousse[3], T. Wong[1].* [1]Singapore Eye Research Institute; [2]IHPC; [3]Emory Eye Hospital; [4]Sydney Eye Hospital; [5]Sanakara Nathralya; [6]Emory; [7]CHU Angers; [8]Mannheim Ophthalmology; [9]Johns Hopkins

West Exhibition Hall A0161-A0205

Monday, April 29, 2019 8:15 AM-10:00 AM

Multidisciplinary Ophthalmic Imaging Group

219 Machine Learning II

Moderators: Delia Cabrera DeBuc and Tristan Hormel

1477 — *A0161* **A universal artificial intelligence platform for collaborative management of cataracts.** *Xiaohang Wu[1], L. Chen[2], Z. Liu[1], W. Lai[1], K. Zhang[3], D. Lin[1], K. Chen[4], T. Yu[4], D. Wu[4], C. Li[4], C. Chen[5], Y. Zhu[5], H. Lin[1].* [1]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University; [2]Beijing Tulip Partners Technology Co., Ltd; [3]School of Computer Science and Technology, Xidian University; [4]Zhongshan School of Medicine, Sun Yat-sen University; [5]Department of Molecular and Cellular Pharmacology, University of Miami Miller School of Medicine

1478 — *A0162* **Artificial intelligence using a deep learning system with transfer learning to predict refractive error and myopic macular degeneration from color fundus photographs.** *Tien-En Tan[1, 2], D. S. Ting[1, 2], Y. Liu[3], S. Li[3], C. Chen[3], Q. Nguyen[2], C. Wong[1, 2], Q. V. Hoang[1, 2], S. Lee[1, 2], E. Y. Wong[1, 2], I. Y. Yeo[1, 2], Y. Wong[4, 2], C. Cheng[2, 1], S. Saw[4, 2], G. C. Cheung[1, 2], T. Y. Wong[1, 2].* [1]Singapore National Eye Centre; [2]Singapore Eye Research Institute; [3]Institute of High Performance Computing; [4]Saw Swee Hock School of Public Health

1479 — *A0163* **Automated deep learning segmentation for smartphone based applanation tonometry.** *Theodore Spaide, y. wu, Y. Kihara, S. Xiao, C. S. Lee, J. C. Wen, A. Lee.* University of Washington **CR*

1480 — *A0164* **Deep learning-based automatic segmentation of stromal infiltrates and associated biomarkers on slit-lamp images of microbial keratitis.** *Sina Farsiu[1], J. Loo[2], M. F. Kriegel[3, 4], M. Tuohy[3], V. Prajna[3], M. A. Woodward[3].* [1]Ophthalmology & Biomedical Engineering, Duke University; [2]Biomedical Engineering, Duke University; [3]Ophthalmology and Visual Sciences, University of Michigan, Kellogg Eye Center; [4]Ophthalmology, Augenzentrum am St. Franziskus Hospital Muenster **CR*

1481 — *A0165* **Classification of subclinical keratoconus based on the combination of Scheimpflug and Spectral-Domain OCT imaging data using Artificial Intelligence.** *Meixiao Shen, C. Shi, S. Chen, J. Jiang, Y. Ye, F. Lu.* School of Ophtholmology & Optometry, Wenzhou Medical University

1482 — *A0166* **Deep Learning Algorithms to Isolate and Quantify the Structures of the Anterior Segment in Optical Coherence Tomography Images.** *Tan Hung Pham[1, 2], A. Ang[3], V. T. Koh[4], C. Cheng[2], M. J. Girard[1, 2].* [1]Department of Biomedical Engineering, National University of Singapore; [2]Singapore Eye Research Institute, Singapore National Eye Centre; [3]Yong Loo Lin School of Medicine, National University of Singapore; [4]Department of Ophthalmology, National University Hospital

1483 — *A0167* **Comparison of Deep Learning and Manual Endothelial Cell Analysis in Donor Corneas post Descemet Stripping Automated Endothelial Keratoplasty (DSAEK).** *Naomi Joseph[1], C. Kolluru[1], H. Menegay[2, 3], S. Burke[3], J. H. Lass[2, 3], B. Benetz[2, 3], D. Wilson[1, 4].* [1]Biomedical Engineering, Case Western Reserve University; [2]Ophthalmology and Visual Sciences, Case Western Reserve University; [3]Cornea Image Analysis Reading center, University Hospitals Eye Institute; [4]Radiology, Case Western Reserve University

1484 — *A0168* **Segmentation of the Choriocapillaris Using Machine Learning on OCTA.** *Isaac Gendelman[1], N. Mehta[1, 2], J. S. Duker[1], N. K. Waheed[1].* [1]New England Eye Center/ Tufts University; [2]The Warren Alpert Medical School of Brown University **CR*

1485 — *A0169* **Automated 3D Lamina Cribrosa Segmentation in Optical Coherence Tomography Volumetric Scans.** *Zaixing Mao[1], A. Miki[2], S. Mei[1], Y. Dong[1], K. Maruyama[2], R. Kawasaki[2], S. Usui[2], K. Matsushita[2], K. Nishida[2], K. Chan[1].* [1]Topcon Advanced Biomedical Imaging Laboratory; [2]Ophthalmology, Osaka University Graduate School of Medicine **CR*

1486 — *A0170* **Robotics and Artificial Intelligence in the Management of Vision Threatening Disease.** *Ashley Ooms[1], A. Caterfino[1], N. Prasad[1], P. Khouri[2], L. Wilson[3], B. Szirth[1].* [1]Rutgers New Jersey Medical School; [2]Drexel University; [3]Northwestern University

1487 — *A0171* **Inference of visual field test results from OCT volumes using deep learning.** *Stefan Maetschke[1], B. J. Antony[1], H. Ishikawa[2], G. Wollstein[2], J. S. Schuman[2], S. Wail[1].* [1]IBM Research Australia; [2]NYU Langone Health, NYU Eye Center, New York, NY **CR*

1488 — *A0172* **Generic UNet machine learning architecture can be trained to accurately and consistently identify retinal vascular features.** *Eric Kunz, A. Cheng, C. A. Bretz, A. B. Simmons, M. Hartnett.* Moran Eye Center

1489 — *A0173* **Artificial Intelligence Assisted Tele-Ocular Screening in Type 1 Diabetes Mellitus.** *Peter Khouri[2], A. Ooms[1], C. A. Khouri[2], B. Szirth[1].* [1]Rutgers University; [2]Drexel University **CR*

1490 — *A0174* **Ciliary muscle segmentation in OCT images using a convolutional neural network.** *Torsten Strasser[1], S. Wagner[1], E. Zrenner[1, 2].* [1]Institute for Ophthalmic Research, University of Tuebingen; [2]University of Tuebingen, Werner Reichardt Center for Integrative Neuroscience

1491 — *A0175* **Deep learning prediction of progression to late age-related macular degeneration in the Age-Related Eye Disease Study (AREDS) using deep feature extraction and survival analysis.** *Tiarnan D. Keenan[1], Y. Peng[2], Q. Chen[2], E. Agron[1], W. T. Wong[3], Z. Lu[2], E. Y. Chew[1].* [1]Division of Epidemiology and Clinical Applications, National Eye Institute; [2]National Center for Biotechnology Information, National Institutes of Health; [3]Unit on Neuron-Glia Interactions in Retinal Disease, National Eye Institute, National Institutes of Health

1492 — *A0176* **Automatic laterality finding using deep learning in fundus images.** *Poojan Dave, K. Makedonsky, N. Manivannan, P. Sha, M. H. Chen, M. K. Durbin.* Carl Zeiss Meditec, Inc. **CR*

1493 — *A0177* **Automatic Segmentation of Drusen and Exudates on Color Fundus Images using Generative Adversarial Networks.** *Jonne Engelberts[1], C. González-Gonzalo[2, 3], C. I. Sanchez[2, 3], M. J. van Grinsven[1].* [1]Thirona; [2]Diagnostic Image Analysis Group, Radboud University Medical Center; [3]Department of Ophthalmology, Radboud University Medical Center **CR*

1494 — *A0178* **Estimation of best corrected visual acuity from optical coherence tomography images using deep learning.** *Yusuke Arai[1], H. Takahashi[1], S. Yousefi[2], S. Inoda[1], H. Tampo[1], S. Sakamoto[1], Y. Matsui[3], H. Kawashima[1], Y. Yanagi[4].* [1]Ophthalmology, Jichi Medical University; [2]University of Tennessee Health Science Center; [3]Mie University; [4]Asahikawa Medical University **CR*

1495 — *A0179* **Automatic classification of retinal biological markers in optical coherence tomography b-scans.** *Thomas K. Kurmann[1], P. Marquez-Neila[1], M. R. Munk[2, 3], A. Ebneter[2], M. S. Zinkernagel[2], S. Wolf[2], R. Sznitman[1].* [1]ARTORG Center, University of Bern; [2]Inselspital, University Hospital Bern; [3]Ophthalmology, Northwestern University, Feinberg School of Medicine **CR*

1496 — *A0180* **Automatic segmentation of retinal capillaries in adaptive optics perfusion images using a convolutional neural network.** *Gwen Musial[1, 2], H. M. Queener[2], S. Adhikari[2], H. Mirhajianmoghadam[2], A. W. Schill[2, 1], N. B. Patel[2], J. Porter[2, 1].* [1]Biomedical Engineering, University of Houston; [2]College of Optometry, University of Houston

Monday Posters
8:15 am – 10:00 am

1497 — *A0181* **Autonomous grading of age-related macular degeneration from color fundus photographs using machine learning.** *Theodore Leng[1], T. N. Kothari[2], M. C. Leung[3], A. S. Gupta[3].* [1]Byers Eye Institute at Stanford, Stanford University School of Medicine; [2]Computer Science and Mathematics, Stanford University; [3]Spect Inc. **CR*

1498 — *A0182* **Efficacy of 16S r-DNA real-time PCR in machine learning algorithm for diagnosis of infectious keratitis.** *Fumie Ehara, D. Miyazaki, Y. Inoue.* Tottori University Hospital

1499 — *A0183* **Standardization and acceleration of OCT Angiography image quality assessment using a deep learning algorithm.** *Jost L. Lauermann, M. Treder, M. Alnawaiseh, C. Clemens, N. Eter, F. Alten.* Department of Ophthalmology, University of Muenster Medical Center **CR*

1500 — *A0184* **Anomaly Detection Based on Uncertainty of Retinal Layer Boundary Segmentation in OCT Images using Deep Learning.** *Sohei Miyazaki, R. Shiba, N. Takeno, Y. Kumagai, Y. SAKASHITA, N. Shibata.* NIDEK Co., LTD. **CR*

1501 — *A0185* **The Use Of Artificial Intelligence For The Detection Of Stargardt's Disease From Fundus Images.** *Saad Y. Al-Kadhi, L. Skouti, A. Ellis, Q. Zeng, T. Sharma, S. H. Tsang, T. H. Tezel.* Department of Ophthalmology, Columbia University College of Physicians and Surgeons

1502 — *A0186* **Artery and Vein Segmentation in Retinal Oximetry Images Using Convolutional Neural Networks.** *Robert A. Karlsson[1, 2], S. H. Hardarson[1].* [1]Institute of Physiology, University of Iceland; [2]Electrical and Computer Engineering, University of Iceland **CR*

1503 — *A0187* **Automated Segmentation of Peripapillary Retinal Boundaries in OCT Combining Convolutional Neural Network and Graph Search.** *Pengxiao Zang, J. Wang, T. Hormel, L. Liu, D. Huang, Y. Jia.* Oregon Health & Science University, Casey Eye Institute **CR*

1504 — *A0188* **Measuring Spectral Consistency for Detection of Retinal Lesions in Multispectral Images.** *Jian Lian[1, 2], W. Jiao[3], B. Zhao[3], Y. Zheng[1].* [1]School of Information Science and Engineering, Shandong Normal University; [2]Department of Electrical Engineering Information Technology, Shandong University of Science and Technology; [3]Department of Ophthalmology, Shandong Provincial Hospital Affiliated to Shandong University

1505 — *A0189* **Getting More with Less: Artificial Intelligence can Boost Optical Coherence Tomography Images.** *Michael J. Girard[1, 2], H. Cheong[1], S. Devalla[1], G. Subramanian[1], T. Pham[1, 2], T. A. Tun[2], S. Perera[2], T. Aung[2, 3], L. Schmetterer[2, 4], A. Thiery[1].* [1]National University of Singapore; [2]Singapore Eye Research Institute; [3]Singapore National Eye Centre; [4]Nanyang Technological University **CR*

1506 — *A0190* **Weakly-supervised Convolution Neural Network based OCT image classification and Lesion Localization.** *Zaiwang Gu[1], Y. Gong[2], Y. Hu[1], P. Liu[1, 3], J. Cheng[1], J. Yang[1], Y. Zhao[1], J. Liu[1].* [1]Cixi Institute of Biomedical Engineering, Chinese Academy of Science, China; [2]Ningbo Eye Hospital; [3]Big Data Research Center, University of Electronic Science and Technology of China

1507 — *A0191* **Patch-based and fully semantic deep learning methods for automatic choroidal segmentation in OCT images.** *David Alonso-Caneiro[1], J. Kugelman[1], S. A. Read[1], J. Hamwood[1], S. J. Vincent[1], F. K. Chen[2, 3], M. J. Collins[1].* [1]Contact Lens and Visual Optics Lab, Queensland University of Technology; [2]Centre for Ophthalmology and Visual Science, The University of Western Australia; [3]Lions Eye Institute

1508 — *A0192* **Deep Learning Segmentation-Free Assessment of Retinal Nerve Fiber Layer in OCT Scans.** *Eduardo B. Mariottoni, A. A. Jammal, C. Urata, A. C. Thompson, F. A. Medeiros.* Duke university **CR*

1509 — *A0193* **Deep Learning for the Prediction of Visual Function using Macular OCT Scans.** *Philipp M. Prahs[1], C. Brandl[1, 2], C. Mayer[3], Y. Cvetkov[1], V. Radeck[1], H. Helbig[1], D. Märker[1].* [1]Department of Ophthalmology, University of Regensburg; [2]Department of Genetic Epidemiology, University of Regensburg; [3]Dept. of Ophthalmology, University of Heidelberg

1510 — *A0194* **Deep Learning Based Retinal Blood Vessel Segmentation of Multiple Optical Coherence Tomography *En-Face* Images in Cases of Optic Disc Swelling.** *Mohammad Shafkat Islam[1], J. Wang[4, 1], S. S. Johnson[1], M. J. Thurtell[2, 3], R. H. Kardon[4, 2], M. Garvin[4, 1].* [1]Electrical and Computer Engineering, The University of Iowa; [2]Ophthalmology and Visual Sciences, University of Iowa Hospital and Clinics; [3]Neurology, University of Iowa Hospital and Clinics; [4]Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health System **CR*

1511 — *A0195* **Study on Generating Predicted Disease Image to Predict Progressive Disease.** *Yusuke SAKASHITA[1, 2], H. Fujiyoshi[2].* [1]Advanced Technology Development Dept., NIDEK CO., LTD.; [2]Chubu University **CR*

1512 — *A0196* **An Edge Attention-based convolutional Neural Network for Pathological OCT Retinal Layer Segmentation.** *Shanshan Jiang, Z. Gu, Y. Hu, J. Yang, J. Cheng, Y. Zhao, J. Liu.* Cixi Institute of Biomedical Engineering, Chinese Academy of Science, China

1513 — *A0197* **"One-size fits all" OCT image enhancement via deep learning.** *Kerry J. Halupka[1], H. Ishikawa[2], M. Lee[1], G. Wollstein[2], J. Schuman[2], S. Wail[1], B. J. Antony[1].* [1]IBM Research; [2]NYU Langone Health, NYU Eye Center **CR*

1514 — *A0198* **Deep learning approach to improve the efficiency and effectiveness of optical coherence tomography (OCT) scans.** *Lingling Wang[1], J. Zhao[2], X. Zou[3], X. Chen[3], C. Jiang[5], X. Liu[4], H. Xiao[4], X. Song[7], Y. Zhang[8], J. Wu[8], J. Wang[6], D. Ding[2], J. Tan[1], Y. Tian[1], N. Chen[1].* [1]Carl Zeiss; [2]Vistel; [3]Peking Union Medical College Hospital; [4]Zhongshan Ophthalmic Center, Sun Yat-Sen University; [5]Eye & ENT Hospital of Fudan University; [6]Renmin University of China; [7]Jiading Hospital of Traditional Chinese Medicine; [8]Northwestern Polytechnical University **CR*

1515 — *A0199* **A cost-effective and semi-automated annotation framework for OCT scans.** *SANDIPAN CHAKROBORTY, K. Patel, A. K. Modi.* CARIn, Carl Zeiss India (Bangalore) Pvt. Ltd, ZEISS GROUP **CR*

1516 — *A0200* **Enhanced vessel continuity in optical coherence tomography angiography en face projections of the superficial vascular plexus via deep learning.** *Warren Lewis[1, 2], A. Bhattacharya[2], S. Bello[2], S. Kubach[2].* [1]Bayside Photonics, Inc.; [2]Carl Zeiss Meditec, Inc. **CR*

1517 — *A0201* **A Deep Learning Algorithm can Predict Retinal Nerve Fiber Layer Thickness with Lower Long-term Variability than Conventional Automated Segmentation.** *Carla Urata, E. B. Mariottoni, A. A. Jammal, A. C. Thompson, F. A. Medeiros.* Duke University **CR*

1518 — *A0202* **Automatic detection of retinal fluid in OCT volumes.** *Pablo Márquez Neila[1], T. K. Kurmann[1], S. Yu[2], M. R. Munk[2, 3], S. Wolf[2], R. Sznitman[1].* [1]ARTORG, University of Bern; [2]Department of Ophthalmology, Bern University Hospital; [3]Ophthalmology, Northwestern University, Feinberg School of Medicine **CR*

1519 — *A0203* **Predicting retinal thickness from fundus images across modalities using deep learning.** *Olle G. Holmberg[1], K. U. Kortuem[2, 3], N. Köhler[1], F. Theis[1].* [1]Helmholtz Zentrum München - German Research Center for Environmental Health, Institute of Computational Biology, Neuherberg, Munich, Germany; [2]Ludwig-Maximilian-University, University Eye Hospital Munich; [3]Moorfields Eye Hospital **CR*

1520 — *A0204* **Microaneurysm detection in retinal fundus images using deep convolutional U-net with focal loss objective function.** *Jakob H. Andersen[1, 2], J. Grauslund[3, 2], T. R. Savarimuthu[1].* [1]The Maersk Mc-Kinney Moller Institute; [2]Steno Diabtes Center Odense; [3]Department of Ophthalmology, Odense University Hospital

1521 — *A0205* **Neural Network models for retinal laser lesion detection and classification.** *Eddie M. Gil[1, 2], M. Keppler[1, 2], A. Boretsky[2], V. Yakovlev[1], J. Bixler[3].* [1]Biomedical Engineering, Texas A&M University; [2]Engility; [3]Air Force Research Lab

West Exhibition Hall A0206-A0225

Monday, April 29, 2019 8:15 AM-10:00 AM

Retina

220 Deep Learning & AI

Moderator: Ursula Schmidt-Erfurth

1522 — *A0206* **Analysis of dimensionality reduction techniques in a deep convolutional neural network for the diagnosis of plus disease in retinopathy of prematurity.** *J. Peter Campbell[1], J. M. Brown[2], J. Kalpathy-Cramer[2], R. Chan[3], M. F. Chiang[1, 4].* [1]Casey Eye Institute, Oregon Health & Science University; [2]Radiology, Massachusetts General Hospital; [3]Ophthalmology, University of Illinois, Chicago; [4]Medical Informatics & Epidemiology, Oregon Health & Science University **CR*

1523 — *A0207* **Utilization of a Deep Learning Image Assessment Tool for Epidemiologic Surveillance of Retinopathy of Prematurity.** *Travis Redd[1], J. Campbell[1], J. M. Brown[2], P. Shah[7], S. Kim[1], S. Ostmo[1], R. V. Chan[3], J. Dy[4], D. Erdogmus[4], S. Ioannidis[4], J. Kalpathy-Cramer[2, 5], M. F. Chiang[1, 6].* [1]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University; [2]Athinoula A**.** Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital; [3]Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago; [4]Department of Electrical and Computer Engineering, Northeastern University; [5]Center for Clinical Data Science, Massachussets General Hospital & Brigham and Women's Hospital; [6]Department of Medical Informatics and Clinical Epidemiology, Oregon Health & Science University; [7]Pediatric Retina Department, Aravind Eye Hospital **CR*

1524 — *A0208* **Deep learning for automated diagnosis of plus disease in Indian ROP patients.** *Jayashree Kalpathy-Cramer[1, 2], J. M. Brown[1, 2], A. S. Coyner[4, 5], S. Hu[3], M. Shahrawat[1], S. Ostmo[4], J. Campbell[4], R. V. Chan[6], P. Shah[7], M. F. Chiang[4, 5].* [1]Athinoula A**.** Martinos Center for Biomedical Imaging, Massachusetts General Hospital; [2]Harvard Medical School; [3]Center for Ultrasound Research & Translation, Department of Radiology, Massachusetts General Hospital; [4]Casey Eye Institute, Department of Ophthalmology, Oregon Health & Science University; [5]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University; [6]Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago; [7]Vitreo-Retinal Services, Aravind Eye Hospital and Postgraduate Institute of Ophthalmology **CR*

1525 — *A0209* **Machine Learning for Prediction of Retinopathy of Prematurity Fundus Image Quality from Clinical Data.** *Aaron S. Coyner[1, 2], J. Campbell[2], S. Ostmo[2], S. Kim[3, 2], K. E. Jonas[4], R. Chan[4], M. F. Chiang[2, 1].* [1]Medical Informatics and Clinical Epidemiology, Oregon Health & Science University; [2]Ophthalmology, Oregon Health & Science University; [3]Ophthalmology, Samsung Medical Center; [4]Ophthalmology, Illinois Eye and Ear Infirmary **CR*

1526 — *A0210* **Telemedicine for ROP Diagnosis in a Real-World System: Feasibility of Implementing Artificial Intelligence for Disease Screening.** *Miles F. Greenwald[3], I. Danford[3], M. Shahrawat[4], S. Ostmo[3], J. M. Brown[4], J. Kalpathy-Cramer[4, 1], R. Schelonka[2], H. S. Cohen[5], J. Campbell[3], M. F. Chiang[3, 1].* [1]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University; [2]Department of Pediatrics, Oregon Health and Science University; [3]Department of Ophthalmology, Casey Eye Institute, Oregon Health and Science University; [4]Martinos Center for Biomedical Imaging, Massachusetts General Hospital; [5]Department of Pediatrics, Salem Hospital **CR*

1527 — *A0211* **A Deep Convolutional Neural Network (CNN) Model for Automatic Measurement of Ellipsoid Zone (EZ) Width in Retinitis Pigmentosa (RP).** *Yi-Zhong Wang[1, 2], D. Galles[1], M. Klein[1], K. G. Locke[1], D. G. Birch[1, 2].* [1]Retina Foundation of the Southwest; [2]Ophthalmology, UT Southwestern Medical Center

1528 — *A0212* **Fully-Automated Drusen Segmentation in OCT using Deep Learning with Pyramid U-net.** *Christoph Grechenig, F. Asgari, B. Gerendas, S. M. Waldstein, F. G. Schlanitz, M. Baratsits, H. Bogunović, U. Schmidt-Erfurth.* Department of Ophthalmology and Optometry, Medical University of Vienna **CR*

1529 — *A0213* **Convolutional Neural Network based on Fluorescein Angiography images for ROP management.** *Domenico Lepore[1, 2], J. Lenkowicz[3], M. H. Ji[1], N. D. Capocchiano[3], C. Masciocchi[3], L. Boldrini[3], L. Tagliaferri[3], M. M. Pagliara[1], V. Valentini[3], A. Damiani[3].* [1]Dept of Ophthalmology, Catholic University; [2]Italian ROP study Group; [3]Gemelli-ART, Catholic University of the Sacred Heart

1530 — *A0214* **Development of AI Deep Learning Algorithms for the Quantification of Retinopathy of Prematurity.** *Phanith Touch[1], Y. Wu[2], Y. Kihara[2], E. M. Zepeda[2], T. B. Gillette[4], M. T. Cabrera[4, 2], A. Lee[2, 3].* [1]School of Medicine, University of Washington; [2]Department of Ophthalmology, University of Washington; [3]Department of Ophthalmology, Puget Sound Veteran Affairs; [4]Department of Ophthalmology, Seattle Children's Hospital **CR*

1531 — *A0215* **Investigating a growth prediction model in advanced age-related macular degeneration with geographic atrophy using optical coherence tomography and quantitative autofluorescence.** *Gregor S. Reiter[1, 2], R. Told[1, 2], L. Baumann[3], S. Sacu[1, 2], U. Schmidt-Erfurth[1], A. Pollreisz[1, 2].* [1]Department of Ophthalmology and Optometry, Medical University of Vienna; [2]Vienna Clinical Trial Center, Medical University of Vienna; [3]Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna

1532 — *A0216* **Automated grading of fundus photographs to identify referable AMD for first-line eye care.** *Eric F. Thee[1], M. J. van Grinsven[2], T. Verzijden[1], D. T. Luttikhuizen[1], M. Meester[1], J. M. Colijn[1], C. I. Sanchez[3], C. C. Klaver[1, 4].* [1]Ophthalmology and Epidemiology, Erasmus Medical Center; [2]Thirona; [3]Radiology and Nuclear Medicin, Radboud University Medical Center; [4]Ophthalmology, Radboud University Medical Center **CR*

1533 — *A0217* **Deep learning based GA segmentation in fundus autofluorescence images.** *Niranchana Manivannan[1], K. Makedonsky[1], C. Lyu[2], G. Gregori[2], P. J. Rosenfeld[2], M. K. Durbin[1].* [1]Carl Zeiss Meditec, Inc**.**; [2]Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine **CR*

1534 — *A0218* **Linking Function and Structure: Prediction of Retinal Sensitivity in AMD from OCT using Deep Learning.** *Philipp Seeböck, W. Vogl, S. M. Waldstein, M. Baratsits, J. I. Orlando, T. Alten, H. Bogunovic, M. Arikan, G. Mylonas, U. Schmidt-Erfurth.* Department of Ophthalmology, Medical University of Vienna **CR*

1535 — *A0219* **Early Photoreceptor Alterations in OCT for Quantitative Prediction of Expansion and New Foci of Geographic Atrophy using Deep Learning.** *Zhihong Hu[1], Z. Wang[1], S. R. Sadda[1, 2].* [1]Retina, Doheny Eye Institute; [2]Ophthalmology, University of California, Los Angeles **CR*

1536 — *A0220* **Topographic Analysis of IS/OS Impairment and Correlation With Fluid Markers in Wet AMD Using Deep Learning.** *Sophie Klimscha[1], C. Grechenig[1], A. Sadeghipour[1], E. Pablik[2], S. M. Waldstein[1], U. Schmidt-Erfurth[1].* [1]Department of Ophthalmology and Optometry, Medical University Vienna; [2]Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna **CR*

1537 — *A0221* **Autonomous artificial intelligence (AI) reliably detects diabetic retinopathy.** *Stephanie K. Lynch[1], J. C. Folk[1], M. D. Abramoff[1, 2].* [1]Ophthalmology & Visual Sciences, University of Iowa Hospitals & Clinics; [2]IDx Technologies, Inc**.** **CR*, ↗

1538 — *A0222* **Deep learning predicts OCT measures of diabetic macular thickening from color fundus photographs.** *Jeffrey R. Willis[1, 2], F. Arcadu[3, 4], F. Benmansour[3, 4], A. Maunz[3, 4], J. Michon[2], Z. Haskova[1, 2], D. McClintock[2], A. P. Adamis[5, 2], M. Prunotto[6, 4].* [1]Clinical Science Ophthalmology, Genentech, Inc; [2]Roche Personalized Healthcare, Genentech, Inc; [3]Roche Informatics, Roche; [4]Roche Personalized Healthcare, Roche; [5]Development Innovation, Genentech, Inc; [6]Immunology, Infectious Disease & Ophthalmology, Roche **CR*, ↗

1539 — *A0223* **Artificial intelligence-based screening for diabetic retinopathy at community hospital.** *Jie He, J. CHEN.* ophthalmology, Shanghai Shibei Hospital of Jing'an District ↗

1540 — *A0224* **Automatic detection of fourteen retinal pathologies in fundus photographs.** *Gwenole Quellec[1], M. Lamard[2, 1], A. Erginay[4], P. Massin[4], B. Cochener[3, 2].* [1]Inserm; [2]Univ Bretagne Occidentale; [3]Ophthalmology, CHRU Brest; [4]Ophthalmology, Hôpital Lariboisière, AP-HP

1541 — *A0225* **Using machine learning to detect preclinical retina structural changes in diabetics at varying HA1c levels.** *Christopher A. Clark, A. E. Elsner.* School of Optometry, Indiana University

West Exhibition Hall A0302-A0360

Monday, April 29, 2019 8:15 AM-10:00 AM

Retina

221 Imaging: posterior segment, clinical

Moderators: Giovanni Staurenghi and Akihito Uji

1542 — *A0302* **Smartphone-based fundus imaging in diabetic retinopathy screening in low- and middle-income countries: Evaluation of four different devices.** *Maximilian W. Wintergerst[1], D. Mishra[2], L. Hartmann[1], P. Shah[2], V. Kumar[2], P. Sagar[2], F. G. Holz[1], K. Murali[2], M. Palanivelu[2], R. P. Finger[1].* [1]University of Bonn; [2]Sankara Eye Hospital Bangalore, Sankara Academy of Vision **CR*

1543 — *A0303* **Association of Macular Vessel Density with Past and Future Anti-VEGF Treatment in Eyes with Diabetic Retinopathy.** *Konstantina Sampani[1, 3], M. A. Elmasry[1, 2], P. S. Silva[1, 2], L. P. Aiello[1, 2], J. K. Sun[1, 2].* [1]Beetham Eye Institute of Joslin Diabetes Center; [2]Ophthalmology, Harvard Medical School; [3]Harvard Medical School **CR*

1544 — *A0304* **Choroidal vascularity index in myopia.** *Mahima Jhingan[1], K. Dans[1], M. Cavichini Cordeiro[1], D. G. Bartsch[1], M. Amador[1], J. Chhablani[2], W. R. Freeman[1].* [1]Jacob's Retina Center, Shiley Eye Institute, UCSD; [2]L V Prasad Eye Institute

1545 — *A0305* **Evaluation of Changes in Choroidal Thickness and the Choroidal Vascularity Index after Hemodialysis in Patients with End-Stage Renal Disease by using Swept-Source Optical Coherence Tomography.** *Heeyoon Cho, Y. Shin, D. Kim, s. lee, J. Yi.* Nephrology, Hanyang University College of medicine ↗

1546 — *A0306* **Phenotype of Central serous chorioretinopathy in female.** *TIMSIT AURELIE[1, 2], E. Bousquet[1], I. Mantel[3], m. elalouf[3], R. Tadayoni[1], F. F. Behar-Cohen[1, 2].* [1]Ophtalmopôle de Paris, hopital cochin; [2]INSERM UMR1138; [3]Jules Gosnin Hospital

1547 — *A0307* **Diffuse Outer Layer Opacification (DOLO) in Patients with Autosomal Recessive Bestrophinopathy.** *Emily Witsberger, A. D. Marmorstein, J. S. Pulido.* Mayo Clinic

1548 — *A0308* **True retinal topography: quantitative curvature maps of the retina using OCT.** *Ryan P. McNabb[1], A. Liu[1], S. Gospe[1], M. El-Dairi[1], C. James[1], R. Vann[1], J. A. Izatt[2, 1], A. N. Kuo[1, 2].* [1]Duke University Medical Center; [2]Biomedical Engineering, Duke University **CR*

1549 — *A0309* **Quality of image of grating target placed in model eye and observed through extended depth of focus intraocular lenses.** *Makoto Inoue[1], N. Aicher[2], H. Bissen-Miyajima[3], A. Hirakata[1].* [1]Ophthalmology, Kyorin Eye Center; [2]Paracelsus Medical University of Salzburg; [3]Ophthalmology, Tokyo Dental College Suidobashi Hospital **CR*

1550 — *A0310* **Minimal Image Gain In Vitreous Hemorrhage. A comparison between graders and between systems.** *Estefania Ibarra[2], G. Salcedo-Villanueva[1], M. Mayorquin[2], M. Trujillo-Alvarez[1], J. Betancourt[2].* [1]Retina, Asociación Para Evitr la Ceguera en México; [2]Ultrasound Department, Asociación Para Evitar la Ceguera en México

1551 — *A0311* **Management of various tears and detachments with Navigated Laser.** *Kathrin I. Hartmann, G. Eberlein, V. Goeppel, A. Mueller.* Klinikum Augsburg **CR*

1552 — *A0312* **Comparison of widefield confocal laser scanning ophthalmoscopy and broad line fundus imaging in retinal disease in routine clinical practice.** *Thais F. Conti[1], G. Hom[1], N. Choudhry[2], R. P. Singh[1].* [1]Cleveland Clinic Cole Eye Institute; [2]Department of Ophthalmology and Vision Sciences, University of Toronto, Toronto, Ontario, Canada **CR*

1553 — *A0313* **Fluorescent retinal inclusions visualized through indocyanine green angiography in a subset of patients post surgery for macular hole and macular epiretinal membrane.** *Gisela Velez.* Central Massachusetts Retina and Uveitis Center

1554 — *A0314* **Ultra-widefield (UWF) Imaging Evaluated the Efficacy of YAG Laser Treatment for Symptomatic Vitreous Floaters.** *Jacey H. Ma[1, 2], H. Huang[1], R. Gao[2], S. Tang[1].* [1]Aier School of Ophthalmology, Central South University; [2]Imaging and Function, Guangzhou Aier Eye Hospital

1555 — *A0315* **Automated Segmentation of Retinal Edema Lesions from OCT Images Using Improved V-Net.** *Xinjian Chen, S. Feng, W. Zhu, Y. Ma, X. Cheng, F. Shi.* Soochow University

1556 — *A0316* **High definition optical coherence tomography angiography B-scans for clinical interpretation of choroidal neovascularization.** *Sophie Kubach[1], L. De Sisternes[1], S. Bello[1], R. A. Goldberg[2].* [1]Carl Zeiss Meditec, Inc.; [2]Bay Area Retina Associates **CR*

1557 — *A0317* **Foveal avascular zone in patients with history of retinopathy of prematurity studied with OCT angiography.** *Humberto Ruiz-Garcia[1], M. Ingolotti[1], P. Madrigal-Ruiz[2], E. A. Roig-Melogranados[2, 3], P. Gonzalez Madrigal[3], E. Torres-Porras[4], L. Ramirez-Ponce[5], C. Zepeda[2].* [1]Ophthalmology and Visual Science, Clinica Santa Lucia; [2]Ophthalmology, Universidad de Guadalajara ; [3]Tecnologico de Monterrey, Escuela de Medicina y Ciencias de la Salud; [4]Laser y Ultrasonido de Puebla; [5]Ophthalmology, Hospital de la Mujer

1558 — *A0318* **Efficacy of the newly invented Eyelid Clamper in ultra-wide-field fundus imaging.** *Nobuhiro Ozawa[1, 2], K. Mori[1, 2], Y. Katada[1, 2], K. Tsubota[1], T. Kurihara[1, 2].* [1]Department of Ophthalmology, Keio University; [2]Laboratory of Photobiology, Keio University

1559 — *A0319* **Do retinal neurovascular changes predict the development of diabetes?** *Gavin S. Tan[1, 2], C. Y. Cheung[3], C. Cheng[1, 2], T. Y. Wong[1, 2].* [1]singapore eye research institute, singapore national eye centre; [2]Duke-NUS Graduate Medical School; [3]Department of Ophthalmology and visual Sciences, Chinese University of Hong Kong

1560 — *A0320* **Fundus autofluorescence in premature infants.** *Yurico Lopez, A. Gonzalez-H. Leon, S. Soberón, S. Rodríguez, L. Garcia Arzate, A. Pérez-Nakano, J. Baca Moreno, E. C. Hernández Piñamora, E. Garcia, V. Tirado, K. J. Herrera-Juárez, G. García-Aguirre, V. Morales-Canton, H. Quiroz-Mercado, G. Salcedo- Villanueva.* Retina, Asociación Para Evitar la Ceguera en México, IAP

1561 — *A0321* **Improved diagnosis of retinal laser injuries using near-infrared autofluorescence imaging.** *Samantha R. De Silva[2, 1], J. E. Neffendorf[2], J. Birtel[3], P. Herrmann[3], S. M. Downes[2, 1], C. K. Patel[2], D. Hildebrand[2], M. Gliem[2], P. Charbel Issa[2, 1].* [1]Nuffield laboratory of Ophthalmology, University of Oxford; [2]Oxford Eye Hospital, Oxford University Hospitals NHS Foundation Trust; [3]Department of Ophthalmology, University of Bonn

1562 — *A0322* **Quantitative Comparison of Retinal Pixel Area Imaged by Ultra-Wide Field Fundus Cameras.** *Ajay E. Kuriyan[1], S. Dang[4], A. Chen[1], M. M. Chung[1], R. S. Ramchandran[1], D. Diloreto[1], a. bessette[1], D. Kleinman[1], J. Sridhar[5], C. C. Wykoff[2, 3].* [1]Flaum Eye Institute, Univ. of Rochester Med Center; [2]Retina Consultants of Houston; [3]Blanton Eye Institute, Houston Methodist Hospital & Weill Cornell Medical College; [4]University of Rochester School of Medicine and Dentistry; [5]Bascom Palmer Eye Institute

1563 — *A0323* **Pathognomonic macular ripples in fovea plana are revealed by polarized infrared reflectance imaging.** *Darius Ansari[1], X. Yao[2, 3], F. T. Collison[4], G. A. Fishman[4], M. A. Grassi[3, 5].* [1]University of Illinois at Chicago College of Medicine; [2]Bioengineering, University of Illinois at Chicago; [3]Ophthalmology, University of Illinois at Chicago; [4]Pangere Center, The Chicago Lighthouse; [5]Grassi Retina

1564 — *A0324* **Clinical and anatomical outcomes following ERM surgery.** *Archana A. Nair[1], A. Gupta[1], J. J. Tseng[2, 3], K. Wald[1].* [1]Ophthalmology, New York University; [2]Ophthalmology, SUNY Downstate; [3]Retina Associates of New York

1565 — *A0325* **Comparing field of view in ultra-widefield fundus imaging.** *Charles Wu, T. K. Brock, M. H. Chen.* Carl Zeiss Meditec, Inc. **CR*

1566 — *A0326* **Monitoring blood flow dynamics in retinal arteries and veins using the XyCAM RI.** *Abhishek Rege[1], K. Cho[1], G. Thompson[2], A. Guruprasad[1], Y. Jing[1], S. Kalarn[2], O. Saeedi[2].* [1]Vasoptic Medical Inc; [2]Department of Ophthalmology and Visual Sciences, University of Maryland Baltimore **CR*

1567 — *A0327* **Repeatability of Static Retinal Vessel Analysis in a clinical practice setting.** *Christian French, R. Heitmar, R. Cubbidge.* Optometry & Vision Sciences, Aston University

1568 — *A0328* **Identification and Management of Non-Diabetic Eye Disease within the National Diabetic RetinaScreen Programme.** *Brian Woods[1], R. Murphy[1], N. Elseed[1], L. Landi[1], R. Pandey[1], D. J. Keegan[1, 2].* [1]Mater Retinal Research Group, Mater Misericordiae University Hospital, Dublin; [2]Diabetic RetinaScreen, National Screening Service, Kings Inn House, Parnell St, Dublin

1569 — *A0329* **OCT characteristics associated with Bardet-Biedl syndrome (BBS) retinopathy.** *Rupal Morjaria[1], H. Khan[1, 3], M. Said[1], X. Liu[1], R. Carmichael[1], N. Capewell[1], K. N. Khan[2], M. Tsaloumas[1], H. Palmer[1], D. Williams[5], P. A. Keane[4], A. K. Denniston[1].* [1]Ophthalmology, university hospital birmigham; [2]Callerdale and Huddersfield NHS foundation trust; [3]Amanat eye hospital; [4]Moorfields Eye Hospital; [5]Birmingham Womens Foundation Trust **CR*

1570 — *A0330* **ORPHEE: ObseRvation of PeripHEral rEtinal morphology in normal eyes.** *Michael Singer[1, 2], A. Verma[3, 5], J. Maram[3], D. Keene[4], M. Nittala Gupta[3], S. R. Sadda[3, 5].* [1]Med Ctr Ophthalmology Assoc; [2]Ophthalmology, University of Texas Health Science Center; [3]Ophthalmology, Doheny Eye Institute; [4]Optos Corperation; [5]Ophthamology, University of California, Los Angeles **CR*, ↗

1571 — *A0331* **Comparison of Diabetic Retinopathy (DR) Severity Identified on Ultrawide Field Retinal Images (UWF-RI) and Ultrawide Field Fluorescein Angiograms (UWF-FA).** *Omar Abdelal[1], M. A. Elmasry[1], S. Shokrollahi[1], J. Rocha[3], M. H. Arroyo[3], J. K. Sun[1, 2], L. P. Aiello[1, 2], P. S. Silva[1, 2].* [1]Beetham Eye Institute, Joslin Diabetes Center; [2]Department of Ophthalmology, Harvard Medical School; [3]Department of Ophthalmology, The Medical City, Ortigas Avenue **CR*

1572 — *A0332* **Detection of Retinoschisis and Retinal Detachment by Wide-field Fundus Autofluorescence Imaging.** *Jessica L. Cao, T. Conti, G. Hom, A. Babiuch, R. P. Singh.* Ophthalmology, Cole Eye Institute, Cleveland Clinic

1573 — *A0333* **Trend in the Utilization of Fluorescein Angiography and Optical Coherence Tomography.** *Angela Li[1, 2], L. C. Huang[2], D. V. Do[2].* [1]School of Medicine, Stanford University; [2]Byers Eye Institute, Dept. of Ophthalmology, Stanford University

1574 — *A0334* **Deciphering subcellular signal sources for optical coherence tomography (OCT) and autofluorescence (AF) imaging of the human retinal pigment epithelium (RPE).** *Andreas Pollreisz[1], M. Neschi[1], K. R. SLOAN[2], T. J. Mittermüller[1], D. M. Dacey[3], C. A. Curcio[1], U. Schmidt-Erfurth[1].* [1]Ophthalmology, Medical University Vienna; [2]University of Alabama at Birmingham; [3]University of Washington **CR*

1575 — *A0335* **Automated Quantification of vascular leakage in Ultra-Widefield Fluorescein Angiography in patients treated with Fluocinolone Acetonide Implant 0.59mg.** *Arjun Sood, S. Sharma, K. Baynes, E. Fisher, N. Karthik, J. Welsh, A. Balascoe, C. Lowder, S. K. Srivastava.* Ophthalmology, Cleveland Clinic **CR*

1576 — *A0336* **Fluorescence Lifetime Imaging Ophthalmoscopy (FLIO) Shows Early Toxicity of Hydroxychloroquine.** *Paul S. Bernstein[1], C. M. Calvo[1], N. Henrie[1], A. Vitale[1], C. Milliken[1, 2], L. Sauer[1].* [1]Ophthal and Visual Sciences, Univ of Utah/ Moran Eye Center; [2]Medical University of South Carolina **CR*

1577 — *A0337* **Polyp Evolution over 24 months Among Patients with Polypoidal Choroidal Vasculopathy.** *Colin S. Tan[1, 2], L. W. Lim[1].* [1]Ophthalmology, National Healthcare Group Eye Institute; [2]Fundus Image Reading Center, National Healthcare Group Eye Institute **CR*

1578 — *A0338* **A photographing device for ocular fundus and fluorescein angiography using a portable slit lamp.** *Mitsuru Arima[1], T. Majima[1], S. Tsukamoto[1], T. Hara[2], I. Wada[1], S. Nakao[1], K. Sonoda[1].* [1]Ophthalmology, Kyushu University; [2]Kowa Company, Ltd. **CR*

1579 — *A0339* **Influence of age and lens status on fluorescence lifetimes in FLIO.** *Chantal Dysli, M. Dysli, S. Wolf, M. S. Zinkernagel.* Ophthalmology, Hospital Bern Inselspital

1580 — *A0340* **An Ensemble of Deep Learning Models for Photoreceptor Layer Segmentation in Retinal Disease.** *José I. Orlando[1], B. Gerendas[1], S. Klimscha[1], C. Grechenig[1], A. Breger[2], M. Ehler[2], S. M. Waldstein[1], H. Bogunovic[1], U. Schmidt-Erfurth[1].* [1]Department of Ophthalmology and Optometry, Medical University of Vienna; [2]Faculty of Mathematics, University of Vienna **CR*

1581 — *A0341* **Choriocapillaris perfusion analyses in patients with and without diabetic retinopathy.** *Andrea Muraca, V. Gatti, C. Toma, M. Brambilla, S. De Cillà, S. Vujosevic.* University Hospital "Maggiore della Carità" NOVARA

1582 — *A0342* **Pre- and postoperative blue fundus autofluorescence findings in eyes with lamellar macular hole.** *Serena De Turris[1], M. Filippelli[2], C. Costagliola[2], C. Mariotti[1], R. dell'Omo[2].* [1]Eye Clinic, Polytechnic University of Marche, Ancona, Italy; [2]Department of Medicine and Health Sciences "Vincenzo Tiberio", University of Molise

1583 — *A0343* **Do Quantitative Retinal Vascular Parameters Depend on Angle of Gaze in Patients with Diabetic Macular Edema?** *Katrine H. Frederiksen[1, 2], T. Peto[3, 2], J. Grauslund[1, 2], S. L. Blindbaek[1, 2].* [1]Department of Ophthalmology, Odense University Hospital; [2]Department of Clinical Research, University of Southern Denmark; [3]School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast **CR*

1584 — *A0344* **Utility of Ultra-Widefield Imaging in Patients with Inherited Retinal Diseases.** *Rachael Lyerla, N. Stangel, A. Adler, M. Schmitt, K. E. Stepien.* Department of Ophthalmology and Visual Sciences, University of Wisconsin School of Medicine and Public Health

1585 — *A0345* **Quantified fundus autofluorescence (QAF) in patients with systemic chloroquin/hydroxychloroquin (CQ/HCQ) intake.** *Clara Reichel[1], I. Tarau[1], N. Kleefeldt[1], J. Hillenkamp[1], K. R. SLOAN[2], T. Ach[1].* [1]Department of Ophthalmology, University Hospital Wuerzburg; [2]Department of Ophthalmology, University of Alabama at Birmingham **CR*

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

1586 — *A0346* **Central serous chorioretinopathy: Hypofluorescent areas on late-phase indocyanine angiography are risk factor of serous retinal detachment.** *Ari Shinojima[1], E. Bousquet[2, 3], A. Gaudric[1], C. Mehanna[2, 4], C. Lavia[1], R. Tadayoni[1, 2].* [1]Ophthalmology, Lariboisière Hospital, Université Paris 7; [2]Ophthalmology, Hôpital Hôtel-Dieu Cochin, Ophtalmopôle, Assistance Publique-Hôpitaux de Paris, AP-HP, Université Paris 5, Sorbonne Paris Cité; [3]INSERM U1138, Team 17, Université Paris Descartes Sorbonne Paris Cité, Centre de Recherche des Cordeliers; [4]Biostatistics, Hôpital Necker-Enfants Malades, AP-HP

1587 — *A0347* **Diabetic Teleretinal Screening: Analysis of Severity of Retinopathy and Frequency of Non-Diabetic Ocular Diagnoses.** *Lauren May, D. Gu, P. Bryar.* Ophthalmology, Northwestern University

1588 — *A0348* **Comparison of imaging area between CLARUS® and Optos®.** *RIKO OKAMOTO, O. Sawada, Y. Ichiyama, S. Obata, M. Kakinoki, T. Sawada, Y. Saishin, M. Ohji.* Shiga University of Medical Science **CR*

1589 — *A0349* **Optical density ratio – a prognostic marker for chronicity in Central Serous Chorioretinopathy.** *Meira Neudorfer[1, 2], N. Brakin[2], A. Barak[1, 2], D. Zur[1, 2], A. Loewenstein[1, 2], I. Moroz[3, 2], A. Leshno[3, 2].* [1]Department of Ophthalmology, Tel-Aviv Medical Center; [2]Sackler Faculty of Medicine, Tel Aviv University; [3]Goldschleger Eye Institute, Sheba Medical Center, Tel Hashomer, Israel

1590 — *A0350* **Posterior Pole Involvement in Patients affected by Dystrophia Myotonica 1 (DM1): Correlation to Genotype?** *Karen Schaal[1, 2], M. Abegg[1], K. Schuerch[1], C. Rieubland[3], M. Ott[1], L. Khamsy[1], U. Graf[4], F. K. Pfiffner[4], W. Berger[4], A. Schaller[4], P. Escher[1].* [1]Ophthalmology, Inselspital Bern; [2]Vista Diagnostics; [3]Department of Pediatrics, Division of Human Genetics, Inselspital, Bern University Hospital, University of Bern; [4]medical molecular genetics, Institute of medical molecular genetics, University of Zurich

1591 — *A0351* **Conventional OCT artifacts in the human sclera revealed by polarization-sensitive OCT.** *Takahiro Minami[1], N. Aoki[2], M. Yamanari[2], S. Sugiyama[2], S. Oshima[2], M. Yamamoto[1], D. Santo[2], R. Obata[1], M. Honjo[1], T. Kaburaki[1], M. Aihara[1], S. Kato[1].* [1]Department of Opthalmology, The University of Tokyo; [2]Tomey Corporation **CR*

1592 — *A0352* **Evaluation of focal damage in the retinal pigment epithelium layer in serous retinal pigment epithelium detachment with multi-contrast OCT.** *Masahiro Miura[1], S. Makita[2], S. Azuma[2], Y. Yasuno[2], S. Ueda[1], S. Sugiyama[3], T. Mino[4], T. Yamaguchi[4], H. Sandhu[5], H. J. Kaplan[5], T. Iwasaki[1], H. Goto[6].* [1]Dept of Ophthalmology, Tokyo Med Univ, Ibaraki Med Ctr; [2]COG, Univ of Tsukuba; [3]Tomey; [4]Topcon; [5]Dept of Ophthalmology and Visual Sciences, University of Louisville; [6]Dept of Ophthalmology, Tokyo Medical University **CR*

1593 — *A0353* **Ultrahigh-Resolution SD-OCT of the Human Retina with Extended Imaging Range Using Reference Arm Length Modulation.** *ByungKun Lee[1], S. Chen[1], E. Moult[1], A. Alibhai[2], O. Carrasco-Zevallos[1], L. Husvogt[1, 3], N. Mehta[2], N. K. Waheed[2], J. S. Duker[2], J. G. Fujimoto[1].* [1]Electrical Engineering and Computer Science, Massachusetts Institute of Technology; [2]Department of Ophthalmology, Tufts University School of Medicine; [3]Pattern Recognition Lab, University of Erlangen-Nuremberg **CR*

1594 — *A0354* **Spectral-Domain Optical Coherence Tomography Analysis of Retinal Layers in Autoimmune Retinopathy.** *Christopher Fortenbach, I. Han, S. S. whitmore.* Department of Ophthalmology and Visual Sciences, University of Iowa

1595 — *A0355* **ICGA model eye.** *TAKAYUKI YAMAZAKI, J. NAKANISHI.* NIDEK Co., Ltd **CR*

1596 — *A0356* **Gender judgment using color fundus parameters in young healthy eyes.** *Takehiro Yamashita, Y. Kii, M. Tanaka, K. Nakao, T. Sakamoto.* Ophthalmology, Kagoshima University ↗

1597 — *A0357* **Fluorescence Lifetime Imaging Ophthalmoscopy (FLIO) in Birdshot Chorioretinopathy: A Possible Tool for Monitoring Disease Activity.** *Karl Andersen[1, 2], A. Vitale[2], R. H. Gensure[2], M. Larochelle[2], A. Shakoor[2], A. T. Vitale[2], P. S. Bernstein[2], L. Sauer[2].* [1]Geisinger Commonwealth School of Medicine; [2]Moran Eye Center **CR*

1598 — *A0358* **Optical Coherence Tomography Angiography in Stargardt disease.** *Michael Reich, A. Glatz, B. Cakir, D. Boehringer, W. Lagrèze, H. Agostini, C. Lange.* Eye Center, Faculty of Medicine, Albert-Ludwigs University Freiburg, Germany **CR*

1599 — *A0359* **Assessment of retinal curvature, choroidal thickness, and peripheral refraction over a 90-degree field of view in emmetropic and myopic human eyes.** *Jochen Straub[1], C. Leahy[1], K. G. Foote[1, 2], H. Bagherinia[1], S. Bello[1].* [1]Carl Zeiss Meditec; [2]School of Optometry and Vision Science, University of California, Berkeley **CR*

1600 — *A0360* **Quantified fundus autofluorescence (QAF) in healthy children and adolescents.** *Carla Pröbster[1], I. Tarau[1], N. Kleefeldt[1], J. Hillenkamp[1], M. Nentwich[1], K. R. SLOAN[2], T. Ach[1].* [1]Dept of Ophthalmology, University Hospital Wuerzburg; [2]Dept of Ophthalmology, University of Alabama at Birmingham **CR*

West Exhibition Hall A0481-A0507

Monday, April 29, 2019 8:15 AM-10:00 AM

Genetics Group

222 Glaucoma Genetics

Moderators: Xing-Huai Sun and Gadi Wollstein

1601 — *A0481* **Prediction of glaucomatous visual field progression by genetic variants associated with primary open-angle glaucoma.** *Fumihiko Mabuchi[1], Y. Sakurada[1], K. Kashiwagi[1], M. Takamoto[2], M. Aihara[3], T. Iwata[4], K. Hashimoto[5], K. Sato[5, 6], Y. Shiga[7], K. Nishiguchi[8], T. Nakazawa[5, 7], M. Akiyama[9], K. Kawase[10], M. Ozaki[11], M. Araie[12].* [1]Ophthalmology, University of Yamanashi; [2]Ophthalmology, Saitama Red Cross Hospital; [3]Ophthalmology, University of Tokyo; [4]Molecular and Cellular Biology, National Institute of Sensory Organs, National Hospital Organization Tokyo Medical Center; [5]Ophthalmology, Tohoku University; [6]Collaborative Program for Ophthalmic Drug Discovery, Tohoku University; [7]Ophthalmic Imaging and Information Analytics, Tohoku University; [8]Advanced Ophthalmic Medicine, Tohoku University; [9]Ophthalmology, Kyushu University; [10]Ophthalmology, Gifu University Hospital; [11]Ozaki Eye Hospital; [12]Ophthalmology, Kanto Central Hospital of the Mutual Aid Association of Public School Teachers

1602 — *A0482* **Glaucoma Examination in the Amish of Holmes County, Ohio.** *Jonathan M. Skarie[1], T. Kinzy[2, 3], J. Sewell[2, 3], Y. E. Song[2, 3], R. Laux[2, 3], D. Fuzzell[2, 3], S. Fuzzell[2, 3], E. Trapl[2], F. B. Briggs[2], L. R. Pasquale[5], J. L. Wiggs[4], J. L. Haines[2, 3], J. Cooke Bailey[2, 3].* [1]Ohio Eye Associates, Inc; [2]Population and Quantitative Health Sciences, Case Western Reserve University; [3]Cleveland Institute for Computational Biology, Case Western Reserve University; [4]Ophthalmology, Mass Eye & Ear Infirmary, Harvard Medical School; [5]Ophthalmology, Icahn School of Medicine at Mount Sinai

1603 — *A0483* **Withdrawal_A multiethnic genome-wide association study of central corneal thickness identifies novel risk loci and reveals a new risk factor to primary open-angle glaucoma.** *Helene Choquet[1], J. Yin[1], T. J. Hoffmann[2, 3], K. K. Thai[1], M. N. Kvale[2], Y. Banda[2], C. Schaefer[1], N. Risch[2, 1], S. Nair[4], R. B. Melles[5], E. Jorgenson[1].* [1]Division of Research, Kaiser Permanente Northern California; [2]Institute for Human Genetics, University of California San Francisco; [3]Department of Epidemiology and Biostatistics, UCSF; [4]Departments of Ophthalmology and Anatomy, School of Medicine, UCSF; [5]Department of Ophthalmology, Kaiser Permanente Northern California

1604 — *A0484* **Role of rare *FOXC2* and *PITX2* variants in congenital glaucoma.** *Susana Alexandre[1, 2], J. Escribano Martínez[1, 2], R. Atienzar Aroca[1, 2], J. Aroca Aguilar[1, 2], J. Bonet Fernández[1, 2], C. Medina Trillo[1, 2], J. Ferre Fernández[1, 2], C. Méndez Hermnández[3], J. García Feijoo[3], L. Morales[3].* [1]Área de genética, IDINE, Universidad de Castilla La Mancha; [2]Oftared, Instituto de Salud Carlos III; [3]Servicio de oftalmología, Hospital San Carlos

1605 — *A0485* **Genetic risk score is associated with retinal nerve fiber layer thickness and severe glaucoma in Japanese normal-tension glaucoma patients.** *Yukihiro Shiga, K. Hashimoto, K. Sato, K. Nishiguchi, T. Nakazawa.* Ophthalmology, Tohoku University **CR*

1606 — *A0486* **Integration of Genetic and Biometric Risk Factors for Detection of Primary Angle-Closure Glaucoma.** *Tin Aung[1], C. Khor[4], C. Cheng[2], R. Husain[1], T. T. Wong[1], S. Perera[1], T. Y. Wong[3], E. N. Vithana[2], M. E. Nongpiur[2].* [1]Glaucoma, Singapore National Eye Center; [2]Singapore Eye Research Institute; [3]Singapore National Eye Center; [4]Human Genetics, Genome Institute of Singapore

1607 — *A0487* **Identification of genetic mutations of open-angle glaucoma in a family with a history of glaucoma in Togo.** *Koffi Didier Ayena[1], T. Tchedre[2], Y. Nagbe[1], K. Amedome[1], K. Dzidzinyo[1], K. Vonor[1], N. Maneh[1], K. Balo[1].* [1]Ophthalmology, Faculté des Sciences de la Santé; [2]Biotechnology Laboratory, Austin Community College

1608 — *A0488* **Gender-specific effect of BDNF Val66Met genotypes on the progression of open-angle glaucoma.** *TING SHEN[1], Y. You[2], V. Gupta[1], A. Klistorner[2, 1], S. L. Graham[1, 2].* [1]MACQUARIE UNIVERSITY; [2]Save Sight Institute

1609 — *A0489* **Whole exome sequencing identifies *GPC6* as a candidate early-onset glaucoma gene.** *Shiming Li, B. Fan, A. Larson, J. L. Wiggs.* Department of Ophthalmology, Harvard Medical School, Massachusetts Eye and Ear

1610 — *A0490* **Investigation of the Rho-kinase Gene Polymorphism in Primary Open-angle Glaucoma in Korean Population.** *Yong Woo Kim[1], Y. Kim[1], J. Kim[2], Y. Seo[2], S. Satyal[2], H. Huh[2], Y. Kim[1], K. Park[1], J. Jeoung[1].* [1]Department of Ophthalmology, Seoul National University Hospital; [2]pH Pharma Co., Ltd. **CR*

1611 — *A0491* **Whole Exome Sequencing identifies rare gene variants and pathways in a large south Indian family with Primary Open Angle Glaucoma.** *Periasamy Sundaresan[1], M. H. Shah[1], M. K[2], B. D[2], M. A. Kader[3], K. S. R[4], R. R[5].* [1]Genetics, Aravind Med Res Foundation; [2]Bioinformatics, Aravind medical Research Foundation; [3]Glaucoma Clinic, Aravind Eye Hospital; [4]Glaucoma Clinic, Aravind Eye Hospital; [5]Glaucoma Clinic, Aravind Eye Hospital

1612 — *A0492* **Functional implication of the pseudoexfoliation-associated rare variant p.Y407F at LOXL1.** *Daniel Berner[1], U. Hoja[1], M. Zenkel[1], F. Pasutto[2], M. Lee[3], T. Aung[3], C. Khor[4], A. Reis[2], F. E. Kruse[1], U. Schlotzer-Schrehardt[1].* [1]Department of Ophthalmology Erlangen, University of Erlangen-Nuremberg; [2]Institute of Human Genetics, University of Erlangen-Nuremberg; [3]Singapore Eye Research Institute; [4]Genome Institute of Singapore

1613 — *A0493* **Evidence of somatic mitochondrial DNA mutations in primary open angle glaucoma.** *Neeru A. Vallabh[1], B. Lane[1], D. A. Simpson[2], M. Fuchs[2], A. Choudhary[1], D. Criddle[1], R. Cheeseman[3], C. Willoughby[4].* [1]University of Liverpool; [2]Queens University Belfast; [3]Royal Liverpool Hospital; [4]Ulster University

1614 — *A0494* **APEX1 as a new candidate gene for glaucoma.** *Paulo V. Svidnicki[1], M. B. Melo[2], J. C. Vasconcellos[2], S. Rong[1], A. Larson[1], J. S. Borchert[1], J. L. Wiggs[1].* [1]Ophthalmology, Mass Eye and Ear; [2]University of Campinas

1615 — *A0495* **Genetic analysis localizes a novel locus on chromosome 4q for the glaucoma endophenotype, cup-to-disc ratio: The Jiri Eye Study.** *Sarah E. Miller[1], N. B. Blackburn[2, 3], S. S. Thapa[4], S. Laston[2, 3], S. Kumar[2, 3], J. Peralta[2, 3], J. Subedi[5], J. Blangero[2, 3], S. Williams-Blangero[2, 3], M. P. Johnson[2, 3].* [1]School of Medicine, University of Texas Rio Grande Valley; [2]South Texas Diabetes & Obesity Institute, University of Texas Rio Grande Valley; [3]Human Genetics, University of Texas Rio Grande Valley; [4]Tilganga Institute of Ophthalmology; [5]Sociology and Gerontology, Miami University

1616 — *A0496* **Glaucoma endophenotype prioritization in a large extended pedigree localizes additional genomic regions of significance: The Jiri Eye Study.** *Matthew P. Johnson[1, 2], N. B. Blackburn[1, 2], S. Laston[1, 2], S. Kumar[1, 2], J. Peralta[1, 2], J. Subedi[3], S. S. Thapa[4], J. Blangero[1, 2], S. Williams-Blangero[1, 2].* [1]South Texas Diabetes & Obesity Institute, UTRGV; [2]Human Genetics, UTRGV; [3]Sociology and Gerontology, Miami University; [4]Tilganga Institute of Ophthalmology

1617 — *A0497* **Evidence for a cilia component in Axenfeld-Rieger Syndrome.** *Ordan J. Lehmann[1], P. Chrystal[1], S. Van Baarle[3], A. Waskiewicz[2], S. Havrylov[3].* [1]Ophthalmology & Medical Genetics, University of Alberta; [2]Biological Sciences, University of Alberta; [3]Medical Genetics, University of Alberta

1618 — *A0498* **Family-based Genome-wide Association Study in South Indian Consanguineous Pedigrees Identifies an Association between *LPHN3* and Vertical Cup-disc Ratio.** *Baojian Fan[1], P. Ferdina Marie Sharmila[2], N. Soumittra[2], S. Sripriya[2], X. Gao[3], D. S. Friedman[4], L. Vijaya[5], J. L. Haines[6], R. J. George[5], J. L. Wiggs[1].* [1]Dept of Ophthalmology Harvard Med Sch, Massachusetts Eye & Ear Infirmary; [2]SNONGC Department of Genetics and Molecular Biology, Vision Research Foundation; [3]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago; [4]Dana Center for Preventive Ophthalmology, Wilmer Eye Institute, Johns Hopkins Medical School; [5]Medical Research Foundation, Sankara Nethralaya; [6]Department of Population and Quantitative Health Sciences, Institute for Computational Biology, Case Western Reserve University School of Medicine

1619 — *A0499* **A glaucoma polygenic risk score strongly associated with disease prediction and treatment intensity.** *Jamie E. Craig[1], A. Qassim[1], X. Han[2], M. Hassall[1], R. J. Casson[3], S. L. Graham[4], D. A. Mackey[5], C. Willoughby[6], K. P. Burdon[7], J. Landers[1], E. Souzeau[1], J. L. Wiggs[8], A. W. Hewitt[7], S. MacGregor[2].* [1]Department of Ophthalmology, Flinders University; [2]QIMR; [3]Adelaide University; [4]Macquarie Univeristy; [5]Lions Eye Institute; [6]University of Ulster; [7]Univeristy of Tasmania; [8]Mass Eye and Ear Infirmary

1620 — *A0500* **Mixed Effects Models Indicate Several SNPs within the CNTNAP2 Gene Increase Rate of Glaucoma Related Visual Field Loss.** *Argus Athanas-Crannell[1], M. Christopher[2], Y. Choi[3], A. Chan[3], L. M. Zangwill[2], J. M. Liebmann[4], C. A. Girkin[5], R. M. Feldman[6], K. D. Taylor[8], J. I. Rotter[8], H. DuBiner[7], R. Ayyagari[2], N. Schork[2, 9], R. N. Weinreb[2].* [1]University California San Diego; [2]Viterbi Family Department of Opthalmology, Shiley Eye Institue; [3]Human Biology, The J. Craig Venter Institute; [4]Bernard and Shirlee Brown Glaucoma Research Laboratory, Harkness Eye Institute, Columbia; [5]Department of Ophthalmology, University of Alabama at Birmingham; [6]Ruiz Department of Ophthalmology, University of Texas Health Science Center; [7]Eye Care Center Management; [8]Institute for Translational Genomics and Population Sciences; [9]Department of Quantitative Medicine and Systems Biology, The Translational Genomics Research Institute **CR*

1621 — *A0501* **A novel MYOC gene mutation in a Chinese family with primary open angle glaucoma.** *Chun Zhang, L. Lei, S. Li.* Peking Univ Eye Ctr, Peking University Third Hospital

1622 — *A0502* **Identification of candidate gene and miRNA linked to early- and late-stage glaucoma.** *Lu Lu[1], M. Hook[1], F. Xu[1], S. Yousefi[1, 2], J. Yue[3], M. M. Jablonski[2], R. W. Williams[1].* [1]Department of Genetics, Genomics and Informatics, UTHSC; [2]Department of Ophthalmology, UTHSC; [3]Department of Pathology, UTHSC

1623 — *A0503* **Specificity protein 1 (Sp-1) Regulates Transcription of the Leucine rich repeat and Immunoglobin-like domain-containing protein 1 (LINGO-1) in Optic nerve crushed rat retina.** *Wu Yali, Z. Zhan, Y. Quan, K. Wu, M. Yu.* Zhongshan Ophthalmic Cengter,Sun Yat-sen University

1624 — *A0504* **Association of the *CAV1/CAV2* locus with Normal Tension Glaucoma in East Asians.** *Calvin C. Pang[1, 2], S. Lu[1], C. C. Tham[1], C. Huang[2], M. Tsujikawa[3], K. Nishida[3], M. Zhang[2], L. Chen[1].* [1]Ophthalmology & Visual Sciences, The Chinese University of Hong Kong; [2]Joint Shantou International Eye Center, Shantou University and the Chinese University of Hong Kong; [3]Department of Ophthalmology, Osaka University Graduate School of Medicine

1625 — *A0505* **Associations between clinical features and risk alleles in Japanese glaucoma susceptibility loci.** *Kazuki Hashimoto[1], Y. Shiga[1], K. Nishiguchi[1], M. Miyake[2], K. Yamashiro[2], Y. Kawai[3], M. Nagasaki[4], T. Nakazawa[1].* [1]Ophthalmology, Tohoku University; [2]Ophthalmology, Kyoto University; [3]Human Genetics, Tokyo University; [4]Tohoku Medical Megabank Organization **CR*

1626 — *A0506* **Systems Genetics of Optic Nerve Axon Necrosis and IOP.** *Monica M. Jablonski[1], E. Sah[1], R. Davis[1], X. Wang[1], L. Lu[2], R. W. Williams[3].* [1]Hamilton Eye Institute, Univ Tennessee Health Sci Ctr; [2]Genetics, Genomics and Informatics, Univ Tennessee Health Sci Ctr; [3]Genetics, Genomics and Informatics, Univ Tennessee Health Sci Center

1627 — *A0507* **Association of APOE with POAG suggests a protective effect for APOE4.** *Sophia M. Letcher[1], M. Margeta[1], R. P. Igo[2], J. Cooke Bailey[2], J. L. Haines[2], O. Butovsky[3], J. L. Wiggs[1].* [1]Massachusetts Eye and Ear Infirmary; [2]Case Western Reserve University School of Medicine; [3]Brigham and Women's Hospital

West Exhibition Hall B0265-B0277

Monday, April 29, 2019 8:15 AM-10:00 AM

Retinal Cell Biology

223 Retinal Vascular Biology

Moderator: Wenbo Zhang

1628 — *B0265* **The CCN1-YAP regulatory pathway is a novel angiomodulatory circuit that controls vascular growth and expansion in the retina.** *Brahim Chaqour[1, 3], M. B. Grant[2], S. Moon[1], M. Luu[1], S. Lee[1].* [1]Cell Biology, SUNY Downstate Medical Center; [2]Ophthalmology, University of Alabama at Birmingham; [3]Ophthalmology, SUNY Downstate Medical Center

1629 — *B0266* **Standardization and validation of intravitreal and systemic administration of aflibercept in preclinical models for angiogenesis.** *Simon Kaja[2, 1], S. Ragauskas[2], M. Vähätupa[2], M. Cerrada-Gimenez[2], S. Mering[2], J. J. Hakkarainen[2], G. Kalesnykas[2].* [1]Ophthalmology, Loyola University Chicago; [2]Research and Development, Experimentica Ltd**.** **CR*

1630 — *B0267* **Coordinated Expression of Laminin Chains in Retinal Vascular Basement Membranes.** *Jared Watters, S. Biswas, G. Bachay, D. D. Hunter, W. J. Brunken.* Ophthamology, Upstate Medical University

1631 — *B0268* **Apcdd1 regulates blood-retinal barrier maturation by modulating vascular basement membrane composition and neurovascular unit integrity.** *Saptarshi Biswas[1], S. Shahriar[2], N. Giangreco[3], T. Cutforth[1], D. Agalliu[1, 2].* [1]Neurology, Columbia University Irving Medical Center; [2]Pathology, Columbia University Irving Medical Center; [3]Systems Biology, Columbia University irving Medical center

1632 — *B0269* **Reduced Retinal Arteriole Smooth Muscle Coverage with Age: A Potential Caveolin-1 Dependent Mechanism of Altered Retinal Metabolism.** *Jami Gurley[1], A. Reagan[1], N. Standifer[2], M. Stout[3], M. H. Elliott[1].* [1]Ophthalmology, University of Oklahoma Health Sciences Center; [2]University of Oklahoma; [3]Nutritional Sciences, University of Oklahoma Health Sciences Center

1633 — *B0270* **Overexpressing HSF1 prevents retinal neuronal injury in ischemic retinopathy.** *FAN XIA[1, 2], W. Liu[1, 2], Y. Ha[1], S. Zhu[1], Y. Li[1, 3], O. Folorunso[4], A. Pashaei-Marandi[1], P. LIN[5], R. Tilton[1, 6], A. Pierce[5], H. Liu[1], W. Zhang[1].* [1]Department of Ophthalmology & Visual Sciences, University of Texas Medical Branch; [2]Department of Ophthalmology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology; [3]Eye Hospital, Tianjin Medical University; [4]Department of Pharmacology and Toxicology, University of Texas Medical Branch; [5]Thermo Fisher Scientific; [6]Internal Medicine, University of Texas Medical Branch

1634 — *B0271* **Ferroportin promotes iron import through the retinal vascular endothelium.** *Wanting Shu[1, 2], B. Baumann[1], Y. Song[1], E. M. Simpson[4, 5], S. Lakhal-Littleton[3], J. L. Dunaief[1].* [1]F**.**M**.** Kirby Center for Molecular Ophthalmology, Scheie Eye Institute, Perelman School of Medicine at the University of Pennsylvania; [2]Department of Ophthalmology, Shanghai General Hospital, Shanghai Jiao Tong University School of Medicine; [3]University of Oxford; [4]Centre for Molecular Medicine and Therapeutics at the Child & Family Research Institute, University of British Columbia; [5]Department of Medical Genetics, University of British Columbia

1635 — *B0272* **Functional hyperemia is driven by dedicated vascular domains.** *Elena Ivanova[2], T. Kovacs-Oller[1, 2], B. T. Sagdullaev[1, 2].* [1]Burke Neurological Institute; [2]Neurology, Weill Cornell Medicine

1636 — *B0273* **Immunohistochemical profiling of caspases in a mouse model of Retinal Vein Occlusion (RVO).** *Crystal K. Colon Ortiz[1], M. Avrutsky[1], J. Lawson[1], F. Morales[1], C. Chen[1], S. Snipas[3], G. S. Salvesen[3], C. M. Troy[1, 2].* [1]Pathology and Cell Biology, Columbia University Medical Center; [2]Neurology, Columbia University Medical Center; [3]Sanford Burnham Prebys **CR*

1637 — *B0274* **Suprachoroidal (SC) injection of endothelin-1 (ET-1) in rabbits: A new model of outer retinal ischemia.** *T Michael Nork, A. W. Katz, E. A. Hennes-Beean, C. B. Kim.* Ophthal & Visual Sciences, Univ of Wisconsin-Madison **CR*

1638 — *B0275* **Screening stem cell-derived Claudin5-GFP engineered endothelial cells for novel compounds that regulate vascular permeability and characterizing their effects in vitro and in vivo.** *Peter D. Westenskow[1], S. Gruener[1], F. Relevant[1], S. Uhles[1], M. Lazendic[1], F. Roudnicky[2].* [1]Ophthalmology, F**.** Hoffman-La Roche Ltd; [2]Cellular Engineering, F**.** Hoffmann-La Roche Ltd**.**

1639 — *B0276* **The tight junction protein occludin regulates endothelial cell proliferation.** *Xuwen Liu[1], M. Merlino[1], L. Gao[1], S. I. Lentz[2], D. A. Antonetti[1].* [1]Department of Ophthalmology and Visual Sciences, University of Michigan; [2]Department of Internal Medicine, University of Michigan

1640 — *B0277* **Functional microglial involvement in the neurovascular unit.** *Michael A. Dixon, A. I. Jobling, J. Phipps, S. A. Mills, E. L. Fletcher.* University of Melbourne

West Exhibition Hall B0278-B0301

Monday, April 29, 2019 8:15 AM-10:00 AM

Retinal Cell Biology

224 Retinal Angiogenesis and ROP

Moderator: Xiaomeng Wang

1641 — *B0278* **A new mouse model of early-onset retinal neovascularization 4 (*rnv4*).** *Bo Chang, J. Wang, B. Fitzmaurice, P. M. Nishina.* The Jackson Laboratory

1642 — *B0279* **Inhibition of heme synthesis enzyme blocks ocular angiogenesis by causing mitochondrial dysfunction.** *Trupti Shetty[1], T. W. Corson[1, 2].* [1]Pharmacology & Toxicology, Indiana University; [2]Ophthalmology, Indiana University **CR*

1643 — *B0280* **The effect of Nrf2 depletion in Müller glia on retinal angiogenesis in oxygen-induced retinopathy.** *Zhenhua Xu, H. Cho, E. J. Duh.* Wilmer Eye Institute, Johns Hopkins University

1644 — *B0281* **Caspase-8 plays an apoptosis-independent role in the outgrowth and remodeling of retinal vasculature.** *Kendra V. Johnson[1], C. M. Troy[1, 2].* [1]Pathology, Columbia University Medical Center; [2]Taub Center for Alzheimer's Disease Research, Columbia University Medical Center **CR*

1645 — *B0282* **The role of lectines galectin-1 and 3 during the development of retinal vasculogenesis.** *Anna Hillenmayer, C. Wertheimer, S. Kassumeh, C. Priglinger, S. Priglinger, A. Ohlmann.* Ophtalmology, Ludwig-Maximilians University

1646 — *B0283* **Palmitoylethanolamide treatment suppresses Müller cell activation in a mouse model of proliferative retinopathy.** *Qian Chen[1, 2], S. Ye[1, 2], N. Jiang[1, 2], r. zong[1, 2], Z. Liu[1, 3].* [1]Eye Institute of Xiamen University; [2]Fujian Provincial Key Laboratory of Ophthalmology and Visual Science; [3]Department of Ophthalmology, The Affiliated Xiang'an Hospital of Xiamen University

1647 — *B0284* **Expressions of estrogen receptors in the retina and their respective function on neovascularization.** *Xiaoling Liang[1], B. Deng[2, 1], T. Wang[2].* [1]Zhongshan Ophthalmic Center, Sun Yat-sen University; [2]Zhongshan School of medicine, Sun Yat-sent University

1648 — *B0285* **Semaphorin3A-Trap Accelerates Vascular Regeneration in Ischemic Retinopathy and Reduces Retinal Edema.** *Francois Binet[1], N. Beaulieu[1], K. Beauchemin[1], P. Laplante[2, 3], J. G. Clement[3], G. Cumberlidge[2], P. Sapieha[1].* [1]Sema Thera - HMR Research Institute; [2]Sema Thera; [3]AmorChem **CR*

1649 — *B0286* **Anti-inflammatory and anti-angiogenic effects of an expoxidation-resistant expoxyeicosatetraenoic acid analog in choroidal neovascularization.** *Elizabeth Pearsall[1, 2], E. Hasegawa[1, 2], S. Inafuku[1, 2], Y. Okunuki[1, 2], J. R. Falck[3], K. M. Connor[1, 2].* [1]Ophthalmology, Massachusetts Eye & Ear ; [2]Ophthalmology, Harvard Medical School; [3]Biochemistry, University of Texas Southwestern Medical Center **CR*

1650 — *B0287* **Characterization of retinal nucleolin expression in an oxygen-induced retinopathy model.** *Yonathan Garfias[2, 1], E. Iturriaga-Goyon[1, 2], I. Castro[1, 2], F. Magaña-Guerrero[1, 2], A. Domínguez-López[1, 2], O. Vivanco-Rojas[1, 2], F. Sánchez-Bartez[3], M. Rivera-Huerta[3], M. Gracia-Mora[3].* [1]Research Unit, Institute of Ophthalmology, Conde de Valenciana Foundation; [2]Biochemistry, Universidad Nacional Autónoma de México, Facultad de Medicina; [3]Animal Experimentation Unit, Universidad Nacional Autónoma de México, Facultad de Química

1651 — *B0288* **Analysis of ocular blood flow waveforms in retinopathy of prematurity model rats using a Laser Speckle Flowgraphy Micro.** *masahiko tomita[1], T. Matsumoto[1], Y. Saito[2], T. Itokawa[1], K. Yokoyama[2], C. Yui[2], T. Shiba[1], Y. Hori[1].* [1]Ophthalmology, Toho University Omori Medical Center; [2]Ophthalmology, Showa University

1652 — *B0289* **Targeting epithelial membrane protein-2 in retinopathy of prematurity.** *Alison Chu[1], M. Sun[2], D. Casero[2], L. Gordon[2], M. Wadehra[2].* [1]Pediatrics, UCLA; [2]UCLA

1653 — *B0290* **Oxygen regulates retinal astrocyte proliferation to guide angiogenesis during retinal development.** *Matthew O'Sullivan[1], R. Perelli[2, 1], J. Kay[2, 1].* [1]Ophthalmology, Duke University; [2]Neurobiology, Duke University

1654 — *B0291* **Methylene blue postnatal application protects from retinal damage induced by perinatal asphyxia.** *Rafael Peláez[1], J. C. Fernández[2], M. Rey-Funes[2], M. Soliño[2], D. S. Contartese[2], V. B. Dorfman[3], J. J. López-Costa[2], A. Martínez[4], C. F. Loidl[2], I. M. Larráyoz[1].* [1]Biomarkers and molecular signaling, Center for Biomedical Research of La Rioja (CIBIR); [2]Neuropatología Experimental, Instituto de Biología Celular y Neurociencia "Prof. E. De Robertis" (IBCN), Facultad de Medicina, University of Buenos Aires; [3]Centro de Estudios Biomédicos, Biotecnológicos, Ambientales y Diagnóstico (CEBBAD), University Maimónides; [4]Angiogenesis Unit, Rioja Salud Foundation

1655 — *B0292* **Müller Cell HIF-2 is Not Required for Protection Against Oxygen Induced Retinopathy by Prolyl Hydroxylase Inhibition.** *George Hoppe, Y. Bolok, L. McCollum, C. Singh, J. E. Sears.* Cole Eye Institute, Cleveland Clinic

1656 — *B0293* **Knockdown of the erythropoietin receptor in endothelial cells extends physiological retinal vascular development in a model of retinopathy of prematurity.** *Aaron B. Simmons[1], E. Kunz[1], C. A. Bretz[1], H. Wang[1], T. Suwanmanee[2], T. Kafri[2], M. Hartnett[1].* [1]University of Utah, John A. Moran Eye Center; [2]Microbiology and Immunology, University of North Carolina Gene Therapy Center

1657 — *B0294* **EPOR signaling is important in neural retinal function following OIR.** *Colin A. Bretz[1], E. Kunz[1], V. Divoky[2], M. Hartnett[1].* [1]Ophthalmology, Moran Eye Center; [2]Biology, Palacky University

1658 — *B0295* **Matrix metalloproteases (MMPs) regulate Opticin expression in the Microglia Under Hypoxic Stress.** *Satish Baggam[1, 4], S. Rathi[1], D. Balakrishnan[3], S. Jalali[3], P. Kumari Rani[3], A. Badakere[2], R. Kekunnaya[2], P. Chhablani[2], S. Chakrabarti[1], I. Kaur[1].* [1]Prof. Brien Holden Eye Research Center, L V Prasad Eye Institute; [2]Jasti V Ramanamma Children's Eye Care Centre, L V Prasad Eye Institute; [3]Smt. Kannuri Santhamma Centre for Vitreo Retinal Diseases, L V Prasad Eye Institute; [4]Department of Animal Biology, University of Hyderabad

1659 — *B0296* **Retinal function, retinal vasculature and physical development were more severely affected in pups from hyperglycemia mice after oxygen-induced retinopathy.** *Kwan Wun Tsang, A. C. Lo.* The University of Hong Kong

1660 — *B0297* **The anti-angiogenic effect of anthocyanin oligomer in a mouse model of retinopathy of prematurity.** *Su Ah Kim[1], H. Hwang[2], K. Kang[2].* [1]Ophthalmology, YonSei Eye Hospital; [2]Ophthalmology, The Catholic University of Korea

1661 — *B0298* **Early gut microbiome profile in high-risk preterm infants with and without retinopathy of prematurity.** *Justin Chew[1, 2], A. Sharma[3, 4], S. Hilkert Rodriguez[2], B. Andrews[5], S. Schechet[2], J. Gilbert[3, 4], E. Claud[5, 4], D. Skondra[2, 4].* [1]Medical Scientist Training Program, Pritzker School of Medicine, University of Chicago; [2]Department of Ophthalmology, University of Chicago; [3]Department of Surgery, University of Chicago; [4]Microbiome Center, University of Chicago; [5]Department of Pediatrics, Neonatology, University of Chicago **CR*

1662 — *B0299* **Unexpected susceptibility to Oxygen-induced Retinopathy (OIR) in β,β-carotene-9',10'-oxygenase 2 (BCO2) Knockout Mice.** *Arunkumar Ranganathan, E. Kunz, M. Hartnett, P. S. Bernstein.* Department of Ophthalmology and Visual sciences, Moran Eye center University of Utah School of Medi

1663 — *B0300* **Pre-treatment of Endothelial Colony Forming Cells (ECFCs) with a novel anti-oxidant enhances their vasoregenerative potential.** *Stuart McKeown[1], P. Canning[1], C. Barelle[2], F. Cunningham[1], D. McPhail[3], A. J. Porter[4, 2], R. J. Medina[1], A. W. Stitt[1].* [1]Queen's University Belfast; [2]Elasmogen; [3]Antoxis Ltd; [4]School of Medical Sciences, University of Aberdeen **CR*

1664 — *B0301* **Mesenchymal stromal cells promote retinal vascular regeneration by modulating Sema3E and IL-17A in a mouse model of ischemic retinopathy.** *Jose Carlos Rivera[1, 2], B. Noueihed[1, 3], S. Chemtob[2, 1].* [1]Ophthalmology, Maisonneuve-Rosemont Hospital/ Montreal University; [2]Pediatrics, Ophthalmology and Pharmacology, CHU Sainte-Justine Research Center; [3]Pharmacology and Therapeutics, McGill University

West Exhibition Hall B0302-B0338

Monday, April 29, 2019 8:15 AM-10:00 AM

Retinal Cell Biology

225 Metabolic and Oxidative Control of Retinal Homeostasis and Diseases

Moderators: Nancy J. Philp and Peter D. Westenskow

1665 — *B0302* **Pleiotropic effects of claudin-19 on RPE gene expression include autophagy.** *Fanfei Liu[1, 2], L. J. Rizzolo[1].* [1]Surgery, Yale University; [2]Aier School of Ophthalmology, Central South University

1666 — *B0303* **Regional changes in primate retina metabolism.** *Sasha Woods, M. Fruttiger.* Academic Unit of Ophthalmology, UCL

1667 — *B0304* **Lactate transporters are essential for maintain function in rod but not cone photoreceptor cells.** *John Y. Han[1], J. Kinoshita[2], J. Du[6], S. Bisetto[1], B. A. Bell[3], R. Nowak[4], N. S. Peachey[2, 5], N. J. Philp[1].* [1]Thomas Jefferson University; [2]Cole Eye Institue, Cleveland Clinic; [3]Department of Ophthalmology, University of Pennsylvania; [4]University of Illinois at Urbana-Champaign; [5]Louis Stokes Cleveland VA Medical Center; [6]Department of Ophthalmology, Department of Biochemistry, West Virginia University Eye Institute

1668 — *B0305* **The Role of Progranulin in Retinal Homeostasis and Degeneration in the Context of Lysosomal Storage Disease.** *Jennifer A. Tran[1], J. Etchegaray[2], L. Gan[2].* [1]Boston University School of Medicine; [2]Gladstone Institute, University of California, San Francisco

1669 — *B0306* **Chaperone-mediated autophagy is a cytoprotective response of photoreceptors during aging and retinal diseases.** *Patricia Boya[1], R. Gomez Sintes[2, 1], A. M. Cuervo[2, 3].* [1]CIB-CSIC; [2]Department of Developmental and Molecular Biology, Albert Einstein College of Medicine; [3]Institute for Aging Studies, Albert Einstein College of Medicine **CR*

1670 — *B0307* **Selectively knocking down insulin receptor in rods disrupts glucose flux and leads to photoreceptor degeneration.** *Rui Zhang[1], W. Shen[1], V. Pye[1], A. Mathai[1], S. Lee[1], M. Yam[1], L. Zhu[1], C. J. Chen[3], J. Du[2], M. C. Gillies[1].* [1]Save Sight Institute; [2]West Virginia Univerisity; [3]Baylor College of Medicine

1671 — *B0308* **Rapamycin inhibited photoreceptor necroptosis and played a protective effect on retina through activation of autophagy in experimental retinal detachment.** *Jie Ding, N. Yang, K. Dong.* Department of Ophthalmology, the First Affiliated Hospital of USTC, Division of Life Sciences and Medicine, University of Science and Technology of China

1672 — *B0309* **Considerations in monitoring autophagy in the neural retina: Utility of CAG-RFP-GFP-LC3 transgenic mice.** *Sriganesh Ramachandra Rao[1, 2], L. A. Skelton[1, 2], B. A. Pfeffer[1, 2], S. J. Fliesler[1, 2].* [1]Research Service, VA Western NY Healthcare System; [2]Ophthalmology, Biochemistry, and Neuroscience Graduate Program, SUNY- University at Buffalo

1673 — *B0310* **Phototoxicity of rhodopsin photobleaching products in ARPE-19 cells.** *Tadeusz J. Sarna[1], M. M. Olchawa[1], O. Krzysztynska-Kuleta[1, 2], B. Czuba-Pelech[1].* [1]Biophysics, Jagiellonian University; [2]Malopolska Centre for Biotechnology, Jagiellonian University

1674 — *B0311* **The ApoB100,LDLR-/- mouse model as an experimental model to study aging of the retina: focus on autophagy, inflammation and oxidative stress.** *Marie-Agnès Bringer[1], M. Albouery[1], B. Buteau[1], M. Maire[1], A. M. Bron[2, 1], C. Creuzot-Garcher[2, 1], N. Acar[1], L. Bretillon[1].* [1]UMR CSGA – Eye and Nutrition Research Group, INRA; [2]Department of Ophthalmology, University Hospital **CR*

1675 — *B0312* **VEGF-B protects Müller cells from hypoxic- and oxidative stress-mediated damage.** *Maria Llorian-Salvador, J. Lechner, P. Barabas, E. Byrne, J. Augustine, T. M. Curtis, M. Chen, H. Xu.* Queens University Belfast

1676 — *B0313* **Glucose protects cultured retinal cells from oxidative injury via pentose phosphate pathway activation and maintenance of reduced glutathione.** *John P. Wood, G. Chidlow, T. Mammone, R. J. Casson.* Ophthalmic Research Laboratories, University of Adelaide

1677 — *B0314* **Mitochondrial-targeted OGG1 Involved in the Ability to Protect 661W Cells against Oxidative Damage Caused by Tert-butyl Hydroperoxide.** *Wei Ma.* Zhongshan Ophthalmic Center

1678 — *B0315* **Characterization of mitochondrial respiratory chain dysfunction, oxidative attacks and lipids accumulation in *Prpf31*-mutant mice.** *Abdallah Hamieh, G. Millet-Puel, T. D. Leveillard, E. F. Nandrot.* Institut de la Vision

1679 — *B0316* **Photoreceptor Metabolic Reprogramming in an In-Vivo Model of NaIO3 Induced Retinal Degeneration.** *Omar Moinuddin, E. Weh, Z. Lutrzykowska, C. G. Besirli.* Ophthalmology & Visual Sciences, University of Michigan

1680 — *B0317* **Increasing mitochondrial Ca^{2+} in cones stimulates α-ketoglutarate dehydrogenase.** *Celia Bisbach[1], R. Hutto[1], S. Brockerhoff[1, 2], J. Hurley[1, 2].* [1]Biochemistry, University of Washington; [2]Ophthalmology, University of Washington

1681 — *B0318* **Relating Vis-OCT Measurements of Retinal SO2 to Microelectrode Measurements of PO2.** *Lisa Beckmann[1], A. Dmitriev[1], X. Zhang[1], H. F. Zhang[1], R. A. Linsenmeier[1, 2].* [1]Biomedical Engineering, Northwestern University; [2]Neurobiology, Northwestern University **CR*

1682 — *B0319* **Chemical chaperone-mediated autophagy modulators in the treatment of retinal diseases.** *Raquel Gomez-Sintes[1, 2], E. Gavathiotis[3], P. Boya[2], A. M. Cuervo[1, 4].* [1]Department of Developmental and Molecular Biology, Albert Einstein College of Medicine; [2]Centro Investigaciones Biologicas, CIB-CSIC; [3]Department of Biochemistry, Albert Einstein College of Medicine; [4]Institute for Aging Studies, Albert Einstein College of Medicine **CR*

1683 — *B0320* **Characterization of RPE Cell Death Induced by 4-HNE.** *Yao Tong[1], B. Yu[1], J. Ma[1], S. Wang[1, 2].* [1]Department of cell and molecular biology, Tulane University; [2]Department of Ophthalmology, Tulane University

1684 — *B0321* **Differential metabolic activities play a role in the symbiotic relationship between the retina and RPE.** *Tirthankar Sinha, M. R. Al-Ubaidi, M. I. Naash.* Biomedical Engineering, University of Houston

1685 — *B0322* **Mapping interleukin-33 to metabolic function in the retinal pigment epithelium.** *Louis Scott[4], E. E. Vincent[1], N. Hudson[2], D. Copland[4, 3], K. Heesom[5], M. Campbell[2], A. Halestrap[6], A. D. Dick[4, 3], S. Theodoropoulou[4].* [1]Cellular and Molecular Medicine, University of Bristol; [2]Genetics, Trinity College Dublin; [3]UCL Institute of Ophthalmology; [4]Ophthalmology, University of Bristol; [5]Proteomics Facility, University of Bristol; [6]Biochemistry, University of Bristol

1686 — *B0323* **Effect of NOD ligand stimulation on human retinal pigmented epithelial (ARPE-19) cells N-acetylmuramyl-L-alanine amidase, glutathione and gamma-glutamyltranspeptidase activity.** *Jason So, L. Perilloux, A. S. Kavanaugh, W. A. Byrd, M. P. Langford.* Ophthalmology, LSUHSC Shreveport

1687 — *B0324* **Light-induced damage in the retinal pigment epithelium of a mouse model.** *Toshio Narimatsu[2, 1], K. Tsubota[1], Y. Ozawa[2, 1].* [1]Ophthalmology, Keio University School of Med; [2]Laboratory of Retinal Cell Biology, Keio University School of Medicine

1688 — *B0325* **Extracellular microparticles derived from retinal pigment epithelial cells mediate oxidative damages in the retina.** *Chun Yang[1], s. shani[1], H. Tahiri[1], C. Gagnon[1], S. Croteau[2], P. Hardy[1].* [1]Pharmacology, Research center of Hospital Sainte-Justine; [2]Medicine, University of Montreal

1689 — *B0326* **Metformin inhibits oxidative stress in human retinal pigment epithelial cells.** *Xiaoxi Qiao, Y. Li, T. Zhou, A. Hsu, P. A. Edwards, H. Gao.* Ophthalmology, Henry Ford Health System

1690 — *B0327* **Protective Effects Of Adrenergic Receptor Agonists On Hydroxychloroquine-Induced Damage in Cultured Human RPE Cells.** *Dan-Ning Hu[1], R. B. Rosen[2, 3].* [1]Ophthalmology, Icahn School of Medicine at MS; [2]Ophthalmology, Icahn School of Medicine at NS; [3]Ophthalmology, New York Eye and Ear Infirmry **CR*

1691 — *B0328* ***Emblica officinalis*** **as a nutraceutical against AMD mitochondria-induced damage in RPE cells; therapeutic implications for macular degeneration.** *Sonali R. Nashine[1], R. Kanodia[2], A. B. Nesburn[1, 4], G. Soman[3], B. D. Kuppermann[1], C. Kenney[1, 5].* [1]Ophthalmology, University of California Irvine; [2]Rhinoplasty Surgeon, Beverly Hills, CA, USA.; [3]Nisarga Biotech Pvt. Ltd.; [4]Cedars-Sinai Medical Center; [5]Pathology and Laboratory Medicine, University of California Irvine **CR*

1692 — *B0329* **Blue light-cytotoxic protection of plasma rich in growth factors (PRGF-Endoret) in retinal pigment epithelium cells.** *Sabino Padilla[1], M. de la Fuente[1], F. Muruzabal[1], B. de la Sen[1], S. Del Olmo-Aguado[2], C. Suarez-Barrio[3], J. Merayo-Lloves[2], E. Anitua[1].* [1]BTI ImasD; [2]Instituto Universitario Fernández-Vega; [3]Universidad de Oviedo **CR*

1693 — *B0330* **PRGF enhances RPE cell survival.** *Carlota Suárez Barrio[1], S. Del Olmo-Aguado[2, 3], C. Nuñez[2, 3], M. de la Fuente[4], F. Muruzabal[4], G. Orive[4], E. Anitua[4], N. N. Osborne[2, 3], J. M. Merayo-Lloves[2, 3].* [1]Universidad de Oviedo; [2]Fundación de investigación oftalmologica; [3]Instituto Universitario Fernández-Vega; [4]BTI Biotechnology Institute **CR*

1694 — *B0331* **Catechin protects ARPE19 cells under blue light exposure from oxidative stress.** *Minzhong Yu[1, 2], M. Yang[1], X. Zhong[3].* [1]Cole Eye Institute, Cleveland Clinic Foundation; [2]Department of Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University; [3]Zhongshan Ophthalmic Center, Sun Yat-sen University

1695 — *B0332* **Preconditioning of ARPE19 cells with red light blunts insults caused by blue light.** *Susana del Olmo Aguado[1], A. S. Álvarez[2], J. Merayo-Lloves[1], N. N. Osborne[1].* [1]Instituto Universitario Fernández-Vega, Fundación de Investigación Oftalmológica & Universidad de Oviedo.; [2]Universidad de Oviedo

1696 — *B0333* **Deferoxamine, an iron-chelating agent, attenuates retinal Ischemia/Reperfusion-induced retinal ganglion cells injury in rats.** *Fei Yao, X. Xia, T. Wang.* Department of Ophthalmology, Xiangya Hospital

1697 — *B0334* **Comparison of blue light injuries between cultured human retinal pigment epithelial cells and mouse cone photoreceptors.** *Yi-Sheng Chang[1, 2].* [1]Department of Ophthalmology, National Cheng Kung University, Taiwan; [2]Department of Ophthalmology, National Cheng Kung University Hospital

1698 — *B0335* **Targeting Warburg effect: Metabolic characterization of human aqueous humor in relation to age related macular degeneration.** *Guoge Han, P. Wei, M. He, Y. Chu.* Ophthalmology, Tianjin Eye Hospital

1699 — *B0336* **PGAM5 regulates RPE cell senescence via AMPK-mTOR pathway.** *Bo Yu[1], J. Ma[1, 2], S. Wang[1, 2].* [1]Department of Cell and Molecular Biology, Tulane University; [2]Department of Ophthalmology, Tulane University

1700 — *B0337* **Glutaredoxin 2 (Grx2) protects the retina from light-induced photoreceptor damage via regulating the endothelin receptor B (Ednrb) pathway.** *Xiaobin Liu[1], Y. Li[1, 2], D. Wang[1], F. Ssentamu[3], L. Aguilera Garcia[3], Y. Yu[1, 5], H. Wu[4, 1].* [1]Pharmaceutical Sciences, UNTHSC; [2]Department of Traditional Chinese Medicine, Shanxi Dayi Hospital; [3]College of Pharmacy, University of North Texas Health Science Center; [4]North Texas Eye Research Institute, University of North Texas Health Science Center; [5]Department of Obstetrics and Gynecology, The 2nd Hospital of Dalian Medical University

1701 — *B0338* **Comparison of Serine Biosynthesis in Human Retinal Pigment Epithelium from the Macula and Periphery.** *Ting Zhang[1], S. Zeng[1], L. Zhu[1], W. Shen[1], J. Fan[2, 1], M. C. Gillies[1].* [1]Save Sight Institute, The University of Sydney; [2]Fudan University, Department of Ophthalmology and Vision Sciences and Key Laboratory of Myopia of State Health Ministry, Eye and ENT Hospital, Shanghai Medical College

East 1

Monday, April 29, 2019 10:15 AM-11:00 AM

202a AP Section Business Meeting

1. Trustee's Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chair's Report
4. Annual Meeting Program Committee Election Results
5. Other Business

East 2/3

Monday, April 29, 2019 10:15 AM-11:00 AM

203a PH Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. PH Section Trustee nomination(s) update
6. Other Business

East 11/12

Monday, April 29, 2019 10:15 AM-11:00 AM

205a RC Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. 2019 Trustee Election Results
6. Other Business East Ballroom A

East Ballroom A

Monday, April 29, 2019 10:15 AM-11:00 AM

206a IM Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. 2019 Trustee Election Results
6. Cora Verhagen Award
7. Dr. Raniyah Ramadan Foundation Award
8. Mallinckrodt Uveitis Research Fellowship
9. Other Business

East Ballroom B

Monday, April 29, 2019 10:15 AM-11:00 AM

207a RE Section Business Meeting

1. Trustees Report of Status of the Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Elections Results
5. Trustees Report of Status of Association
6. RE Section Trustee nomination(s) update
7. Other Business

East Ballroom C

Monday, April 29, 2019 10:15 AM-11:00 AM

208a BI Section Business Meeting

1. Trustee's Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chair's Report
4. Annual Meeting Program Committee Election Results
5. Other Business

West 211

Monday, April 29, 2019 10:15 AM-11:00 AM

209a CO Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

West 212-214

Monday, April 29, 2019 10:15 AM-11:00 AM

210a VN Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

West 217-219

Monday, April 29, 2019 10:15 AM-11:00 AM

211a LE Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Presentation of the National Foundation for Eye Research 2019 Cataract Research Award to Frank J. Lovicu, PhD and Catherine K. Cheng, PhD
5. Annual Meeting Program Committee Election Results
6. Other Business

West 220

Monday, April 29, 2019 10:15 AM-11:00 AM

212a CL Section Business Meeting

1. Trustee's Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chair's Report
4. Annual Meeting Program Committee Election Results
5. Other Business

West 221/222

Monday, April 29, 2019 10:15 AM-11:00 AM

213a EY Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

West 223/224

Monday, April 29, 2019 10:15 AM-11:00 AM

214a VI Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. 2019 Trustee Election Results
6. Other Business

ARVO Ballroom

Monday, April 29, 2019 10:15 AM-11:00 AM

215a GL Section Business Meeting

1. Trustee's Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chair's Report
4. Annual Meeting Program Committee Election Results
5. Other Business

East 2/3

Monday, April 29, 2019 11:15 AM-1:00 PM

Physiology/Pharmacology

226 Drug delivery, drug and gene delivery system

Moderators: Karl G. Csaky and Lingyun Cheng

1702 — *11:15* **Pharmacokinetics and Pharmacodynamics of a Novel Dexamethasone Intravitreal Implant.** *Baruch D. Kuppermann[1], I. Parrag[2], D. Louka[2], H. Fischer[2], G. Mackey[2], B. B. Muirhead[3], E. Hicks[3], H. Sheardown[3], W. Naimark[2].* [1]Gavin Herbert Eye Inst**.** UCI Dept Ophthal, University of California Irvine; [2]Interface Biologics; [3]Biomedical Engineering, McMaster University **CR*

1703 — *11:30* **Brimonidine loaded lipid DNA-nanoparticles as an improved and novel treatment option for glaucoma.** *Sven Schnichels[1], K. Frößl[1], J. de Vries[1], M. Löscher[1], K. Bartz-Schmidt[1], A. Herrmann[2], M. S. Spitzer[3], J. Hurst[1].* [1]University Eye Hosp Tübingen, Centre for Ophthalmology Tübingen; [2]DWI - Leibniz-Institute for Interactive Materials; [3]Clinic for Ophthalmology, University Medical Center Hamburg-Eppendorf **CR*

1704 — *11:45* **Scleral permeation of co-administered episcleral drugs.** *Lingyun Cheng[1], P. Lu[2], J. Liu[2], W. R. Freeman[1], K. Huffman[1], Y. Xiao[1], S. Landeros[1].* [1]Jacobs Retina Center/Shiley Eye Institute; [2]Institute of Ocular Pharmacology, School of Ophthalmology and Optometry, Wenzhou Medical University

1705 — *12:00* **Solid lipid nanoparticles for the delivery of a sustained-release small molecule antioxidant for RPE protection in dry AMD.** *Anthoula Arta[1, 2], Y. Su[2], F. Rossato[2], G. Gnanaguru[2], P. A. D'Amore[2], Y. Ng[2], A. J. Urquhart[1].* [1]Micro- and Nanotechnology, Technical University of Denmark; [2]Ophthalmology, Harvard Medical School,Schepens Eye Research Institute of Mass Eye and Ear

1706 — *12:15* **The combination of biologic-loaded liposomes and retinal ganglion cell transplant rescues retinal function in an NMDA toxicity model.** *Anne Zebitz Z. Eriksen[1], J. Oswald[2], P. J. Kempen[1], F. Melander[1], M. Young[2], P. Y. Baranov[2], A. J. Urquhart[1].* [1]Department of Micro- and Nanotechnology, Technical Universety of Denmark; [2]Massachusetts Eye and Ear, an affiliate of Harvard Medical School, Schepens Eye Research Institute

1707 — *12:30* ***In Vivo*** **delivery of CRISPR-Cas9 ribonucleoprotein complex to the retina via a cell penetrating peptide.** *Vanessa Yanez, R. Kumar-Singh.* Tufts University

1708 — *12:45* **Assessment of AAV dual vector safety in the Abca4 KO mouse model.** *Michelle E. McClements[1], A. R. Barnard[1, 2], P. Charbel Issa[2], R. E. MacLaren[1, 2].* [1]Nuffield Laboratory of Ophthalmology, Nuffield Department of Clinical Neurosciences, University of Oxford; [2]Oxford Eye Hopsital **CR*

East 8&15

Monday, April 29, 2019 11:15 AM-1:00 PM

Retina

227 Retinal Vascular Disease

Moderators: Sunil K. Srivastava and Steven Yeh

1709 — *11:15* **Comparison of ultra wide field angiography to the 7 classic fields in the screening, follow-up and classification of proliferative sickle cell retinopathy.** *Gwenola Drouglazet, F. Fajnkuchen, B. Bodaghi, A. Giocanti.* Avicenne hospital

1710 — *11:30* **Clinical and imaging outcomes of patients with retinal vasculitis.** *Salam Bachour[1, 2], P. Emami Naeini[2], S. Sharma[2], K. Baynes[2], A. Venkat[2], C. Lowder[2], S. K. Srivastava[2].* [1]Cleveland Clinic Lerner College of Medicine; [2]Cleveland Clinic Cole Eye Institute

1711 — *11:45* **Central retinal thickness is the principal determinant of visual function in retinal vein occlusion.** *Martin Michl, X. Liu, A. Kaider, A. Sadeghipour, B. Gerendas, U. Schmidt-Erfurth.* Department of Ophthalmology and Optometry, Medical University of Vienna **CR*

1712 — *12:00* **Characterizing the relationship between collateral vessel development and vessel density in retinal vein occlusion using optical coherence tomography angiography.** *Hee Eun Lee[1], Y. Wang[1, 2], A. E. Fayed[1, 3], A. A. Fawzi[1].* [1]Ophthalmology, Feinberg School of Medicine, Northwestern University; [2]DePaul University; [3]Cairo University

1713 — *12:15* **Thrombophilic risk factors for retinal vein occlusion.** *Maria J. Vieira, A. Campos, M. Santos, J. Pereira, H. Arruda, J. Sousa.* Centro Hospitalar de Leiria

1714 — *12:30* **Outcome reporting bias in industry versus nonindustry-funded studies evaluating intravitreal steroid therapy for macular edema due to retinal vein occlusion.** *Sana Idrees[1], J. Sridhar[2], A. Kuriyan[1].* [1]Ophthalmology, Flaum Eye Institute, University of Rochester Medical Center; [2]Ophthalmology, Bascom Palmer Eye Institute

East 11/12

Monday, April 29, 2019 11:15 AM-1:00 PM

Retinal Cell Biology

228 Retinal Bioenergetics and Metabolic Interactions

Moderators: Deb A. Ferrington and Scott Plafker

1715 — *11:15* **Sustained mitochondrial GSH is critical for retinal protection: characterization of GSH carrier proteins in RPE and protection by increased expression with αB crystallin chaperone peptide.** *Mo Wang[2, 1], L. Lau[3, 4], P. G. Sreekumar[1], C. Spee[5], D. R. Hinton[5], S. R. Sadda[1], R. Kannan[1].* [1]ophthalmology, Doheny Eye Institute; [2]Ophthalmology, Shanghai Jiaotong University; [3]Ophthalmology, Doheny Eye Institute; [4]Ophthalmology, National Yang-Ming University; [5]Opthalmology, University of Southern California

1716 — *11:30* **Oxidative stress-related degeneration in RPE (retinal pigmented epithelium) and retina: role of DJ-1 and ageing.** *Vera L. Bonilha, M. Upadhyay.* Ophthalmology, Cole Eye Inst/Cleveland Clin Lerner Ctr

1717 — *11:45* **RPE utilizes proline for maturation, metabolic communication with retina and anti-oxidative damage.** *Jianhai Du[1, 2], M. Yam[1, 2], A. Engel[3], Y. Wang[1, 2], S. Zhu[1, 2], J. R. Chao[3].* [1]Ophthalmology, West Virginia University; [2]Biochemistry, West Virginia University; [3]Ophtalmology, University of Washington

1718 — *12:00* **Primary fetal RPE cultures resist accumulation and toxicity of lipofuscin-like material, and accumulated material can be further reduced by autophagy induction.** *Qitao Zhang[1], F. Presswalla[1], A. McCusker[1], C. Charniga[2], M. A. Calton[3], D. Vollrath[4], s. Temple[2], J. Stern[2], D. N. Zacks[1], D. A. Thompson[1], J. Miller[1].* [1]Kellogg Eye Center, University of Michigan; [2]Neural Stem Cell Institute; [3]Department of Genetics, Stanford University; [4]Wu Tsai Neurosciences Institute, Stanford University

1719 — *12:15* **The metabolic sensor AMPK is essential for the high metabolic program of Photoreceptors, but is surprisingly not required in RPE cells.** *John D. Ash, L. Xu, E. Brown.* Ophthalmology, University of Florida

1720 — *12:30* **The aging retina: early metabolic dysfunction in the retina of the xCT knockout mouse.** *Luis J. Knight[1], M. L. Acosta[2], R. Martis[1], P. J. Donaldson[3], J. C. Lim[1].* [1]Department of Physiology, University of Auckland; [2]School of Optometry and Vision Science, University of Auckland; [3]School of Medical Sciences, University of Auckland

1721 — *12:45* **The neuroprotective role of Hexokinase 2 in photoreceptor survival.** *Eric Weh, Z. Lutrzykowska, M. D. Pawar, H. Hager, C. G. Besirli.* Ophthalmology and Visual Sciences, University of Michigan

East Ballroom A

Monday, April 29, 2019 11:15 AM-1:00 PM

Immunology/Microbiology

229 Translational immunology in AMD, uveitis and thyroid eye disease

Moderators: Richard W. Lee and James T. Rosenbaum

1722 — *11:15* **Infection Patterns of Periodontal Microbiota and Age-related Macular Degeneration.** *Chung-Jung Chiu[1], A. Kantarci[1], R. Klein[2].* [1]The Forsyth Institute; [2]Department of Ophthalmology & Visual Sciences, University of Wisconsin, Madison

1723 — *11:30* **HTRA1 inactivates Thrombospondin-1 mediated subretinal immune-suppression.** *Florian Sennlaub[1], F. Beguier[1], M. Housset[1], S. Augustin[1], C. Roubeix[1], T. Mathis[1], C. M. Eandi[3], S. Touhami[1], J. Conart[1], Y. Zagar[1], M. Benchaboune[3], J. Girmens[3], T. D. Leveillard[1], J. A. Sahel[1], P. Sapieha[2], X. Guilonneau[1].* [1]Sorbonne Université, INSERM, CNRS, Institut de la Vision; [2]Université de Montréal; [3]Hôpital XV/XX

1724 — *11:45* **Inflammatory cell type-specific bioluminescence for quantitative scoring of uveitis in vivo.** *Kathryn L. Pepple, L. Wilson, R. N. Van Gelder, K. Rolnick.* University of Washington

1725 — *12:00* **Conventional and Non-conventional Lymphocytes exhibit dysregulated IL-22 and GM-CSF production in Acute Anterior Uveitis and Ankylosing Spondylitis.** *Jerry C. Huang[2, 3], M. Schleisman[1], C. Mitchell[1, 2], L. Watson[1, 2], J. T. Rosenbaum[1, 2], M. ASQUITH[1, 2].* [1]Medicine, Division of Arthritis and Rheumatic Disease, OHSU; [2]Ophthalmology, Casey Eye Institute, OHSU; [3]Ophthalmology, Chang Gung Memorial Hospital

1726 — *12:15* **Deep Profiling of Circulating Immune Cells in Uveitis Patients with Spondylitis Indicates an Increase of CCR9+ Gut Homing Cells.** *Jay Siak[1, 2], M. Schleisman[3], C. Mitchell[3], L. Watson[3], J. T. Rosenbaum[3, 4], M. ASQUITH[3].* [1]Ocular Inflammation and Immunology, Singapore National Eye Centre, Singapore Eye Research Institute; [2]Laboratory of Immunology, National Eye Institute, National Institutes of Health; [3]Casey Eye Institute and Dept. of Ophthalmology; Division of Arthritis and Rheumatic Disease, Dept. of Medicine, Oregon Health & Science University; [4]Ophthalmology, Legacy Devers Eye Institute **CR*

1727 — *12:30* **Immunotherapy with fingolimod improves outcome of experimental Graves' disease and associated orbitopathy by modulating autoimmune response to thyroid stimulating hormone receptor.** *Svenja Ploehn[1], M. Hose[1], A. Schlueter[1], L. Michel[1], S. Diaz-Cano[2], P. Banga[1], W. Hansen[1], A. Eckstein[1], U. Berchner-Pfannschmidt[1].* [1]University Hospital Essen; [2]Kings College Hospital

1728 — *12:45* **Immune Landscape of the Orbital Microenviroment in Thyroid-Associated Ophthalmopathy.** *Sijie Fang[1, 2], Y. Huang[1, 2], N. Wang[3], S. Zhang[1, 2], S. Zhong[1, 2], J. Sun[1, 2], H. Zhou[1, 2], X. Fan[1, 2].* [1]Department of Ophthalmology, Shanghai Ninth People's Hospital; [2]Shanghai Key Laboratory of Orbital Diseases and Ocular Oncology; [3]Department of Endocrinology and Metabolism, Shanghai Ninth People's Hospital, Shanghai JiaoTong University School of Medicine

East Ballroom B

Monday, April 29, 2019 11:15 AM-1:00 PM

Retina

230 Diabetic Retinopathy Therapeutics

Moderators: Mark W. Johnson and Lee M. Jampol

1729 — *11:15* **Positive Diabetic Retinopathy Outcomes with Emixustat in a Pilot Study.** *Chirag Jhaveri[1, 2], J. M. Koester[3], J. Gregory[3], R. Kubota[3].* [1]Retinal Consultants of Austin; [2]Clinical Assistant Professor, Dell Medical School, University of Texas; [3]Acucela **CR*, ↗

1730 — *11:30* **Predicting Long-Term Effects of Ranibizumab Therapy on the Diabetic Retinopathy Severity Score (DRSS) based on the Short-Term DRSS Improvement in the Ranibizumab for Edema of the Macula in Diabetes – Protocol 3 with High Dose (READ-3) Study.** *Rubbia Afridi[1], M. Hassan[1], M. Halim[1], M. S. Ormaechea[1], G. Uludağ[1], M. A. Sadiq[3], A. N. Tran[1], N. V. Nguyen[1], J. Bae[1], M. A. Ibrahim[2], Q. D. Nguyen[1], Y. Sepah[1, 2].* [1]Ophthalmology, Byers Eye Institute; [2]Ocular Imaging Research and Reading Center (OIRRC); [3]Ophthalmology, University of Louisville **CR*, ↗

1731 — *11:45* **Treatment of Moderately Severe to Severe Nonproliferative Diabetic Retinopathy with Intravitreal Aflibercept Injection: 52-Week Results from the Phase 3 PANORAMA Study.** *David S. Boyer.* Ophthalmology, Retina Vitreous Assoc Med Group **CR*, ↗

1732 — *12:00* **Regression of diabetic retinopathy with anti-VEGF treatment: what is learned from a meta-analysis of four pivotal clinical trials.** *Diana V. Do[1], Q. D. Nguyen[1], B. Day[2], T. Ecoiffier[2], I. Stoilov[2].* [1]Byers Eye Institute, Stanford University School of Medicine; [2]Genentech, Inc. **CR*, ↗

1733 — *12:15* **Anti-VEGF Therapy for Diabetic Retinopathy: Consequences of Inadvertent Treatment Interruptions.** *Mark W. Johnson, T. Wubben.* Ophthal & Visual Science, Univ of Michigan-Kellogg Eye Ctr

1734 — *12:30* **Retreatment needs of patients with proliferative diabetic retinopathy treated with ranibizumab, laser or combination therapy.** *Andreas Stahl[1], S. Liakopoulos[2], K. Lorenz[3], C. Quiering[4], L. Sander[4], G. Spital[5], G. E. Lang[6].* [1]University Eye Hospital Greifswald; [2]Ophthalmology, University of Cologne; [3]University Medical Center, Johannes Gutenberg University Mainz; [4]Novartis Pharma; [5]St. Franziskus-Hospital Münster; [6]University Eye Hospital Ulm **CR*, ↗

East Ballroom C

Monday, April 29, 2019 11:15 AM-1:00 PM

Biochemistry/Molecular Biology

231 Molecular mechanisms of retinal function in health and disease

Moderators: S Patricia Becerra, G. Astrid Limb and Vsevolod V. Gurevich

1735 — *11:15* ***Rhodopsin* enhancers mediate distinct temporal control of gene expression.** *Philip Ruzycki, X. Zhang, S. Chen.* Ophthalmology and Visual Sciences, Washington University School of Medicine

1736 — *11:30* **Cryo-Electron Tomography Reveals Structural Roles for Domains of the Cyclic Nucleotide-Gated Channel Beta Subunit.** *Theodore G. Wensel[1], Z. Zhang[1], F. He[1], S. J. Pittler[2].* [1]Biochemistry, Baylor College of Medicine; [2]Optometry and Vision Science, School of Optometry, University of Alabam at Birmingham

1737 — *11:45* **A novel PI3k interaction with RNA binding protein ZC3H14 coordinates astrocyte-mediated neuroprotection.** *Jeremy M. Sivak[2, 1], S. Alqawlaq[2, 1], i. Livne-bar[2, 1], D. Chan[2], G. Schmitt-Ulms[3].* [1]Vision Sciences & Ophthalmology, University of Toronto; [2]Vision Science, Krembil Research Institute, University Health Network; [3]Tanz Centre for Research in Neurodegenerative Diseases, University of Toronto

1738 — *12:00* **Inhibition of NF-kB signaling modulates epithelial to mesenchymal transition in human stem cell-derived retinal pigment epithelial cells.** *Srinivas R. Sripathi[1], M. Hu[1], J. Cheng[1], M. Liu[1], Y. Duan[1], J. Wan[2], X. Yang[3], J. L. Mertz[1], C. Berlinicke[1], J. Maruotti[5], K. J. Wahlin[4], N. Esumi[1], J. Qian[1], D. J. Zack[1].* [1]Ophthalmology, The Johns Hopkins University School of Medicine; [2]Medical and Molecular Genetics, Indiana University School of Medicine; [3]McKusick-Nathans Institute of Genetic Medicine, Johns Hopkins University School of Medicine; [4]Shiley Eye Institute; [5]Phenocell

1739 — *12:15* **HDL-Cholesterol Receptor SR-BI May Serve as a Macular Carotenoid Transporter.** *Binxing Li, E. W. George, A. Gorusupudi, F. Chang, G. T. Rognon, J. M. Frederick, P. S. Bernstein.* Ophthalmology and Visual Sciences, Univ of UT Sch Med/Moran Eye Ctr

1740 — *12:30* ***CRB1*** **expresses multiple isoforms in multiple retinal cell types — reevaluating *CRB1* retinopathies.** *Thomas Ray, K. Cochran, W. SPENCER, M. Cady, V. Y. Arshavsky, J. Kay.* Duke University

1741 — *12:45* **Reduced docosahexaenoic acid content impairs photoreceptor health without affecting visual signal transduction.** *Katya Lobanova[1], K. Schuhman[2], M. E. Burns[3], A. Shevchenko[2], V. Y. Arshavsky[4].* [1]Univeristy of Florida; [2]Max Planck Institute of Molecular Cell Biology and Genetics; [3]UC Davis; [4]Duke University

Monday Papers/ Minisymposia 11:15 am – 1:00 pm

West 211

Monday, April 29, 2019 11:15 AM-1:00 PM

Cornea

232 Ocular Surface Disease

Moderators: Paolo Rama and Saaeha Rauz

1742 — *11:15* **A Novel Mouse Model of Acute Ocular Graft-versus-Host Disease.** *Giulio Ferrari[1], A. Atay[1], P. Fonteyne[1], E. Di Simone[2], A. Mondino[2], P. Rama[1].* [1]Cornea and Ocular Surface Disease Unit, Eye Repair Lab, IRCCS San Raffaele Scientific Institute; [2]Division of Immunology; Transplantation and Infectious Diseases, San Raffaele Scientific Institute

1743 — *11:30* **Stress-induced senescence in chronic ocular graft-versus-host disease in mice.** *Yoko Ogawa[1], M. Yamane[1], E. Shimizu[1], S. Shibata[5], M. Hayano[1], T. Suzuki[1], S. Mukai[3], S. Shimmura[1], H. Okano[5], T. Takeuchi[4], Y. Kawakami[2], K. Tsubota[1].* [1]Department of Ophthalmology, Keio Univ School of Medicine; [2]Institute for Advanced Medical Research, Keio University School of Medicine; [3]Cardiovascular Division, Harvard Medical School; [4]Department of Rheumatology, Keio University School of Medicine; [5]Department of Physiology, Keio University School of Medicine ***CR***

1744 — *11:45* **Differences in tear protein biomarkers between patients with Alzheimer's disease and controls.** *Marlies Gijs[1], R. M. Nuijts[1], I. Ramakers[2], F. Verhey[2], C. A. Webers[1].* [1]University Eye Clinic, Maastricht University Medical Center; [2]Department of Psychiatry & Neuropsychology, Maastricht University

1745 — *12:00* **Activated neutrophils at the ocular surface and associated tear molecular profile correlates with disease severity in Stevens-Johnson Syndrome patients.** *sharon dsouza[1], A. P. Nair[2], n. sharma[2], N. Ashok[2], R. Shetty[1], A. Ghosh[2], S. Sethu[2].* [1]Cornea, Narayana Nethralaya ; [2]Grow research Lab, Narayana Nethralaya Foundation

1746 — *12:15* **Human Ocular Surface Particulate Composition: Home vs. Clinical Environment.** *Carol Kaplan[1], A. Galor[2], P. Blackwelder[3], A. Hackam[2], B. H. Jeng[4], D. Menendez[5], N. Kumar[1].* [1]Department of Public Health, University of Miami; [2]Bascom Palmer Eye Institute; [3]Center for Advanced Microscopy, University of Miami; [4]University of Maryland School of Medicine; [5]Department of Public Health, University of Miami

1747 — *12:30* **Meibum lipid compositional and structural changes with age and meibomian gland dysfunction using NMR and FTIR spectroscopy.** *Douglas Borchman, A. Ramasubramanian.* Ophthalmology and Visual Sciences, University of Louisville

1748 — *12:45* **Meibomian gland and ocular surface changes during high fat diet feeding in mice.** *Eugene Osae[1], J. Courson[1], A. De La Cruz[1], M. Chintalapati[2], T. Bullock[2], R. L. Redfern[1], S. Hanlon[1], R. E. Rumbaut[2, 3], C. W. Smith[2], A. Burns[1].* [1]University of Houston College of Optometry; [2]Leukocyte Biology, Department of Pediatrics, Children's Nutrition Research Center, Baylor College of Medicine; [3]Center for Translational Research on Inflammatory Diseases, Michael E DeBakey VA Medical Center

West 212-214

Monday, April 29, 2019 11:15 AM-1:00 PM

Visual Neuroscience / Anatomy and Pathology/ Oncology / Retina / Retinal Cell Biology

233 Of mice and men: Comparing primate and rodent retina - Minisymposium

The visual system of humans and non-human primates is unique in several aspects**.** However, due to accessibility and the availability of molecular tools, mice and other rodents are often the models of choice to study the retina, the results of which are then extrapolated to the human situation**.** When taking results from bench to bedside and back again, it is extremely important to be able to understand the similarities and the differences between the retinae of rodents and primates**.** This minisymposium compares recent data on rodent and primate retinae at several levels (genetics, cellular properties, physiology, circuitry, etc**.).**

Moderators: Jan J. Kremers, Ulrike Grunert and Erika D. Eggers

1749 — *11:15* **Introduction.** *Ulrike Grunert[1, 2].* [1]Save Sight Institute, University of Sydney; [2]Sydney Node, ARC Centre of Excellence for Integrative Brain Function

1750 — *11:25* **Molecular specialization of cell types in the retinae of mice and primates.** *Yi-Rong Peng.* Department of Molecular and Cellular Biology, Harvard University

1751 — *11:44* **Circuitry and visual processing in the retinae of mice and men.** *Greg D. Field.* Duke University School of Medicine

1752 — *12:03* **Using mice to model human retinal disease.** *Machelle T. Pardue[1, 2].* [1]Biomedical Engineering, Georgia Tech/Emory; [2]Center for Visual and Neurocognitive Research (CVNR), Atlanta VA Medical Center ***CR***

1753 — *12:22* **Photoreceptor driven non-invasive electrophysiology in humans and mice.** *Jan J. Kremers.* Dept of Ophthalmology, University of Erlangen

1754 — *12:41* **Optogenetic approaches to restore retinal function in mice and primates.** *Jens Duebel.* Visual Information Processing, Vision Institute Paris

West 217-219

Monday, April 29, 2019 11:15 AM-1:00 PM

Genetics Group

234 Mendelian Genetics and Animal Models of Retinal Disorder

Moderator: Douglas Vollrath

1755 — *11:15* **Pathogenic structural and non-coding variants in retinal dystrophy identified through the 100,000 genomes project.** *Gavin Arno[1, 2], J. Ellingford[3], F. L. Motta[4], K. Oprych[1], R. Ba-Abbad[1, 2], O. A. Mahroo[1, 2], A. Moore[5, 2], G. Black[3], M. Michaelides[1, 2], A. Webster[1, 2].* [1]UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital; [3]Manchester Centre for Genomic Medicine, University of Manchester; [4]Department of Ophthalmology, Universidade Federal de São Paulo; [5]Ophthalmology, UCSF School of Medicine, University of California San Francisco

1756 — *11:30* **Long-term follow-up, phenotypic and genetic spectrum of patients with juvenile X-linked retinoschisis in the Netherlands.** *Nieneke Wesseling[1], M. J. van Schooneveld[1, 2], M. M. van Genderen[2], R. J. Florijn[4], J. B. ten Brink[4], L. I. van den Born[8], M. Meester[6], A. A. Thiadens[6], C. C. Klaver[6, 7], C. C. Hoyng[7], A. A. Bergen[4, 5], C. Boon[1, 3].* [1]Department of Ophthalmology, Amsterdam UMC, University of Amsterdam; [2]Bartiméus Diagnostic Center for Complex Visual Disorders; [3]Department of Ophthalmology, Leiden University Medical Center; [4]Department of Clinical Genetics, Amsterdam UMC, University of Amsterdam; [5]The Netherlands Institute for Neuroscience (NIN-KNAW); [6]Department of Ophthalmology, Erasmus Medical Center; [7]Department of Ophthalmology, Radboud University Medical Center; [8]Rotterdam Eye Hospital

1757 — *11:45* **Detection and validation of the involvement of novel mutations in *MERTK* in recessive retinal degeneration using WGS and hiPSC-RPEs.** *Pooja Biswas[1], S. Borooah[1], M. voronchikhina[1], H. Matsui[2], K. J. Wahlin[1], K. Frazer[2, 3], R. Ayyagari[1].* [1]Shiley Eye Institute, University of California San Diego; [2]Institute for Genomic Medicine, University of California San Diego; [3]Department of Pediatrics, Rady Children's Hospital, Division of Genome Information Sciences

1758 — *12:00* **Japan Eye Genetics Consortium: National Cohort Survey and Whole Exome Sequencing Results.** *Kaoru Fujinami[1, 2], K. Yoshitake[1], T. Hayashi[3], K. Kuniyoshi[4], S. Ueno[5], M. Kondo[6], K. Shinoda[7], S. Kameya[8], N. Nao-i[9], H. Kondo[10], Y. Miyake[11], T. Iwata[1], K. Tsunoda[1].* [1]Ophthalmology, National Institute of Sensory Organs; [2]Genetics, UCL Institute of Ophthalmology; [3]The Jikei University School of Medicine; [4]Kinki University Faculty of Medicine; [5]Nagoya University Graduate School of Medicine; [6]Mie Univ Graduate School of Medicine; [7]Teikyo University School of Medicine; [8]Nippon Medical School Chiba Hokusoh Hospital; [9]School of Medicine, Miyazaki University; [10]University of Occupational and Environmental Health; [11]Aichi Medical University **CR*

1759 — *12:15* **Disease mechanisms elucidated by genetic regulation of human RPE gene expression.** *Douglas Vollrath[1], B. Liu[2], M. A. Calton[1], N. S. Abell[1], G. Benchorin[1], M. J. Gloudemans[3], M. Chen[1], J. Hu[4], X. Li[5], B. Balliu[5], D. Bok[4], S. B. Montgomery[1, 5].* [1]Department of Genetics, Stanford University School of Medicine; [2]Department of Biology, Stanford University; [3]Program in Biomedical Informatics, Stanford University School of Medicine; [4]Department of Ophthalmology, Jules Stein Eye Institute, UCLA; [5]Department of Pathology, Stanford University School of Medicine

1760 — *12:30* **Gene-edited mouse models and human retinal organoids to study the function of *CERKL*, *NR2E3* and *ATXN3* genes in inherited retinal dystrophies.** *Gemma Marfany[1, 4], V. Toulis[1, 2], E. B. Domènech[1, 2], I. Aísa-Marín[1, 3], S. Mirra[1, 2], M. Pereira da Costa[5], S. Erceg[6], D. Lukovic[6], R. Gonzàlez-Duarte[7].* [1]Dept. Genetica, Microbiologia i Estadística, Universitat de Barcelona; [2]CIBERER- ISCIII; [3]IBUB-IRSJD; [4]IBUB-IRSJD, CIBERER-ISCIII, DBGen Ocular Genomics; [5]Department of Neurology, Medical School, University of Michigan; [6]Centro de Investigación Príncipe Felipe (CIPF); [7]DBGen Ocular Genomics

1761 — *12:45* **A Non-Human Primate Model of Achromatopsia.** *Ala Moshiri[1], R. Chen[2, 7], O. Pomerantz[3], T. Stout[8], C. J. Murphy[6, 5], J. Roberts[3], N. Artemyev[4, 9], J. Rogers[2], S. M. Thomasy[6, 1].* [1]Ophthalmology, U.C. Davis; [2]Human Genome Sequencing Center and Department of Molecular and Human Genetics, Baylor College of Medicine; [3]California National Primate Research Center, UC Davis ; [4]Molecular Physiology and Biophysics, University of Iowa; [5]Ocular Services On Demand; [6]Surgical and Radiological Sciences, UC Davis School of Veterinary Medicine; [7]Biochemistry and Molecular Biology, Baylor College of Medicine; [8]Ophthalmology, Cullen Eye Institute, Baylor College of Medicine; [9]Ophthalmology and Visual Sciences, University of Iowa

West 220

Monday, April 29, 2019 11:15 AM-1:00 PM

Clinical/Epidemiologic Research

235 Quality of life and the patient experience

Moderators: Nicole A. Carnt and Deanna J. Taylor

1762 — *11:15* **Vision-related Quality of Life when considering both eyes: Results from the German population-based Gutenberg Health Study (GHS).** *Stefan Nickels[1], A. K. Schuster[1], H. Elflein[1], C. Wolfram[1], A. Schulz[2], T. Münzel[3], M. Beutel[4], I. Schmidtmann[5], R. P. Finger[6], N. Pfeiffer[1].* [1]Department of Ophthalmology, University Medical Center of the Johannes Gutenberg-University Mainz; [2]Preventive Cardiology and Preventive Medicine, Center for Cardiology, Cardiology I, University Medical Center of the Johannes Gutenberg-University Mainz; [3]Center for Cardiology, Cardiology I, University Medical Center of the Johannes Gutenberg-University Mainz; [4]Department of Psychosomatic Medicine and Psychotherapy, University Medical Center of the Johannes Gutenberg-University Mainz; [5]Institute for Medical Biostatistics, Epidemiology and Informatics, University Medical Center of the Johannes Gutenberg-University Mainz; [6]Department of Ophthalmology, University of Bonn

1763 — *11:30* **Sight: the most valuable sense?** *Jamie N. Enoch, L. McDonald, L. Jones, P. R. Jones, D. P. Crabb.* Optometry & Visual Sciences, City, University of London **CR*

1764 — *11:45* **The Eye-tem Bank – comprehensive measurement of ophthalmic quality of life.** *Konrad Pesudovs[1], J. Khadka[2], M. Prem Senthil[3], H. Kandel[4], S. Kumaran[3], E. K. Fenwick[5], T. Braithwaite[6], E. L. Lamoureux[5].* [1]NHMRC Centre of Clinical Eye Research, Pesudovs; [2]University of South Australia; [3]Nursing and Health Sciences, Flinders University; [4]Ophthalmology, Save Sight Institute; [5]Ophthalmology, Singapore Eye Research Institute; [6]Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust

1765 — *12:00* ***'Am I going to be able to see when the patch comes off?'* Patient experiences of undergoing only eye surgery.** *Lee Jones[1], F. Sii[2], D. P. Crabb[1], P. Shah[2, 3].* [1]Optometry and Visual Science, City London University; [2]University Hospital Birmingham / Birmingham Institute for Glaucoma Research; [3]Centre for Health & Social Care Improvement, University of Wolverhampton **CR*

1766 — *12:15* **Beyond Intraocular Pressure: Visual Ability and Vision-related Quality of Life in Childhood Glaucoma.** *Vijaya Gothwal[1], S. Sharma[1], A. K. Mandal[2].* [1]Brien Holden Eye Research Centre - Patient Reported Outcomes Unit, L V Prasad Eye Institute; [2]Jasti V Ramanamma Children's Eye Care Centre, L V Prasad Eye Institute

1767 — *12:30* **Predictors of quality of life for *Acanthamoeba* keratitis patients.** *Nicole A. Carnt[1, 2], S. Connor[3], V. Parayoganathan[4], L. Keay[1, 5].* [1]School of Optometry and Vision Science, UNSW; [2]Institute of Ophthalmology, University College London; [3]Research Organisation (KC) Ltd; [4]NHS Blood and Transplant; [5]The George Institute for Global Health **CR*

1768 — *12:45* **Quantifying the burden, fatigue and depressive symptoms in family carers of persons with AMD.** *Bamini Gopinath, D. Tang, G. Liew, G. Burlutsky, P. Mitchell.* Centre for Vision Research, University of Sydney ↗

West 221/222

Monday, April 29, 2019 11:15 AM-1:00 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

236 Strabismus and Nystagmus

Moderators: Zia Chaudhuri, Fatema F. Ghasia and Irene Gottlob

1769 — *11:15* **Rare Copy Number Variants Increase Risk for Esotropia.** *Mary Whitman[1, 3], S. Di Gioia[2], W. Chan[2], A. Gelber[2], S. Shaaban[2], S. Staffieri[4, 5], S. MacKinnon[1], D. A. Mackey[6], D. G. Hunter[1, 3], E. Engle[2, 1].* [1]Ophthalmology, Boston Childrens Hospital; [2]Neurology, Boston Children's Hospital; [3]Ophthalmology, Harvard Medical School; [4]Center for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [5]Ophthalmology, Royal Children's Hospital, University of Melbourne; [6]Ophthalmology and Visual Science, University of Western Australia, Lions Eye Institute

1770 — *11:30* **Neural Innervation of Extraocular Muscles during Vertical Vergence.** *Samuel Adade, V. E. Das.* College of Optometry, University of Houston

1771 — *11:45* **Clinical and Electrophysiological Outcomes After Eye Muscle Surgery in 81 Adults with Infantile Nystagmus Syndrome (INS).** *Richard W. Hertle[1, 2], M. Curtiss[1], I. Ricker[1], A. Ghering[1].* [1]Children's Hosp Medical Ctr of Akron; [2]Surgery, The Northeast Ohio Medical College

1772 — *12:00* **Reduced eye-related quality of life and functional vision using the new PedEyeQ in childhood strabismus.** *Jonathan M. Holmes[1], D. A. Leske[1], S. R. Hatt[1], S. M. Wernimont[1], Y. S. Castañeda[2], L. Liebermann[1], C. S. Cheng-Patel[2], E. E. Birch[2, 3].* [1]Ophthalmology, Mayo Clinic; [2]Retina Foundation of the Southwest; [3]UT Southwestern Medical Center

1773 — *12:15* **Hand kinematics in strabismic children during visually-guided reaching.** *Krista R. Kelly[1], R. M. Jost[1], E. E. Birch[1, 2], S. G. Collado[1], C. L. Beauchamp[3], J. Y. Tung[4], E. Niechwiej-Szwedo[5].* [1]Pediatric Vision, Retina Foundation of the Southwest; [2]Ophthalmology, UT Southwestern Medical Center; [3]ABC Eyes Pediatric Ophthalmology, PA; [4]Mechanical and Mechatronics Engineering, University of Waterloo; [5]Kinesiology, University of Waterloo

1774 — *12:30* **Long-term outcomes following surgery for infantile nystagmus syndrome with abnormal head positioning.** *Yuxi Zheng[1], J. J. Law[1], D. Holt[3], D. Morrison[2], S. Donahue[2].* [1]School of Medicine, Vanderbilt University; [2]Ophthalmology, Vanderbilt University Medical Center; [3]Vision Science Care Center

West 223/224

Monday, April 29, 2019 11:15 AM-1:00 PM

Visual Psychophysics/Physiological Optics

237 Advanced Imaging of Retinal Structure and Function in Healthy Eyes

Moderators: Nicole M. Putnam and Melanie C. Campbell

1775 — *11:15* **Cone-to-RPE ratio profiles can predict foveal shape.** *Rigmor C. Baraas[1], H. Pedersen[1], S. J. Gilson[1], K. Knoblauch[2, 1].* [1]National Centre for Optics, Vision and Eye Care, University of South-Eastern Norway; [2]Inserm, Stem Cell and Brain Research Institute U1208, Université Claude Bernard

1776 — *11:30* **Cone packing and foveal architecture with age and refraction in children.** *Jason Porter[1, 2], H. Mirhajianmoghadam[1], A. Jnawali[1], G. Musial[2, 1], H. M. Queener[1], N. B. Patel[1], L. A. Ostrin[1].* [1]College of Optometry, University of Houston; [2]Biomedical Engineering, University of Houston

1777 — *11:45* **Relationship between the foveal photoreceptor mosaic and adaptive optics corrected visual acuity.** *Jenny Lorén Reiniger, N. Domdei, M. Linden, F. G. Holz, W. M. Harmening.* Department of Ophthalmology, University Eye Hospital Bonn **CR*

1778 — *12:00* **Putative S cones in macaque identified by phasor analysis of adaptive optics fluorescence lifetime ophthalmoscopy.** *Khang T. Huynh[1, 2], S. Walters[3, 2], E. K. Foley[1, 2], K. Parkins[2], J. J. Hunter[4, 2].* [1]Department of Biomedical Engineering, University of Rochester; [2]Center for Visual Science, University of Rochester; [3]The Institute of Optics, University of Rochester; [4]Flaum Eye Institute, University of Rochester

1779 — *12:15* **Cone photoreceptor classification in the living human eye from light-induced phase changes.** *Furu Zhang, K. Kurokawa, A. Lassoued, J. A. Crowell, D. T. Miller.* School of Optometry, Indiana University

1780 — *12:30* **Adaptive optics line-field OCT for high-speed imaging of retinal structure and function.** *Ramkumar Sabesan[1], V. Pandiyan[1], A. Maloney-Bertelli[1], J. A. Kuchenbecker[1], A. Roorda[2].* [1]Ophthalmology, University of Washington; [2]School of Optometry and Vision Science Graduate Group, University of California, Berkeley **CR*

1781 — *12:45* **Measuring neuron loss in the retinal ganglion cell layer in healthy subjects.** *Kazuhiro Kurokawa, J. A. Crowell, F. Zhang, A. Lassoued, D. T. Miller.* School of Optometry, Indiana University

ARVO Ballroom

Monday, April 29, 2019 11:15 AM-1:00 PM

Glaucoma

238 New Ideas in Glaucoma

Moderators: Robert N. Weinreb and Adriana Di Polo

1782 — *11:15* **Structure-Function Agreement in Glaucomatous Eyes Is Better Than Commonly Thought if a Topographical Method is Employed.** *Donald C. Hood[1], E. Tsamis[2], N. Bommakanti[3], D. Joiner[2], L. Al-Aswad[3], D. Blumberg[3], G. Ciofft[3], J. M. Liebmann[3], C. De Moraes[3].* [1]Psychology and Ophthalmology, Columbia University; [2]Psychology, Columbia University; [3]Ophthalmology, Columbia Universiy **CR*

1783 — *11:30* **Does 10-2 visual field loss impair vision-related quality of life in early-stage glaucoma ?** *Michael Sullivan-Mee[1], D. Pensyl[1], S. Katiyar[1], N. B. Patel[2].* [1]Optometry, Albuquerque VA Med Center; [2]University of Houston

1784 — *11:45* **Efficacy of Laser Peripheral Iridotomy for the Prevention of Angle Closure: A Randomized Controlled Trial.** *Mingguang He[1, 2], Y. Jiang[3], S. Huang[1], D. S. Chang[4], B. Munoz[4], T. Aung[5], P. J. Foster[3], D. S. Friedman[4].* [1]Department of Ophthalmology, Zhongshan Ophthalmic Center Sun Yat-sen University; [2]Centre for eye Research Australia, University of Melbourne; [3]NIHR Biomedical Research Centre at Moorfields Eye Hospital and UCL Institute of Ophthalmology; [4]Dana Center for Preventive Ophthalmology, Wilmer Eye Institute and Department of International Health, Johns Hopkins Bloomberg School of Public Health; [5]Singapore Eye Research Institute and Singapore National Eye Centre, Singapore Yong Loo Lin School of Medicine, National University of Singapore ↗

1785 — *12:00* **Morphometric, Hemodynamic and Biomechanical Factors influencing Blood Flow and Oxygen Concentration in the Human Lamina Cribrosa.** *Thanadet Chuangsuwanich[1], H. Pham Tan[1, 3], L. Hwa Liang[1], L. Schmetterer[2, 3], C. Boote[4], M. J. Girard[1, 3].* [1]Biomedical Engineering, National University of Singapore; [2]Lee Kong Chian School of Medicine, Nanyang Technological University; [3]Singapore Eye Research Institute; [4]Structural Biophysics Group, School of Optometry and Vision Sciences, Cardiff University

1786 — *12:15* **The Role of Yes-Associated Protein (YAP) in Mechanotransduction at the Lamina Cribrosa and its Potential as a Novel Therapeutic Target In Glaucoma.** *Rory Murphy[1], A. Hopkins[1], M. Irnaten[1], W. Stamer[4], A. F. Clark[3], D. Brennan[2], D. Wallace[2], C. J. O'Brien[1].* [1]Ophthalmology Department, Mater Misericordiae University Hospital; [2]School of Medicine, University College Dublin; [3]Dept. Cell Biology & Immunology, North Texas Eye Research Institute; [4]Duke Eye Center, Duke University Hospital

1787 — *12:30* **Molecular Classification of Cell Types in the Human Trabecular Meshwork and Surrounding Structures using Single-Cell RNAseq.** *Tave van Zyl[1], A. McAdams[1], W. Yan[2], K. Shekhar[3], Y. Peng[2], M. Laboulaye[2], A. Regev[3], J. Sanes[2].* [1]Ophthalmology, Massachusetts Eye and Ear / Harvard Medical School; [2]Molecular and Cellular Biology, Harvard University; [3]The Broad Institute of MIT and Harvard

1788 — *12:45* **Schlemm's canal imaging, pressure measurement, catheterization and substance delivery in live monkeys.** *Sri Meghana Konda[1], J. A. Kiland[1], M. Mohr[1], J. P. McDonald[1], C. Ho[2], A. S. Chan[2], J. Moreno[3], P. Prosser[3], S. Perera[2], P. L. Kaufman[1].* [1]Department of Ophthalmology and Visual Sciences, University of Wisconsin School of Medicine and Public Health; [2]Singapore Eye Research Institute; [3]Ellex iTrack **CR*

West Exhibition Hall A0056-A0083

Monday, April 29, 2019 11:15 AM-1:00 PM

Visual Psychophysics/Physiological Optics

239 Accommodation, Binocular Function, TBI

Moderator: Vivek Labhishetty

1789 — *A0056* **Finite element model of the influence of zonules-capsule attachment position on accommodation amplitude.** *Arthur Ho[1, 3], P. M. Aung[2], S. Kanapathipillai[2], R. C. Augusteyn[1, 3], F. Manns[3, 4].* [1]Brien Holden Vision Institute; [2]School of Mechanical & Manufacturing Engineering, University of New South Wales; [3]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [4]Department of Biomedical Engineering, University of Miami College of Engineering

1790 — *A0057* ***Difference of accommodative response between binocular and monocular viewing condition measured by binocular wavefront sensor.*** *Takashi Fujikado, H. Kanda, T. Morimoto, M. Hirota.* Dept of Applied Vis Science, Osaka Univ Medical School **CR*

1791 — *A0058* **Speed of accommodation responses in myopes.** *Vahid Pourreza ghoushchi, P. Prieto, P. Artal.* Laboratorio de Óptica, Universidad de Murcia

1792 — *A0059* **The Effect of Different Optical Corrections on Accommodation of Myopic Children.** *Jinhua Bao[1, 2], Y. Chen[1, 2], C. Ding[1, 2], Y. Huang[1, 2], B. Drobe[3, 2], H. Chen[1, 2].* [1]School of Ophthalmology and Optometry, Wenzhou Medical University; [2]WEIRC, Wenzhou Medical University-Essilor International Research Centre; [3]R&D Vision Sciences AMERA, Essilor International **CR*, ↗

1793 — *A0060* **Impact of pupil size and brightness levels on the monocular accommodative response.** *Najnin Sharmin, B. Vohnsen.* University College Dublin, Ireland

1794 — *A0061* **Accommodative response following contrast adaptation.** *Pablo Sanz Diez[1, 2], S. Wahl[1, 2], F. Schaeffel[3, 2], A. Ohlendorf[1, 2].* [1]Carl Zeiss Vision International GmbH; [2]University of Tuebingen; [3]Neurobiology of the eye, Ophthalmic Research Institute

1795 — *A0062* **Accommodation in a hand-held autorefractor.** *Ying-Ling Chen[1], L. Shi[2].* [1]Univ of Tennessee Space Inst; [2]E-Vision Technologies Inc**.** **CR*

1796 — *A0063* **A Novel Dynamic Random-dot Stereopsis Strategy for Assessing the Dynamic Stereopsis in Intermittent Exotropia Patients.** *zhong jing, Z. Chen, J. Li, J. Yuan, D. Deng, M. Yu.* Zhongshan Opthalmic Center

1797 — *A0064* **Stereoscopic 3D video games boost depth perception.** *John Bui[1], B. Li[1], B. Li[1], E. Fung[1], M. Antonucci[1], K. D. Tran[1], S. Patel[2], S. T. Chung[1], D. M. Levi[1], R. Li[1].* [1]UC Berkeley School of Optometry; [2]Department of Neuroscience, Baylor College of Medicine

1798 — *A0065* **Dichoptic Binocular Vision Training Improved Stereo Vision in Top Athletes.** *Georg Michelson[3, 2], B. Kutzner[3], W. Mehringer[1], J. Paulus[1], M. Ring[1], B. Eskofier[1].* [1]Machine Learning and Data Analytics Lab (MaD Lab) Department of Computer Science, Friedrich-Alexander University Erlangen-Nürnberg; [2]Talkingeyes&More; [3]Ophthalmology, Friedrich-Alexander University Erlangen-Nürnberg **CR*

1799 — *A0066* **Effects of Mono- and Polychromatic Light on Visual Functions at Near Distance.** *Philipp Hessler[1, 2], S. Kersten[1], J. Dolata[1], S. Degle[1].* [1]Ernst-Abbe-University of Applied Sciences Jena; [2]Optik Hessler

1800 — *A0067* **Effects of vergence parameters on asthenopia of patients with convergence insufficiency.** *Yuwen Wang, F. Zheng, H. Chen.* School of Optometry and Ophthalmology, Wenzhou Medical University

1801 — *A0068* **Pupil Diameter Difference (PDD) During Accommodation is The Important Factor for Presbyopia.** *Miyuki Kubota[2, 1], S. Kubota[2, 1], K. Negishi[2], K. Tsubota[2].* [1]Ophthalmology, Keiiku Hospital; [2]Ophthalmology, Keio University

1802 — *A0069* **Binocular accommodative response with extended depth of focus under controlled convergence conditions.** *Jiakai Lyu[1, 2], C. J. Ng[2], G. Yoon[2, 1].* [1]Institute of Optics, University of Rochester; [2]Flaum Eye Institute, University of Rochester

1803 — *A0070* **Crystalline lens accommodation through multifocal corrections.** *Geethika Muralidharan, J. Birkenfeld, M. Vinas, A. Curatolo, E. Martinez-Enriquez, A. De Castro, S. Marcos.* Instituto de Óptica "Daza de Valdés" (IO-CSIC) **CR*

1804 — *A0071* **Influence of Hyperopic Refractive Error on Accommodation in Post-Concussion Adolescent Patients.** *Ryan N. Chinn[1], E. Wiecek[1, 2], A. Raghuram[1, 2].* [1]Ophthalmology, Boston Children's Hospital; [2]Ophthalmology, Harvard Medical School

1805 — *A0072* **Visual Dysfunction and Self-reported Symptoms in Post-concussion Adolescents.** *Emily Wiecek[1, 2], R. Chinn[1], A. Raghuram[1, 2].* [1]Ophthalmology, Boston Children's Hospital; [2]Ophthalmology, Harvard Medical School

1806 — *A0073* **Evaluation of proper rest period in sports based on accommodative amplitude and urine specific gravity.** *Yuichi Okumura[1, 3], T. Inomata[2, 3], K. Fujimoto[1], A. Murakami[2].* [1]Juntendo University graduate student; [2]Ophthalmology, Juntendo University; [3]Department of Strategic Operating Room Management and Improvement, Juntendo University **CR*

1807 — *A0074* **An Improved Method of Measuring Sensory Eye Dominance.** *Linus Amarikwa[2], J. Lifton[1], M. Maniglia[3], A. Seitz[3], A. A. Moshfeghi[4].* [1]USC Keck School of Medicine; [2]UCR School of Medicine; [3]Psychology, University of California Riverside; [4]Ophthalmology, USC Roski Eye Institute

1808 — *A0075* **The ocular dominance shift from short-term monocular deprivation is short-lived.** *Seung Hyun Min[1, 2], A. S. Baldwin[1, 2], R. Hess[1, 2].* [1]Ophthalmology, McGill University; [2]McGill Vision Research

1809 — *A0076* **Sensory eye balance in anisometropes and normal controls using different types of optical correction.** *Lele Cui, M. Li, L. Zhang, W. Zhou, J. Zhou.* Eye Hospital and School of Ophthalmology and Optometry, Wenzhou Medical University

1810 — *A0077* **Contrast Rivalry As A Psychophysical Marker Of The Strength Of Binocularity With Interocular Difference In Image Quality.** *Shrikant R. Bharadwaj[1, 2], B. Marella[2, 1].* [1]Prof**.** Brien Holden Eye Research Centre, L V Prasad Eye Institute; [2]Brien Holden Institute of Optometry and Vision Sciences, L V Prasad Eye Institute

1811 — *A0078* **The Spatial Extent of Transient Interocular Suppression Depends on Stimulus Parameters.** *Wei Hau Lew, S. B. Stevenson, D. R. Coates.* College of Optometry, University of Houston ↗

1812 — *A0079* **Elucidation of the more myopic eye in anisometropia: the interplay of laterality, ocular dominance, and anisometropic magnitude.** *Siyu Jiang[3], J. Jiang[1], B. Zhang[2], Z. Chen[1].* [1]Eye Hospital of Wenzhou Medical University; [2]College of Optometry, Nova Southeastern University; [3]School of Optometry and Ophthalmology, Wenzhou Medical University

1813 — *A0080* **The effect of visual delay cue on saccadic response during an antisaccade task.** *Revathy Mani, L. J. Asper, S. Khuu.* Optometry and Vision Science, The University of New South Wales, Sydney

1814 — *A0081* **A Stroop Task involving Pro and Anti Saccades Reveals that gaze-of-another does not Trigger Reflexive Saccades.** *Ari Z. Zivotofsky[1], L. Zeligman[2].* [1]Brain Science, Bar Ilan University; [2]Bar Ilan University

1815 — *A0082* **The effect of post cueing delay on saccadic latency in the execution of remembered antisaccades.** *Sieu Khuu, R. Mani, L. J. Asper.* Optometry and Vision Science, The University of New South Wales

1816 — *A0083* **Effect of refractive error on optokinetic nystagmus.** *Soheil Mohammadpour-Doustkouhi[1], P. R. Turnbull[1], S. C. Dakin[1, 2].* [1]School of Optometry and Vision Science, The University of Auckland; [2]Institute of Ophthalmology, University College London

West Exhibition Hall A0084-A0101

Monday, April 29, 2019 11:15 AM-1:00 PM

Low Vision Group

240 Visual Impairment - Measures of Visual Function

Moderator: Gislin Dagnelie

1817 — *A0084* **Assessment of low luminance visual acuity as a functional measurement in two distinct types of inherited retinal degeneration.** *Laura Wood[2, 1], J. K. Jolly[2, 1], R. E. MacLaren[2, 1].* [1]Nuffield Department of Clinic Neurosciences, University of Oxford; [2]Oxford University Hospitals NHS Foundation Trust **CR*

1818 — *A0085* **Visual acuity while reading a text under different contrast conditions: black letters on white background (BoW condition) versus white letters on black background (WoB condition).** *Vianney Malleron, G. Hayek.* CHR Metz-Thionville France

1819 — *A0086* **Validation of Electronic Visual Acuity Measurement Against Standardised ETDRS Charts In Retinal Disease.** *Jasleen K. Jolly[1, 2], K. Juenemann[1], H. Boagey[3], J. Moschandreas[4], M. Nadsady[2], H. Bridge[1], R. E. MacLaren[1, 2].* [1]Nuffield Department of Clinical Neurosciences, University of Oxford; [2]Oxford University Hospitals NHS Foundation Tust; [3]Oxford Medical School, University of Oxford; [4]Centre for Statistics in Medicine, University of Oxford **CR*

1820 — *A0087* **Effect of reduced visual acuity on microperimetry performance in patients with inherited retinal degenerations.** *Alexandra Davies[3, 1], A. Nanda[1, 2], R. E. MacLaren[1, 2].* [1]Oxford Eye Hospital; [2]University of Oxford, Nuffiled Laboratory of Ophthalmology; [3]University of Oxford, Nuffiled Laboratory of Opthalmology **CR*

1821 — *A0088* **Binocular Visual Field Patterns in Retinitis Pigmentosa.** *Russell L. Woods[1, 2], F. Costela[1, 2], M. A. Sandberg[2], C. Weigel-DiFranco[3], T. Elze[1, 2].* [1]Schepens Eye Research Institute; [2]Ophthalmology, Harvard Medical School; [3]Massachusetts Eye and Ear Infirmary

1822 — *A0089* **Comparison of Monocular Microperimeter and Binocular Eye-tracking for Assessment in Low Vision.** *Tiffany Arango[1], J. Martire[2], N. C. Ross[2], P. Bex[1].* [1]Northeastern University; [2]New England College of Optometry

1823 — *A0090* **Motion Perception in Central Field Loss: Visual Field Contributions.** *Natela Shanidze, P. Verghese.* Smith-Kettlewell Eye Research Institute

1824 — *A0091* **Intra- and inter-hemispheric processing during binocular rivalry in early glaucoma.** *Saba Samet[1, 2], E. G. Gonzalez[2, 3], G. E. Trope[3], L. Tarita-Nistor[2].* [1]Medicine, University of Toronto; [2]Krembil Research Institute; [3]Ophthalmology and Vision Sciences, University of Toronto

1825 — *A0092* **Intra- and inter-hemispheric travelling wave propagation of rivalry dominance in early glaucoma.** *Luminita Tarita-Nistor[1], S. Samet[1], G. E. Trope[2], E. G. Gonzalez[1].* [1]Vision Science, Krembil Research Institute; [2]Ophthalmology, University of Toronto

1826 — *A0093* **Asymmetry of optokinetic nystagmus in early glaucoma.** *Esther G. Gonzalez[1, 2], G. E. Trope[2], S. Samet[1], L. Tarita-Nistor[1].* [1]Vision Science, Krembil Research Institute; [2]Ophthalmology and Vision Sciences, University of Toronto

1827 — *A0094* **Effect of Enhanced Lighting on the Salience of Environmental Targets with Reduced Acuity.** *Andrew C. Freedman[2, 1], G. E. Legge[2, 1], J. Achtemeier[2, 1].* [1]Minnesota Lab for Low Vision Resaerch; [2]Psychology, University of Minnesota, Twin Cities

1828 — *A0095* **Predicting night vision difficulties during an eye examination. (Night Vision & Carotenoids RCT; Hines VA IRB 1052607-1, Baseline Data).** *Stuart Richer[1, 2], D. Robert[3], S. Novil[4], A. Dervishi[4, 2], S. Nassiri[4, 2], P. G. Davey[5].* [1]Optometry, Captain James A Lovell FHCC; [2]Family Medicine, Rosalind Franklin University of Medicine and Science; [3]Davis Eye Care Associates; [4]Ophthalmology, Captain James A Lovell FHCC; [5]Research, Western University College of Optometry **CR*, ↗

1829 — *A0096* **Evaluation of pupil responses to local stimuli in Patients with retinitis pigmentosa caused by USH2A mutations.** *Tobias Peters[2], K. Stingl[2], K. Bartz-Schmidt[2], L. Kuehlewein[2], C. Kelbsch[2], M. Kempf[2], E. Zrenner[1], B. Wilhelm[3], K. Stingl[2].* [1]Institute for Ophthalmic Research, University Eye Hospital Tuebingen; [2]Ophthalmology, University of Tuebingen; [3]STZeyetrial at the Department for Ophthalmology, University of Tuebingen **CR*, ↗

1830 — *A0097* **Color abnormality measured with the Rabin cone contrast test in central serous chorioretinopathy.** *Saki Murotani, M. Kakinoki, Y. Ichiyama, S. Obata, M. Iwasa, O. Sawada, T. Sawada, Y. Saishin, M. Ohji.* Shiga University of Medical Science Hospital **CR*

1831 — *A0098* **Effect of color filter lenses on luminance contrast and color contrast.** *Rath Itthipanichpong[1, 2], R. W. Massof[1].* [1]Johns Hopkins Wilmer Eye Institute; [2]Ophthalmology, King Chulalongkorn Memorial Hospital and Chulalongkorn University

1832 — *A0099* **Childhood onset Leber's Hereditary Optic Neuropathy (LHON) treated with Idebenone compared to an age-related untreated patient cohort.** *Susanna F. Koenig[1], S. Priglinger[1], G. Rudolph[1], F. Lob[1], B. Livonius[1], C. Catarino[2], T. Klopstock[2], C. Priglinger[1].* [1]University Eye Clinic of Munich; [2]Neurology, University Clinic

1833 — *A0100* **Transient pupillary light reflexes driven by foveal cones in *CEP290*- or in *NPHP5*-associated LCA-ciliopathies.** *Arun k. Krishnan[1], J. Charng[1], S. G. Jacobson[1], A. J. Roman[1], A. Garafalo[1], A. Sumaroka[1], M. Swider[1], E. Semenov[1], R. Sheplock[1], E. Heon[2], A. V. Cideciyan[1].* [1]Scheie Eye Institute, Perelman School of Medicine, University of Pennsylvania; [2]Department of Ophthalmology and Vision Sciences, The Hospital for Sick Children, University of Toronto **CR*

1834 — *A0101* ***CEP290*-associated LCA due to a photoreceptor cilium defect treated with an intravitreal antisense oligonucleotide results in improved vision.** *Artur V. Cideciyan[1], S. G. Jacobson[1], A. V. Drack[2], A. C. Ho[3], A. Garafalo[1], A. J. Roman[1], M. Schwartz[4], P. Biasutto[4], W. de Wit[4], M. E. Cheetham[5], P. S. Adamson[4, 5], D. Rodman[4], J. De Zaeytijd[6], C. Van Cauwenbergh[6], B. P. Leroy[6, 7], S. R. Russell[2].* [1]Dept of Ophthalmology, Scheie Eye Institute, Univ of Pennsylvania; [2]Department of Ophthalmology and Visual Sciences, University of Iowa; [3]Wills Eye Hospital, Thomas Jefferson University; [4]ProQR Therapeutics; [5]UCL Institute of Ophthalmology; [6]Department of Ophthalmology, Ghent University and Ghent University Hospital; [7]Center for Medical Genetics, Ghent University and Ghent University Hospital **CR*, ↗

West Exhibition Hall A0226-A0262

Monday, April 29, 2019 11:15 AM-1:00 PM

Multidisciplinary Ophthalmic Imaging Group

241 OCT - Clinical Applications I

Moderators: Gadi Wollstein and Justin Migacz

1835 — *A0226* **The impact of optical coherence tomography on clinical decision making in primary eye care.** *Anish Jindal, I. Ctori, J. Lawrenson.* Division of Optometry and Visual Science, City, University of London

1836 — *A0227* **Disorganization of Retinal Inner Layers as a Biomarker for Idiopathic Epiretinal Membrane After Macular Surgery.** *Matias Iglicki[1], D. Zur[2], L. Feldinger[2], S. Schwartz[2], M. Goldstein[2], A. Loewenstein[2], A. Barak[2].* [1]University of Buenos Aires; [2]Ophthalmology Division, Tel Aviv-Sourasky Medical Center, Tel Aviv, Israel

1837 — *A0228* **Association of OCT structural measures and Axial length with cognitive ability in a biracial sample of non-demented adults.** *Pradeep Y. Ramulu[1], X. Guo[1], X. Kong[1], D. Huang[2], R. Sharrett[3], A. Abraham[1].* [1]Wilmer Eye Inst/Johns Hopkins; [2]Casey Eye Institute; [3]Johns Hopkins School of Public Health **CR*

1838 — *A0229* **OCT and Psychophysical changes in male population from Amazon area related to the use of IFD-5.** *Maira T. Nazima[1], A. S. Paes[1], A. C. Sales[1], L. M. Farias[2], G. d. Souza[1], J. M. Curti[1], T. C. Teixeira[1], M. T. Côrtes[1].* [1]Biological Ciences, Federal University Of Amapa; [2]Neuroscience, Federal University of Para ↗

1839 — *A0230* **Early Retinal Biomarkers of Hydroxychloroquine Toxicity on Spectral Domain Optical Coherence Tomography.** *John Flatter[1], P. Nguyen[2], S. D. Kim[2], J. Liao[2], I. U. Scott[1, 3], J. M. Sundstrom[1].* [1]Ophthalmology, Penn State University- Hershey Medical Center; [2]College of Medicine, Penn State University - Hershey Medical Center; [3]Public Health Sciences, Penn State University - Hershey Medical Center

1840 — *A0231* **Subfoveal Choroidal and Macular Retinal Thickness Changes Using Spectral Domain Optical Coherence Tomography at Different Altitudes.** *Yang Yiquan, N. Wang.* Beijing Tongren Eye Center, Beijing Tongren Hospictal, Capital Medical University ↗

1841 — *A0232* **Choroidal structural changes in patients with Birdshot Chorioretinopathy.** *Elodie Bousquet[1, 2], S. Salah[1], A. Brézin[1], D. Monnet[1], N. Khandelwa[3], R. V. Agrawal[3].* [1]Ophthalmology, Ophtalmopôle, Hôpital Cochin; [2]Centre de Recherche des Cordeliers, INSERM U1138, Team 17, Université Paris Descartes Sorbonne Paris Cité; [3]Tan Tock Seng Hospital, National Healthcare Group Eye Institute

1842 — *A0233* **Multimodal imaging of occult macular dystrophy.** *Andressa Z. Quercia[2], S. E. Watanabe[2, 1], P. Y. Sacai[2, 1], A. G. Muniz[2].* [1]Ophthalmology, Federal University of São Paulo; [2]G6 - Centro de pesquisa em eletrofisiologia

1843 — *A0234* **Topographic Variations of Choroidal Thickness in Healthy Eyes on Swept Source Optical Coherence Tomography.** *Sara Touhami[2, 1], E. Philippakis[2], R. Tadayoni[2], A. Gaudric[2].* [1]Ophthalmology, Pitié SalpÍêtrière Hospital; [2]Ophthalmology, Lariboisière Hospital

1844 — *A0235* **Ganglion cell-inner plexiform layer thickness in patients with myopia.** *Alexander A. Shpak, M. V. Korobkova.* Department for Clinical & Functional Diagnostics, The S**.** Fyodorov Eye Microsurgery Federal State Institution

1845 — *A0236* **Racial difference in RPE and choroid assessed by polarization-sensitive OCT.** *Tatsuaki Amari[1], R. Obata[1], A. Fujita[1], T. Minami[1], M. Yamamoto[1], a. ogawa[1], D. Santo[2], N. Aoki[2], M. Yamanari[2], S. Sugiyama[2], S. Oshima[2], k. azuma[1], M. Honjo[1], T. Kaburaki[1], M. Aihara[1], S. Kato[1].* [1]ophthalmology, The University of Tokyo; [2]Tomey **CR*

1846 — *A0237* **Thinner choroidal thickness is a risk factor for myopic progression but not for myopia incidence. The Gobi Desert Children Eye Study.** *Dan Zhu[1], Q. You[2], Y. Tao[3], J. B. Jonas[4].* [1]Ophthalmology, The Affiliated Hospital of Inner Mongolia Medical; [2]Casey Eye Institute, Oregon Health Science University; [3]Chao Yang Hospital, Capital Medical University; [4]Heideberg University

1847 — *A0238* **Retinal neurodegeneration and brain MRI markers: The UK Biobank.** *Sharon Y. Chua[1], A. P. Khawaja[3], C. A. Reisman[2], Q. Yang[2], A. Petzold[3], P. T. Khaw[3], P. J. Foster[1], P. Patel[3].* [1]Institute of Ophthalmology, Dr; [2]Topcon Advanced Biomedical Imaging Laboratory; [3]Moorfields eye hospital **CR*

1848 — *A0239* ***The relationship between the choroidal structure and choroidal thickening in Vogt-Koyanagi-Harada disease.*** *Wataru Matsumiya[1], R. Nishisho[1], A. Katsuyama[1], A. Uji[2], S. Kusuhara[1], M. Nakamura[1].* [1]Dept of Surgery, Div of Ophthal, Kobe Univ Grad School of Med; [2]Dept**.** of Ophthalmology & Visual Sciences, Kyoto University

1849 — *A0240* **Diagnostic accuracy and interobserver variability of macular disease evaluation using optical coherence tomography.** *Siegfried K. Wagner[1], R. Chopra[1, 2], J. R. Ledsam[2], H. Askham[2], S. Blackwell[2], L. Faes[1, 3], K. Balaskas[1], T. Back[2], P. A. Keane[1].* [1]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]DeepMind; [3]Department of Ophthalmology, Cantonal Hospital Lucerne **CR*

1850 — *A0241* **Post-treatment change of choroidal structural parameters and their correlations and fluctuations in Vogt-Koyanagi-Harada disease.** *Ryuto Nishisho[3], W. Matsumiya[1], A. Katsuyama[3], A. Uji[2], S. Kusuhara[3], M. Nakamura[3].* [1]ophthalmology, Kobe University Hospital; [2]ophthalmology, Kyoto University; [3]ophthalmology, Kobe University Graduate School of Medicine **CR*

1851 — *A0242* **Outer Retinal Layers as Predictors of Visual Function and Response to treatment in Macular Edema in Retinitis Pigmentosa.** *Vittorio Silvestri[1], S. Alexander[1], E. Moore[1], R. Cairns[1], L. Cushley[2], G. Silvestri[1].* [1]Ophthalmology, Belfast Health & Social Care Trust; [2]Queens University Belfast

1852 — *A0243* **Perioperative Intraretinal Fluid Observed on Optical Coherence Tomography in Epiretinal Membrane.** *Ji Eun E. Lee, S. Yang, J. LEE, H. Kwon, S. Park.* Ophthalmology, Pusan National Univ Hospital **CR*

1853 — *A0244* **Test-retest Variability of Optical Coherence Tomography (OCT) and OCT Angiography in a Mobile OCT Module and level of Agreement with Conventional Table-top OCT.** *Xiaoxuan Liu[1, 2], A. Kale[1], B. Hui[2], G. Montesano[3], N. Capewell[2], G. Ometto[3], T. Veenith[2], P. A. Keane[4], D. Crabb[3], S. Mollan[2], R. J. Blanch[1, 2], A. K. Denniston[1, 2].* [1]University of Birmingham; [2]Queen Elizabeth Hospital Birmingham NHS Foundation Trust; [3]City University London; [4]Moorfields Eye Hospital **CR*

1854 — *A0245* **Long-Term Longitudinal Ellipsoid Zone Mapping on Spectral Domain OCT in Eyes with Hydroxychloroquine Use to Evaluate for Subclinical Outer Retinal Alterations: A Possible Early Marker for Toxicity.** *Katherine E. Talcott, A. Uchida, M. Hu, O. Ugwuegbu, S. K. Srivastava, R. P. Singh, S. Kaiser, N. A. Figueiredo, A. Rogozinski, T. Le, L. Lunasco, J. L. Reese, J. P. Ehlers.* Cole Eye Institute, Cleveland Clinic **CR*

1855 — *A0246* **Accuracy of Macular Optical Coherence Tomography in Diagnosing Posterior Vitreous Detachment.** *Eileen S. Hwang[1], J. A. Kraker[1], K. J. Griffin[1], J. Sebag[2], J. E. Kim[1].* [1]Medical College of Wisconsin/Froedtert Eye Institute; [2]VMR Institute for Vitreous Macula Retina **CR*

1856 — *A0247* **Correlation of distinct fundus autofluorescence features with disruption of the overlying ellipsoid zone in choroideremia.** *Marta Stevanovic[1, 2], J. Cehajic Kapetanovic[1, 2], J. K. Jolly[1, 2], R. E. MacLaren[1, 2].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Oxford Eye Hospital, University of Oxford **CR*

1857 — *A0248* **Choroidal vascularity index in normal Japanese eyes using swept-source optical coherence tomography.** *Chieko Shiragami[1], R. V. Agrawal[2], S. Manabe[1], R. Osaka[1], Y. Takasago[1], S. Kiyoshi[1], N. Khandelwa[2], G. Klose[3].* [1]Kagawa University Faculty of Medicine; [2]National Healthcare Group Eye Institute, Tan Tock Seng Hospital, Singapore; [3]Carl Zeiss Meditec Co**.**, Ltd**.**, Japan

1858 — *A0249* **Retinal nerve fibre layer thinning predicts cognitive decline in frontotemporal dementia.** *James R. Cameron, T. MacGillivray, S. Pal, B. Dhillon, S. Chandran.* University of Edinburgh

1859 — *A0250* **Longitudinal Study of Retinal Layer Changes using Optical Coherence Tomography in Multiple Sclerosis.** *Hollister C. Swanson[1, 2], Y. Rodriguez[1, 2], I. Glybina[1, 2], R. Tomsak[1, 2].* [1]Ophthalmology, Wayne State University School of Medicine; [2]Kresge Eye Institute

1860 — *A0251* **Use of Optical Coherence Tomography in Symptomatic Acute Posterior Vitreous Detachments.** *Waseem Ansari, S. Dang.* The Retina Institute

1861 — *A0252* **Novel Application of a Binocular Optical Coherence Tomography for Pupil Evaluation.** *Reena Chopra[1], P. J. Mulholland[1, 2], A. Petzold[1], G. Gazzard[1], F. Bremner[3], R. Anderson[1, 2], P. A. Keane[1].* [1]National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]Optometry and Vision Science Research Group, School of Biomedical Sciences, Ulster University; [3]Department of Neuro-Ophthalmology, National Hospital for Neurology and Neurosurgery **CR*, ↗

1862 — *A0253* **Hydroxychloroquine Toxicity: Virtual Screening & Novel Findings.** *Farhan H. Zaidi[1], C. A. Rennie[1], A. Drinkwater[2], D. Sahu[1], E. Akyol[1], A. Lotery[2].* [1]Ophthalmology, University Hospital Southampton; [2]University of Southampton

1863 — *A0254* **Macular thickness measurements from spectral domain and swept-source OCT devices.** *Thomas Callan[2], L. De Sisternes[2], S. Kubach[2], S. Bello[2], C. Wu[2], A. Britten[2], G. Gregori[1], P. J. Rosenfeld[1].* [1]Bascom Palmer Eye Institute; [2]Carl Zeiss Meditec, Inc**.** **CR*

1864 — *A0255* **Structural Correlates of Short-wavelength and Normalized Near-infrared Fundus Autofluorescence Imaging in Choroideremia.** *Drew Scoles[1], K. Scavelli[1], L. Serrano[1, 2], K. E. Uyhazi[1, 2], T. S. Aleman[1, 2].* [1]Scheie Eye Institute, Department of Ophthalmology, University of Pennsylvania School of Medicine; [2]Center for Advanced Retinal and Ophthalmic Therapeutics, University of Pennsylvania School of Medicine

1865 — *A0256* **Automated double-layer-sign detection in patients with age-related macular degeneration using deep learning algorithms applied to OCT scans.** *Yuxuan Cheng[1], Z. Chu[1], Q. Zhang[1], Y. Shi[2], G. Gregori[2], P. J. Rosenfeld[2], R. K. Wang[1].* [1]Bioengineering, University of Washington; [2]Department of Ophthalmology, Bascom Palmer Eye Institute

1866 — *A0257* **Compensation of retinal nerve fiber layer thickness as assessed using optical coherence tomography based on anatomical confounders.** *Jacqueline Chua[2], F. Schwarzhans[3], Q. Nguyen[1], J. Tjunrong Sia[2], T. Y. Wong[2], T. Aung[2], G. Fischer[3], C. Cheng[2], C. Vass[3], L. Schmetterer[2].* [1]Singapore Eye Research Institute, Singapore National Eye Centre, Singapore; [2]Singapore Eye Research Institute, Singapore National Eye Centre, Singapore; [3]Medical University Vienna, Vienna, Austria

1867 — *A0258* **Morphological Changes in Ebola-Specific Retinal Lesions with Spectral Domain Optical Coherence Tomography.** *Denise Cunningham[2], R. D. Ross[5, 4], R. Bishop[1], A. O. Eghrari[3].* [1]Consult Service, National Eye Institute; [2]Imaging Services Section, National Eye Institute; [3]Wilmer Eye Institute, Johns Hopkins Hospital; [4]Bioethics and Medical Humanism, University of Arizona College of Medicine; [5]Ophthalmology, University of Arizona College of Medicine

1868 — *A0259* **Racial/ethnic Differences in Macular Thickness in Healthy Eyes of Older, Multiethnic Minority Americans.** *Xuejuan Jiang[1, 2], d. nousome[2], R. McKean-Cowdin[2], B. Burkemper[3], m. torres[3], R. Varma[3].* [1]Ophthalmology, University of Southern California; [2]Preventive Medicine, University of Southern California; [3]Southern California Eyecare and Vision Research Institute **CR*

1869 — *A0260* **Identification of posterior vitreous detachment by clinical exam vs. optical coherence tomography in patients with retinal detachment: analysis of the Primary Retinal detachment Outcomes (PRO) study data.** *Sushant Wagley[1], Y. Wang[1], E. Ryan[2].* [1]Ophthalmology, University of Minnesota; [2]VitreoRetinal Surgery **CR*

1870 — *A0261* **Optical coherence tomography distal-sensor guided manual trephine/dissection system for DALK.** *Shoujing Guo[1], S. Wei[1], N. Sarfaraz[2], S. Lee[1], W. G. Gensheimer[3], A. Krieger[2], J. Kang[1].* [1]Electrical and Computer Engineering, Johns Hopkins University; [2]Mechanical Engineering, University of Maryland; [3]Warfighter Eye Center, MGMCSC, Joint Base Andrews **CR*

1871 — *A0262* **Bruch's membrane opening diameter in autosomal dominant optic atrophy.** *Christina Eckmann-Hansen[1], C. Rönnbäck[1], B. Sander[1], M. Larsen[1, 2].* [1]Rigshospitalet - Glostrup; [2]University of Copenhagen

West Exhibition Hall A0263-A0301

Monday, April 29, 2019 11:15 AM-1:00 PM

Multidisciplinary Ophthalmic Imaging Group

242 OCT - Clinical Applications II

Moderators: Brad Fortune and Elaine Wells-Gray

1872 — *A0263* **Comparative Evaluation of Surgical Outcomes of Intraoperative OCT-guided and Conventional Surgery for Epiretinal Membrane Peeling from the DISCOVER Study.** *Alison Rogozinski, T. Tuifua, S. K. Srivastava, P. K. Kaiser, M. Hu, A. Rachitskaya, S. Sharma, R. P. Singh, T. K. Le, L. M. Lunasco, F. Fabe, C. Calabrise, S. Biehl, S. Srinivasan, J. L. Reese, J. P. Ehlers.* Cole Eye Institue, Cleveland Clinic **CR*

1873 — *A0264* **Macular Pigment In Multiple Sclerosis.** *elisa cozzi[1], A. Xhepa[1], M. Belotti[1], C. Mancinelli[3], S. Rosa[2], M. Cigada[1], L. Pantoni[2], R. Capra[3], G. Staurenghi[1].* [1]Luigi Sacco Hospital-Eye Clinic-University Milan; [2]Neourology, Luigi Sacco Hospital - University Milan; [3]Multiple Sclerosis Center Spedali Civili di Brescia **CR*

1874 — *A0265* **Effect of Cornea Curvature on Retinal Thickness Measured Using Spectral Domain Optical Coherence Tomography.** *Kelvin Li[1], P. Ting[2], L. W. Lim[1], C. S. Tan[1].* [1]Tan Tock Seng Hospital; [2]National University of Singapore **CR*

1875 — *A0266* **Retinal thinning in Gaucher patients as a predictive test for developing Parkinsons disease.** *Yishay Weill[1], M. Becker-Cohen[2], J. Hanhart[1], S. Revel-Vilk[2], L. Wasser[1], D. Zadok[1], A. Zimran[2].* [1]Ophthalmology, Shaare Zedek Medical Center; [2]Gaucher, Shaare Zedek Medical Center

1876 — *A0267* **Efficacy of Intraoperative OCT in Various Vitreoretinal Indications.** *ankur singh, B. mohrana, a. jurangal, a. kumar, S. SINGH, M. Dogra, M. R. Dogra, R. Singh.* Ophthalmology, PGIMER, Chandigarh

1877 — *A0268* **Swept Source Optical Coherence Tomography Compared to B-Scan Ultrasonography and Biomicroscopy to Diagnose Posterior Vitreous Detachment.** *Marlene Wang, C. Truong, S. A. Hussnain, Z. Mammo, R. W. Chen.* Ophthalmology, Columbia College of Physicians and Surgeons **CR*

1878 — *A0269* **Association of brain structure and cognitive function with structural retinal markers in asymptomatic individuals at high risk for Alzheimer disease.** *Ygal Rotenstreich[1, 2], I. Sharvit-Ginon[3, 4], O. Zloto[1, 2], I. D. Fabian[1, 2], A. Abd Elkader[1, 2], M. Beeri[3, 5], A. Weller[4, 6], R. Ravona-Springer[3, 2], I. Sher-Rosenthal[1].* [1]Goldscheleger Eye Research Institute, Sheba Medical Center; [2]Sackler Faculty of Medicine, Tel Aviv University; [3]The Joseph Sagol Neuroscience Center, Sheba Medical Center; [4]Department of Psychology, Bar-Ilan University; [5]The Icahn School of Medicine, Mount Sinai; [6]Gonda Brain Research Center, Bar Ilan University **CR*

1879 — *A0270* **Retinal Vascular Reactivity in Diabetic Retinopathy.** *Bright S. Ashimatey[1], K. Green[1], Z. Chu[2], R. K. Wang[2], A. H. Kashani[1, 3].* [1]Ophthalmology, University of Southern California Roski Eye Institute; [2]Bioengineering and Ophthalmology, University of Washington; [3]Institute of Biomedical Therapeutics, University of Southern California **CR*

1880 — *A0271* **Sequelae of optic nerve head drusen in Type 1 Diabetes Mellitus: A six-year study.** *Ashley Leto, S. Chowdhury, A. Ooms, B. Szirth, A. S. Khouri.* New Jersey Medical School

1881 — *A0272* **A Novel Approach For Sagittal Image Analysis Of Upper Eyelid Using Anterior Segment Optical Coherence Tomography.** *Xiaodong Zheng[1, 2], T. Goto[2, 1], A. Shiraishi[1], T. Kamao[1], Y. Nakaoka[2].* [1]Ophthalmology, Ehime University School of Medicine; [2]Hanamizuki Eye Clinic

1882 — *A0273* **Use of intraoperative anterior segment optical coherence tomography for Bowman layer transplantation.** *Maya Tong[1, 2], R. S. Birbal[2], P. Dockery[3], J. Parker[4], G. R. Melles[2].* [1]University of Alberta; [2]Netherlands Institute for Innovate Ocular Surgery; [3]University of Alabama; [4]Parker Cornea

1883 — *A0274* **Analysis of Longitudinal Ellipsoid Zone Features Following Intraoperative OCT-Assisted Macular Hole Repair and the Association with Functional Outcomes from the DISCOVER Study.** *Thuy K. Le, P. Yee, S. K. Srivastava, A. Uchida, M. Hu, A. Rogozinski, S. Biehl, S. Srinivasan, F. Fabe, A. Rachitskaya, S. Sharma, J. L. Reese, J. P. Ehlers.* Cleveland Clinic Cole Eye Institute **CR*

1884 — *A0275* **Quantitative Ellipsoid Zone Mapping and Integrity Assessment on Optical Coherence Tomography in the VISTA DME Study.** *Leina M. Lunasco[1], A. Uchida[1], S. K. Srivastava[1], N. Figueiredo[1], A. Gibson[2], K. Reed[2], J. L. Reese[1], J. P. Ehlers[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Regeneron **CR*, ↗

1885 — *A0276* **Effect of Body Position on Anterior Chamber Angle Dimensions Assessed by Anterior Segment Optical Coherence Tomography.** *Rafaella Penteado[1, 2], B. Xu[3], D. Yang[1], J. Proudfoot[1], R. Susanna[2], R. N. Weinreb[1].* [1]Hamilton Glaucoma Center, Shiley Eye Institute, Viterbi Family Department of Ophthalmology, University of California San Diego; [2]Department of Ophthalmology, University of Sao Paulo; [3]Roski Eye Institute, University of Southern California **CR*

1886 — *A0277* **Changes of Sub-foveal choroidal thickness and choroidal volume in different stages of diabetic retinopathy through automated choroid segmentation method.** *Wen Fan[1, 2], S. Yuan[1], Q. Liu[1], Q. Chen[3].* [1]Ophthalmology, Jiangsu Province Hospital; [2]Ophthalmology and vision sciences, kellogg eye center; [3]School of Computer Science and Engineering, Nanjing University of Science and Technology

1887 — *A0278* **The Rate of Progressive Loss of Central Subfield Thickness (CSFT) and Visual Function in Stargardt Macular Dystrophy (STGD).** *Daniel Galles[1], D. G. Birch[1, 2], Y. Wang[1, 2].* [1]Retina Foundation of the Southwest; [2]Ophthalmology, UT Southwestern Medical Center

1888 — *A0279* **Relative contributions of imaging markers of poor visual acuity in retinal vascular diseases.** *Piyali Sen[2, 1], J. Nunez Do Rio[1], M. Nugawela[1], A. M. Hagag[2], P. G. Hykin[2], A. Bagchi[2], S. Sivaprasad[2, 1].* [1]Institute of Ophthalmology, University College London; [2]Moorfields Eye Hospital NHS Foundation Trust **CR*

1889 — *A0280* **Applications of Optical Coherence Tomography in Thyroid Eye Disease.** *Jacquelyn Laplant, s. azar, C. Caplan, S. De La Rosa, M. Hubbell.* Ophthalmology, Tulane University School of Medicine

1890 — *A0281* **Nerve fiber layer thickness in a Latin American population using spectral domain optical coherence tomography (SD-OCT).** *Daniela Roca, D. A. Cortes, M. Plata, S. Gutierrez, F. Rodriguez, S. Belalcazar-Rey.* Fundación Oftalmológica Nacional

1891 — *A0282* **The Changes of Retinal and Choroidal Capillaries after Half-dose Photodynamic Therapy Measured by Angio-OCT and Spectral-domain OCT in Eyes with Central Serous Chorioretinopathy.** *Chen-Jin Jin, F. Xu, L. Zhou.* Ophthalmology, Zhongshan Ophthalmic Center ↗

1892 — *A0283* **Absence of Retinal Thinning Following anti-VEGF Injections in Patients with Glaucoma.** *Tieu Vy Nguyen[1], K. Sangal[2], S. D. Ness[1].* [1]Ophthalmology, Boston Medical Center; [2]College of Medicine, Boston University

1893 — *A0284* **The Novel Application of Optical Coherence Tomography as an Intraoperative Adjunct for Oculoplastic Surgery.** *Sabrina Mukhtar, A. Mancini, J. Y. Yu.* Ophthalmology, University of Pittsburgh Medical Center

1894 — *A0285* **Longitudinal changes in peripapillary retinal nerve fiber layer thickness in hypertension.** *Min-Woo Lee, J. Kim.* Ophthalmology, Chungnam National University Hospital

1895 — *A0286* **Retinal imaging to evaluate choroidal thickness in patients with ischaemic heart disease in Northern India.** *Akanksha Prasad[1], P. Malik[1], N. Pandit[2].* [1]Ophthalmology, RML and PGIMER Institute ; [2]Cardiology, RML and PGIMER Institute

1896 — *A0287* ***PAX6* genotype and thickness of retinal layers in aniridia.** *Hilde Rogeberg Pedersen[1], M. Neitz[2], S. J. Gilson[1], E. S. Landsend[3], Ø. A. Utheim[4], T. P. Utheim[3, 1], R. C. Baraas[1].* [1]National Center for Optics, Vision and Eye Care, University of South-Eastern Norway; [2]Department of Ophthalmology, University of Washington; [3]Department of Ophthalmology, Oslo University Hospital; [4]The Norwegian Dry Eye Clinic

1897 — *A0288* **In vivo full range dual-wavelength Fourier domain optical coherence tomography.** *Haroun Al-Mohamedi, A. Prinz, T. Oltrup, M. Leitritz, T. Bende.* Foundation for basic research in Ophthal, University Eye Hospital, Tuebingen

1898 — *A0289* **Comparison Between Retinal Images Captured by a Self-Operated, Home-based Optical Coherence Tomography (OCT) System and Commercial OCT Systems.** *Oren Tomkins-Netzer[1], M. J. Elman[2].* [1]Moorfields Hospital/UCL Institute of Ophthalmology; [2]Elman Retina Group PA **CR*

1899 — *A0290* **Co-localization of hyperautofluorescent ring and ellipsoid zone area in patients with retinitis pigmentosa using en face optical coherence tomography.** *Joo Yeon Jung, D. Sarraf.* David Geffen School of Medicine at UCLA

1900 — *A0291* **Automated Analysis of Anterior Chamber Inflammation by Spectral-Domain Optical Coherence Tomography in Pediatric Uveitis Patients.** *Peter M. Kaiser, S. Sharma, K. Baynes, E. Fisher, A. Venkat, C. Lowder, S. K. Srivastava.* Ophthalmology, Cole Eye Institute **CR*, ↗

1901 — *A0292* **Systemic risk factors, diabetic retinopathy and structural changes on OCT in a diabetic cohort.** *Claire L. Wong[1], C. Y. Cheung[2], T. Wong[1, 3], E. L. Lamoureux[1, 3], G. S. Tan[1, 3].* [1]Singapore Eye Research Institute and Singapore National Eye Centre; [2]Department of Ophthalmology and Visual Sciences, The Chinese Univeristy of Hongkong; [3]Duke NUS Graduate Medical School

1902 — *A0293* **Characterization of Ellipsoid Zone (EZ) on Spectral-Domain Optical Coherence Tomography (SD-OCT) Abnormalities in Aiding Differential Diagnosis of Inherited Retinal Diseases.** *Merry Z. Ruan[1, 2], S. A. Hussnain[2], C. L. Xu[2], W. Lee[2], R. Allikmets[2], S. H. Tsang[1, 2].* [1]College of Physicians and Surgeons, Columbia University; [2]Harkness Eye Institute, Columbia University Medical Center

1903 — *A0294* **Temporal shifting of the retinal nerve fiber layer and the retinal vascular topography in myopic eyes with a small optic disc.** *Kunliang Qiu, G. Wang, M. Zhang.* Joint shantou internation eye center

1904 — *A0295* **Ultra-wide Field Swept Source Optical Coherence Tomography of the Vitreo-retinal Interface in Subjects with Non-proliferative Diabetic Retinopathy.** *Ankur Mehra, R. S. Maldonado.* Ophthalmology, University of Kentucky

1905 — *A0296* **Active Treatment Versus Observation In Peripheral Exudative Hemorrhagic Chorioretinopathy: A Multimodal Imaging Study.** *Federico Zicarelli, C. Preziosa, G. Staurenghi, M. Pellegrini.* Luigi Sacco hospital **CR*

1906 — *A0297* **Evaluation of shape-descriptive and texture features as potential prognostic variables in progression of geographic atrophy.** *Neha Anegondi[1, 2], S. S. Gao[1, 2], J. Patil[1], A. F. Coimbra[1].* [1]Genentech Clinical Imaging Group, Genentech; [2]Roche Personalized Healthcare, Roche **CR*

1907 — *A0298* **Swept Source Optical Coherence Tomographic Changes in the Palestinian Retinitis Pigmentosa Patients.** *Alaa AlTalbishi[1, 2], O. Shalabi[1], Y. AlSweity[1], S. Erakat[1], M. Natsheh[1], A. Aslanian[1].* [1]St John of Jerusalem Eye Hospital Group; [2]Arab American University of Palestine

1908 — *A0299* **Simple Limbal Epithelial Transplantation (SLET) and Corneal Findings Through Anterior Segment Optic Coherence Tomography.** *Karen A. Del Angel[1, 2].* [1]Consulta de Especialidad, Hospital de la Luz; [2]Cornea, Hospital de la Luz

1909 — *A0300* **A Novel Approach to Determine and Quantify Total Corneal Limbal Stem Cell via Palisades of Vogt Using Optical Coherence Tomography.** *Kristen Peterson[1], N. Fuerst[1], J. Tian[1], M. Tramber[2], V. L. Perez[1], A. N. Kuo[1].* [1]Department of Ophthalmology, Duke Eye Center; [2]Miracles in Sight **CR*

1910 — *A0301* **Ophthalmic Factors Affecting Visual Field Improvement in Parasellar Tumor.** *Jaehong Ahn, H. Park.* Ajou University School of Medicine

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West Exhibition Hall A0436-A0463

Monday, April 29, 2019 11:15 AM-1:00 PM

Retinal Cell Biology

243 RPE Biology

Moderators: Timothy A. Blenkinsop and Jiyang Cai

1911 — *A0436* **The Role of ABCC4 in Pigment Granule Position in Mouse Retinal Pigment Epithelium.** *Dora E. Ibarra[1], T. Mireles[1], A. Pattillo[1], E. Reimer[1], C. J. Perez[2], J. Schuetz[3], D. M. García[1].* [1]Biology, Texas State University; [2]MD Anderson; [3]St. Judes

1912 — *A0437* **Degradation of lipofuscin in Stargardt mice can be enhanced by the superoxide generator riboflavin - a hypothesis for melanolipofuscin formation.** *Ulrich Schraermeyer[1, 2], Y. Fang[1], T. Taubitz[1], A. Tschulakow[1, 2].* [1]Division of Experimental Vitreoretinal Surgery, Centre for Ophthalmology, University Hospital Tuebingen; [2]Ocutox.com

1913 — *A0438* **Alterations in microvilli on the surface of retinal Pigment Epithelial (RPE) cells in Sorsby's Fundus Dystrophy.** *Mariya Ali[1], J. H. Qi[1], A. Wolk[1], A. Cutler[1], H. Stohr[4], C. Hershberger[2], G. Mahajan[3], C. Kothapalli[3], B. Anand-Apte[1, 5].* [1]Ophthalmic Research, Cleveland Clinic; [2]Cell and Molecular Medicine, Cleveland Clinic; [3]Chemical and Biomedical Engineering, Cleveland State University; [4]Institute of Human Genetics, Universitat Regensburg; [5]Lerner College of Medicine, Cleveland Clinic

1914 — *A0439* **Galectin-3 interacts with polarized retinal pigment epithelium independently of MerTK and is not required for diurnal photoreceptor outer segment renewal in mice.** *Silvia C. Finnemann, N. J. Esposito, F. Mazzoni.* Biological Sciences, Fordham University

1915 — *A0440* **Role of atypical cadherin FAT1 in establishing earliest cell-cell contact and junctional integrity of retinal pigment epithelium.** *Tyler Pfister, A. George, K. Bharti, B. P. Brooks.* NEI

1916 — *A0441* **Exosome-mediated long-range communication in stressed retinal pigment epithelial cell monolayers – focus on up-take mechanisms.** *Baerbel Rohrer[1, 2], M. Ishii[1], C. Nicholson[1, 2], C. Brandon[1], B. Annamalai[1, 2], N. Shah[1, 2].* [1]Ophthalmology, Med Univ of South Carolina; [2]Division of Research, Ralph H. Johnson VA Medical Center

1917 — *A0442* **Fibulin-3 mutation induces loss of polarity in RPE cells and alters the protein and micro RNA content of exosomes.** *Mi Zhou[1], S. Weber[1], Y. Zhao[1], Y. Imamura[2], A. Maminishkis[3], S. S. Miller[3], J. M. Sundstrom[1].* [1]Ophthalmology, Penn State Hershey Medical Center; [2]Pharmacology, Penn State College of Medicine; [3]Ophthalmic Genetics & Visual Function Branch, National Eye Institute

1918 — *A0443* **A possible role of βA3/A1-crystallin in endocytosis and downstream signaling pathways in RPE cells.** *Peng Shang[1], N. A. Stepicheva[1], M. Yazdankhah[1], S. Ghosh[1], I. A. Bhutto[1], J. Weiss[1], S. L. Hose[1], J. S. Zigler, Jr[2], D. Sinha[1, 2].* [1]University of Pittsburgh; [2]Wilmer Eye Institute, The Johns Hopkins University

1919 — *A0444* **Novel function of β-catenin in RPE basal plasma membrane.** *Qiutang Li, P. A. Scott, H. J. Kaplan, D. C. Dean, Q. Lu.* Ophthalmology and Visual Sciences, University of Louisville

1920 — *A0445* **Altered L-type Ca^{2+} channel activity by mutant bestrophin-1 in RPE cells.** *Olaf Strauss[1], N. Reichhart[1], S. Almedawar[2], P. Bucichowski[1], M. Cordes[1].* [1]Experimental Ophthalmology, Charite University Medicine Berlin; [2]DFG-Center for Regenerative Therapies Dresden (CRTD), Technische Universität Dresden

1921 — *A0446* **Super-resolution imaging of voltage-gated calcium channel $Ca_V1.3$ in primary cilia of retinal pigment epithelium.** *Soile Nymark, T. Viheriala, I. Korkka, H. Skottman, T. Ihalainen, T. Ilmarinen.* Faculty of Medicine and Health Technology, Tampere University

1922 — *A0447* **N-isopropylacrylamide-based cellular scaffold for retinal pigment epithelial cells.** *Nicole M. Amaral, M. Dodd, T. Rambarran, H. Sheardown.* McMaster University

1923 — *A0448* **Substrate stiffness influences cell density, transcriptome and angiomodulatory properties of retinal pigment epithelium cells.** *Clara Gimpel, R. Poettke, G. R. Schlunck.* Eye Center, Medical Center - University of Freiburg

1924 — *A0449* **Layer-by-layer assembly for steering the survival and immunogenicity of RPE cells In Vitro and In Vivo.** *Nan Wu, L. Ru, Y. Liu.* Ophthalmology, Eye Institute

1925 — *A0450* **VMD2 Promoter-mediated Gene Therapy Optimizes Active Rap1a Expression in the Retinal Pigment Epithelium of Wild Type Mice.** *Haibo Wang[1], A. Ramshekar[1], E. Kunz[1], W. Hauswirth[2], M. Hartnett[1].* [1]John A Moran Eye Ctr, Ophthalmology, University of Utah; [2]University of Florida **CR*

1926 — *A0451* **Assessment of Potential Adverse Effects of Ciprofloxacin In ARPE-19 Cells.** *Nasim Salimi, K. Schneider, M. Chwa, A. Dolinko, A. Bao, C. Kenney.* Gavin Herbert Eye Inistitute

1927 — *A0452* **The transcriptomic analyses of RPE and choroid induced by fundus photocoagulation in apolipoprotein-E deficient mice.** *lv da[1, 2], Z. Cui[2, 1], W. Sheng[1, 2], Y. Zeng[1], J. Chen[2, 1], S. Tang[2, 1].* [1]Aier School of Ophthalmology, Central South University; [2]Aier Eye Institute

1928 — *A0453* **Analysis of epigenetic plasticity in adult murine RPE.** *Galina Dvoriantchikova[1], R. Seemungal[1], D. V. Ivanov[1, 2].* [1]Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Department of Microbiology and Immunology, University of Miami Miller School of Medicine

1929 — *A0454* **NLRP3 inflammasome activation by all-*trans*-retinaldehyde underlies the degeneration of retinal pigment epithelial cells.** *Yi Liao[1, 2], Y. Wu[1, 2].* [1]Eye Institute of Xiamen University; [2]Medical College of Xiamen University

1930 — *A0455* **Auranofin mediates mitochondria-lysosome axis dysregulation and inflammatory cell death in human retinal pigment epithelial cells.** *Thangal Yumnamcha, S. D. Pukhrambam, F. Yao, L. P. Singh.* Ophthalmology, Visual and Anatomical Sciences, School of Medicine, Wayne State University

1931 — *A0456* **Zeaxanthin Increases Glutatione-S-Transferase (Pi isoform) Expression in ARPE-19 cells.** *C Kathleen Dorey[1], M. Ferguson[1], M. Gray[2], K. Knight[2].* [1]Virginia Tech Carilion School of Medicine; [2]Basic Science Research Lab, Carilion Cliinic

1932 — *A0457* **Placental growth factor (PlGF) induced signalling regulates barrier properties of the retinal pigment epithelium (RPE).** *Fiona Cunningham[1], P. Canning[1], T. Van Bergen[2], J. Feyen[2], I. Lengyel[1], A. W. Stitt[1].* [1]Centre for Experimental Medicine, Queen's University Belfast; [2]Oxurion nv **CR*

1933 — *A0458* **Vascular endothelial growth factor secretion induced by endogenous danger signals in retinal pigment epithelial cells.** *Makoto Hatano, M. Kobayashi, S. Uchi, Y. Kobayashi, C. Yamashiro, K. Tokuda, R. Yanai, K. Kimura.* Department of Ophthalmology, Yamaguchi University Graduate School of Medicine

1934 — *A0459* **Effects of Bevacizumab and Risuteganib on ARPE19 AMD Cybrid cells.** *Kevin Schneider, M. Chwa, A. BenMohamed, C. Kenney.* University of California Irvine

1935 — *A0460* **Circadian Patterns of Secretion of VEGF by RPE.** *Rory Morrison-Colvin[1], S. Sillik[1], N. R. Congrove[1], B. S. McKay[1], R. W. Snyder[2].* [1]Department of Ophthalmology and Vision Science, University of Arizona; [2]SnyderBiomedical **CR*

1936 — *A0461* **Removal of Dopamine 2 Receptor abolishes the daily rhythm of phagocytosis in the mouse RPE.** *Varunika Goyal[1], C. De Vera[1], V. Laurent[3], K. Baba[1], J. Sellers[2], M. A. Chrenek[2], D. Hicks[3], P. Iuvone[2], G. Tosini[1].* [1]Morehouse School of Medicine; [2]Department of Ophthalmology and Eye Center, Emory University School of Medicine; [3]Institut des Neurosciences Cellulaires et Intégratives, CNRS

1937 — *A0462* **The development of a novel *in vitro* triple-culture system of the human retina.** *Rachel Churm[1], S. Prior[1], R. Thomas[1], S. Banerjee[2], D. R. Owens[1].* [1]Swansea University; [2]Cardiff and Vale Health board

1938 — *A0463* **Towards automated intracellular electrophysiology of retinal pigment epithelium.** *Colby F. Lewallen[1], Q. Wan[2], A. Maminishkis[2], W. Stoy[3], I. Kolb[3, 4], N. Hotaling[2], K. Bharti[2], C. R. Forest[1].* [1]G.W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology; [2]National Eye Institute, National Institutes of Health; [3]Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology; [4]Howard Hughes Medical Institute, Janelia Research Campus

West Exhibition Hall A0464-A0480

Monday, April 29, 2019 11:15 AM-1:00 PM

Retinal Cell Biology

244 RPE: Potential Therapies

Moderators: Rosario Fernandez-Godino and Magali Saint-Geniez

1939 — *A0464* **Thyroid Hormone Regulation of Retinal Pigment Epithelium Morphology and Survival.** *Xi-Qin Ding[1], F. Yang[1], M. R. Butler[1], G. Malek[2], H. Ma[1].* [1]Cell Biology, Univ Oklahoma Hlth Sciences Ctr; [2]Duke University

1940 — *A0465* **Gene delivery to Retinal Pigment Epithelial Monolayers using Polymeric Nanoparticles.** *Bibhudatta Mishra[1], D. R. Wilson[2, 3], S. R. Sripathi[1], R. Yuan[2, 3], M. P. Suprenant[2, 3], B. S. Hansen[1], C. Berlinicke[1], J. J. Green[3, 2], D. J. Zack[1].* [1]Ophthalmology, Johns Hopkins University School of Medicine; [2]Biomedical Engineering; [3]Translational Tissue Engineering Center **CR*

1941 — *A0466* **Role of nuclear factor activated in T cells (NFAT) signaling pathway in the Retinal Pigment Epithelial cells.** *Hsuan-Yeh Pan, M. Valapala.* optometry, Indiana University

1942 — *A0467* **Resveratrol protects against hydroquinone-induced damage in RPE cells.** *Samantha E. Neal[1], K. Buehne[1], P. Silinski[2], P. Yang[1], G. Jaffe[1].* [1]Ophthalmology, Duke University Eye Center; [2]Chemistry, Duke University

1943 — *A0468* **Effects of Bevacizumab on Gene Expression in ARPE-19 Cells.** *Noor-Ul-Ain Shekoh, K. Schneider, J. Nguyen, P. Sakemi Fukuhara, J. Toledo Corral, B. D. Kuppermann, C. Kenney.* Ophthalmology, University of California Irvine **CR*

1944 — *A0469* **Luminate protects against hydroquinone–induced injury in human RPE cells.** *Ping Yang, S. E. Neal, G. J. Jaffe.* Ophthalmology, Duke University Eye Center

1945 — *A0470* **Protective effect of zinc against A2E-induced toxicity in ARPE19 cells: Possible involvement of lysosomal acidification.** *Jeong A Choi[1], B. Seo[1], Y. Yoon[2], J. Koh[3].* [1]Neural Injury Research Center, Asan Institute for Life Sciences, ASAN Medical Center, University of Ulsan College of Medicine; [2]Ophthalmology, ASAN Medical Center, University of Ulsan College of Medicine; [3]Neurology, ASAN Medical Center, University of Ulsan College of Medicine **CR*

1946 — *A0471* **Efficacy of novel selective NLRP3 inhibitors in human and murine retinal pigment epithelial cells.** *Luping Wang[1], S. Schmidt[1], P. P. Larsen[1], J. Meyer[1], W. R. Roush[2], E. Latz[3, 2], F. G. Holz[1], T. U. Krohne[1].* [1]Ophthalmology, University of Bonn; [2]IFM Therapeutics; [3]Institute of Innate Immunity, University of Bonn **CR*

1947 — *A0472* **The role of a novel metabolic regulator in human retinal pigment epithelial cell function.** *Sze Yuan Ho[1], B. Qiu[2], G. C. Cheung[3], T. Y. Wong[3, 4], W. Hong[2], X. Wang[1, 2].* [1]Nanyang Technological University; [2]Institute of Molecular and Cell Biology; [3]Singapore Eye Research Institute, Singapore; [4]Ophthalmology & Visual Sciences Academic Clinical Program (ACP), Duke-NUS Medical School, Singapore **CR*

1948 — *A0473* **Mitochondria fission by Drp1 as the potential therapeutic target for retinal pigmented epithelial cell death.** *Tomohiro Yako, M. Nakamura, S. Nakamura, M. Shimazawa, H. Hara.* Gifu Pharmaceutical Univercity,

1949 — *A0474* **Molecular mechanisms associated with the protective effect of the disaccharide trehalose against oxidative damage in the human retinal pigment epithelial cells.** *Samuel Abokyi[1, 2], C. To[1], S. Shan[1], H. H. Chan[1], D. Y. Tse[1].* [1]The Hong Kong Polytechnic University; [2]Optometry, University of Cape Coast

1950 — *A0475* **αB Crystallin Chaperone Peptide (mini Cry) Inhibits Senescence in RPE cells by Modulating Mitochondrial Biogenesis and Fission Proteins.** *Parameswaran G. Sreekumar[1], D. R. Hinton[2, 3], J. Campisi[4, 5], S. R. Sadda[1, 6], R. Kannan[1, 6].* [1]Ophthalmology, Doheny Eye Institute; [2]Pathology, Keck School of Medicine of the University of Southern California; [3]USC Roski Eye Institute; [4]Buck Institute for Research on Aging; [5]Lawrence Berkeley National Laboratory; [6]Ophthalmology, David Geffen School of Medicine at UCLA

1951 — *A0476* **Effects of aflibercept, estradiol and brimonidine on human Retinal Pigment Epithelial cells (ARPE-19) and Müller cells (MIO-M1) exposed to cobalt chloride ($CoCl_2$) *in vitro*.** *Paula Sakemi Fukuhara, D. Hyunjae Lee, M. Chwa, N. Shekoh, J. Toledo Corral, B. D. Kuppermann, C. Kenney.* University of California Irvine **CR*

1952 — *A0477* **Elovanoids suppress overt activation of innate immune response to IL-alpha and OX-LDL injury in human Retinal Pigment Epithelial Cells (RPEC).** *Aram Asatryan, N. G. Bazan.* Neuroscience, LSUHSC

1953 — *A0478* **Effects of Microrna-22-3p Against Retinal Pigment Epithelial Oxidative Damage by Targeting NLRP3 Through Suppression of the Inflammasome Signaling Pathway.** *Zizhong Hu, P. Xie, S. Yuan, Q. Liu.* Department of Ophthalmology, The first affiliated hospital of Nanjing Medical University

1954 — *A0479* **Elovanoids (ELV) modulate erastin -mediated phosphorylation of the scaffold phosphatidyl ethanolamine binding protein-1 (PEBP-1) and ferroptosis in human Retinal Pigment Epithelial cells (hRPEC).** *Pranab K. Mukherjee, N. G. Bazan.* Neuroscience Cntr/ Ophthalmology, LSU Health Sciences Center

1955 — *A0480* **Cerium Oxide Nanoparticles Mitigate Hydroxychloroquine Induced Toxicity in Human Retinal Pigment Epithelium.** *Son Ho, J. Kieffer, B. Dhillon, S. Singh.* University of Central Florida

West Exhibition Hall A0508-A0551

Monday, April 29, 2019 11:15 AM-1:00 PM

Clinical/Epidemiologic Research

245 Glaucoma risk factors, progression, and management

Moderators: Joshua R. Ehrlich and Tave van Zyl

1956 — *A0508* **Cost-effectiveness and cost-utility of population-based glaucoma screening in China: A decision-analytic Markov model.** *Nathan G. Congdon[1, 2], J. Tang[3, 4], Y. Liang[5], C. O'Neill[3], F. Kee[3].* [1]Orbis/Queen's University Belfast; [2]Preventive Ophthalmology, Zhongshan Ophthalmic Center; [3]UKCRC Centre of Excellence for Public Health (NI), Centre for Public Health, Queen's University Belfast; [4]School of Agricultural Economics and Rural Development, Renmin University of China; [5]Wenzhou Medical University

1957 — *A0509* **Associations between optic disc measures and obstructive sleep apnoea in young adults.** *Samantha S. Lee[1], N. McArdle[2, 3], P. Sanfilippo[1, 4], S. Yazar[1, 5], P. Eastwood[2, 3], A. W. Hewitt[4, 6], D. A. Mackey[1, 6].* [1]Lions Eye Institute, Centre for Ophthalmology and Visual Science, University of Western Australia; [2]Centre for Sleep Science, School of Human Sciences, University of Western Australia; [3]West Australian Sleep Disorders Research Institute, Sir Charles Gairdner Hospital; [4]Centre for Eye Research Australia, University of Melbourne; [5]MRC Human Genetics Unit, Institute of Genetics and Molecular Medicine, University of Edinburgh; [6]School of Medicine, Menzies Research Institute Tasmania, University of Tasmania

1958 — *A0510* **Comparison of reoperation rates in Ex-PRESS implantation versus trabeculectomy for open-angle glaucoma: national database study in Japan.** *Yohei Hashimoto[1], N. Michihata[2], H. Matsui[3], K. Fushimi[4], H. Yasunaga[3], M. Aihara[1].* [1]Department of Ophthalmology, Graduate School of Medicine and Faculty of Medicine, The University of Tokyo; [2]Department of Health Services Research, Graduate School of Medicine, The University of Tokyo; [3]Department of Clinical Epidemiology and Health Economics, School of Public Health, The University of Tokyo; [4]Department of Health Policy and Informatics, Tokyo Medical and Dental University Graduate School

1959 — *A0511* **Effects of anti-vascular endothelial growth factor agents on intraocular pressure.** *David Na, S. Kalarn, R. Swamy.* Ophthalmology and Visual Sciences, University of Maryland School of Medicine

1960 — *A0512* **Intraocular pressure-lowering effect of cataract surgery: predictive patient factors and timing of IOP-lowering effect.** *Misty D. Ruppert[1], M. Porter[3], C. Ray[3], M. K. Kureishy[1], J. O. Garcia[2], J. C. Yeh[3].* [1]School of Medicine, Texas Tech University Health Sciences Center; [2]Graduate School of Biomedical Sciences, Texas Tech University Health Sciences Center; [3]Department of Ophthalmology and Visual Sciences, Texas Tech University Health Sciences Center **CR*

1961 — *A0513* **Clinical Characteristics of Eyes with Steroid Use in a Japanese Glaucoma Clinic.** *Kenji Suda, T. Akagi, I. O. Hanako, T. Kameda, T. Hasegawa, H. Nakanishi, S. Morooka, A. Tsujikawa.* Ophthalmology, Kyoto University **CR*

1962 — *A0514* **Serum lipid Levels and Glaucoma: A Mendelian Randomisation Analysis.** *Zijun Yu[1, 2], X. Chai[2], S. Thakur[2], C. Khor[3], X. Sim[4], T. Aung[5, 2], T. Y. Wong[2, 1], E. N. Vithana[2], Q. Fan[1], C. Cheng[2, 1].* [1]Duke NUS Medical School; [2]Singapore Eye Research Institute; [3]Genome Institute of Singapore; [4]NUS Saw Swee Hock School of Public Health; [5]Singapore National Eye Centre

1963 — *A0515* **The relationship between coffee consumption and open angle glaucoma.** *Daehwan Shin[1], J. Kim[1], J. Bae[1], K. Park[2].* [1]Department of Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine; [2]Department of Ophthalmology, Seoul National University College of of Medicine

1964 — *A0516* **Epidemiology of Neovascular Eye Diseases and Associated Glaucomas in the United States: 2006 Compared with 2016.** *Rachel Lee, T. T. Tai.* Ophthalmology, New York Eye and Ear Infirmary

1965 — *A0517* **The Association between Glaucoma Medication Adherence and Intraocular Pressure Variability in the Collaborative Initial Glaucoma Treatment Study (CIGTS).** *David C. Musch[1], L. Niziol[1], B. W. Gillespie[2], P. Newman-Casey[1].* [1]Ophthalmology & Visual Sciences, Univ of Michigan-Kellogg Eye Ctr; [2]Biostatistics, University of Michigan **CR*, ↗

1966 — *A0518* **Prevalence and Clinical Characteristics of Childhood Glaucoma at Akron Children's Hospital.** *Isabel A. Ricker, R. W. Hertle, A. Juric, R. Bouhenni.* Research, Akron Children's Hospital

1967 — *A0519* **Relationship of glaucoma severity and treatment compliance with depression.** *Maria del Pilar Alfaro Goldaracena, J. Jiménez Román, A. Castillejos Chevez, Y. Azses Halabe, J. Gamiochipi Arjona, P. Tolosa Tort.* Asociacion para Evitar la Ceguera en Mexico

1968 — *A0520* **Ten-Year of Glaucoma Transition Rate on the Basis of Optic Nerve Morphology in Normal Japanese Subjects.** *Yoko Ikeda, K. Mori, M. Ueno, Y. Maruyama, K. Yoshii, J. Hamuro, C. Sotozono, S. Kinoshita.* Ophthalmology, Kyoto Prefectural Univ of Med **CR*

1969 — *A0521* **Healthy Lifestyle Score and incidence of glaucoma in the SUN cohort.** *Itziar Gutierrez[3], A. Fernandez-Montero[1], M. Martinez-Gonzalez[2], M. Bes-Rastrollo[2], L. Ruiz[2], M. Guirao Navarro[3], J. Moreno-Montanes[3].* [1]Occupational Medicine, Universidad de Navarra; [2]Preventive Medicine and Public Health, Universidad de Navarra; [3]Ophthalmology, Clinica Universidad de Navarra

1970 — *A0522* **Population-based comparison of determinants of undiagnosed/diagnosed primary angle closure glaucoma (PACG) and open-angle glaucoma (POAG) in the same region.** *Makoto Araie[1], H. Sakai[2], M. Fujii[3], A. Iwase[4].* [1]Ophthalmology, Kanto Central Hospital, Mutual Aid Association of Public School Teachers; [2]Ophthalmology, Graduate School of Medicine,University of the Ryukyus; [3]Health Science, Osaka University Graduate School of Medicine; [4]Ophthalmology, Tajimi Iwase Eye Clinic **CR*

1971 — *A0523* **Diagnostic Value of Peripapillary Beta Zone and Gamma Zone Defined by Optical Coherence Tomography in Discriminating Glaucoma in a Chinese Population.** *Qi Zhang[1, 2], Y. Wang[1], w. wei[2], L. Xu[1], J. B. Jonas[1, 3].* [1]Beijing Institute of Ophthalmology, Beijing Tongren Hospital; [2]Beijing Tongren Eye Center, Beijing Tongren Hospital; [3]Department of Ophthalmology, Medical Faculty Mannheim of the Ruprecht-Karls-University Heidelberg

1972 — *A0524* **Associations between Frequency of Salt Usage and Glaucoma by Blood Pressure Status in the Thessaloniki Eye Study.** *Victoria Tseng[1], F. Topouzis[2], F. Yu[1], C. Keskini[2], T. Pappas[2], P. Founti[5, 2], E. Anastasopoulos[2], A. Harris[3], M. R. Wilson[4], A. L. Coleman[1].* [1]Ophthalmology, UCLA/ Stein Eye Institute; [2]Ophthalmology, Aristotle University of Thessaloniki; [3]Ophthalmology, Indiana University School of Medicine; [4]Wayne State University School of Medicine; [5]Glaucoma Unit, Moorfields Eye Hospital NHS Trust **CR*

1973 — *A0525* **Prevalence and associated factors of glaucoma in a Russian Population. The Ural Eye and Medical Study.** *Gyulli Kazakbaeva[1], M. Bikbov[1], T. Gilmanshin[1], R. Zainullin[1], E. Rakhimova[1], K. Safiullina[1], S. Panda-Jonas[2], I. Rusakova[1], N. Bolshakova[1], J. B. Jonas[2].* [1]Ufa Eye Research Institute; [2]Department of Ophthalmology, Medical Faculty Mannheim of the Ruprecht-Karls-University of Heidelberg

1974 — *A0526* **Neovascular Glaucoma Presenting Characteristics in a Referral-based Setting.** *David G. Miller[1], R. Chandra[1, 2], L. Fill[1, 3], C. W. Miller[1], J. Gan[1], A. Giltner[1], S. D. Pendergast[1].* [1]Retina Associates of Cleveland; [2]Northeast Ohio Medical University; [3]Philadelphia College of Osteopathic Medicine

1975 — *A0527* **Associations between Weight Loss Strategies and Glaucoma in the National Health and Nutrition Examination Survey.** *Nikitha Reddy[1], V. Tseng[2], F. Yu[2], A. L. Coleman[2].* [1]UT Southwestern Medical Center; [2]University of California Los Angeles

1976 — *A0528* **Utilization of glaucoma procedures in Medicare beneficiaries from 2002 to 2017.** *Aaron Hendrix.* Rockville Eye Associates

1977 — *A0529* **Association of anterior segment parameters and 5-year incident narrow angles: findings from an older Chinese population.** *Yu Jiang[1], W. Wang[1], M. He[1, 2].* [1]Zhongshan Ophthalmic center; [2]Ophthalmology, Centre for Eye Research Australia, University of Melbourne

1978 — *A0530* **Macular thickness is associated with glaucoma in the UK Biobank cohort.** *X. Raymond Gao.* Ophthalmology and Visual Sciences, University of Illinois

1979 — *A0531* **Cost sharing of glaucoma medications: are patients able to predict the amount of their financial obligation?** *Alicia Jiang[1], C. Jordan[1], J. Murphy[1], C. Sanvicente[2], S. Fudemberg[2].* [1]Sidney Kimmel Medical College; [2]Glaucoma Research, Wills Eye Hospital

1980 — *A0532* **The Impact of Routinely Measuring IOP in Younger Adults in a Large Eye Hospital.** *Catalina Garzon[1], D. S. Friedman[1], A. Odayappan[2], R. Venkatesh[2].* [1]Johns Hopkins University School of Medicine; [2]Aravind Eye Hospitals & Post-Graduate Institute of Ophthalmology

1981 — *A0533* **An Evaluation of Recruitment Methods for a Large Glaucoma Genetics Study of African Americans.** *Rebecca J. Salowe, S. Merriam, R. Lee, M. Vaughn, A. Kikut, E. Becker, D. W. Collins, H. V. Gudiseva, Q. Cui, V. Addis, P. SANKAR, E. G. Miller-Ellis, M. Pistilli, M. G. Maguire, J. M. O'Brien.* Ophthalmology, University of Pennsylvania

1982 — *A0534* **The Association of Anemia and Glaucoma in the Elderly US California Medicare Population.** *Fei Yu[1], E. M. Tran[2, 3], P. B. Greenberg[2, 3], A. L. Coleman[1].* [1]Ophthalmology, UCLA Jules Stein Eye Institute; [2]Division of Ophthalmology, Alpert Medical School, Brown University; [3]Section of Ophthalmology, Providence VA Medical Center

1983 — *A0535* **The Association of Glaucoma with Depression in the United States using the Elderly US California Medicare Data Population.** *Virginia Vilar Sampaio[3], L. Andaluz-Scher[1], F. Yu[2], S. K. Law[2], A. L. Coleman[2].* [1]Albert Einstein College of Medicine; [2]Ophthalmology-Jules Stein Eye Institute, UCLA; [3]Epidemiolgy/ School of Public Health, UCLA

1984 — *A0536* **Utilizing a J48 Decision Tree to identify Patients at risk for Angle Closure Glaucoma.** *Soshian Sarrafpour, B. Chiu, H. Parikh, M. Ramos Cadena, H. Ishikawa, G. Wollstein, J. S. Schuman, J. A. Young.* New York University ***CR**

1985 — *A0537* **Investigation of the Effect of Laser, Non-Laser Surgery and Medication on 1-Year Intraocular Pressure Reduction using Weighted Regression by Propensity Score.** *Mengfei Wu[1, 2], M. Liu[2, 1], K. Lucy[1], H. Ishikawa[1], J. S. Schuman[1], G. Wollstein[1].* [1]NYU Eye Center, NYU Langone Health; [2]Population Health and Environmental Medicine, NYU School of Medicine ***CR**

1986 — *A0538* **Modeling the societal costs of poor glaucoma medication adherence.** *Mariam Salman[1], J. Gatwood[2], P. Newman-Casey[1].* [1]Kellogg Eye Center, University of Michigan; [2]The University of Tennessee Health Science Center

1987 — *A0539* **Investigating the Risk Factors for the Failure of Traditional Glaucoma Surgery Using Electronic Health Records and a Big Data Approach.** *Krishna P. Shanmugam[1], M. Raju[2], A. Elkeeb[1], V. Ponnusamy[1].* [1]University of Missouri School of Medicine; [2]MU Informatics Institute, University of Missouri

1988 — *A0540* **The association of occupational exhaust fume exposure with glaucoma in the United States using the 2007-2008 NHANES data.** *Laura Andaluz-Scher[1], F. Yu[2], A. Coleman[2].* [1]Albert Einstein College of Medicine; [2]Jules Stein Eye Institute, UCLA

1989 — *A0541* **Cost-related nonadherence with topical glaucoma medications in patients aged 25-64.** *Dov Kagan[1], Y. M. Buys[2], G. E. Trope[2], Y. Jin[2].* [1]University of Manitoba; [2]Department of Ophthalmology & Vision Sciences, University of Toronto ***CR**

1990 — *A0542* **Smoking and the risk of glaucoma: a Mendelian randomisation study in UK Biobank.** *Marianne T. Kennedy (nee Neary)[1, 2], O. J. Kennedy[3].* [1]Manchester Royal Eye Hospital; [2]University of Manchester; [3]Manchester University NHS Foundation Trust

1991 — *A0543* **Glaucoma Disease Characteristics and Outpatient Visit Adherence Among Prisoners.** *Manpreet S. Tiwana[1], L. Kanu[1], M. Dikopf[1], D. Edward[1, 2].* [1]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]King Khaled Eye Specialist Hospital

1992 — *A0544* **Non-Ophthalmic Provider Presciptions for Glaucoma Medications Under the Medicare Part D Program.** *Mark W. Swanson.* Optometry, Univ of Alabama at Birmingham

1993 — *A0545* **Simulating glaucomatous visual fields using a variational autoencoder.** *Samuel I. Berchuck[1], E. B. Mariottoni[2], F. A. Medeiros[2].* [1]Statistical Science and Forge, Duke University; [2]Duke University

1994 — *A0546* **Evaluation of Risk Factors for Pseudoexfoliation and Progression to Glaucoma: A Longitudinal Epidemiological Study.** *Caleb Shumway, K. Curtin, S. Taylor, C. Paulson, B. M. Wirostko.* Glaucoma, Moran Eye Center

1995 — *A0547* **Cascade Screening Study of African-Caribbean patients with glaucoma.** *Sam Myers[1], M. J. Simcoe[1, 2], D. Kozareva[1], C. J. Hammond[1, 2].* [1]Department Of Ophthalmology, Kings College London; [2]KCL Department of Twin Research and Genetic Epidemiology

1996 — *A0548* **Glaucoma Characteristics for MIGS Utilization: An IRIS Registry Analysis.** *Eydie G. Miller-Ellis[1], O. Smith[5], C. Croteau-Chonka[4], B. L. VanderBeek[1], M. G. Maguire[1], F. Lum[6], D. Fujino[6], S. Kelly[6], M. M. Olivier[2, 3].* [1]Ophthalmology, Scheie Eye Institute/University of Pennsylvania; [2]Midwest Glaucoma Center; [3]Chicago Medical School; [4]And So It Begins; [5]Glaucoma Associates of Texas; [6]American Academy of Ophthalmology ***CR**

1997 — *A0549* **Screening Major Eye Diseases Approaching Low-Income Areas through an Itinerant Task Force in Western Mexico.** *Monica Montserrat M. Gonzalez-Lomeli[2, 1], J. A. Paczka[2, 3], L. Giorgi-Sandoval[3, 4], F. Garcia-y-Otero[5], K. Aguilera-Ruiz[2], I. F. Vazquez[2].* [1]ARVO MEMBER; [2]Instituto de Oftalmologia y Ciencias Visuales, Universidad de Guadalajara; [3]Unidad de Diagnostico Temprano del Glaucoma; [4]Asistencia e Investigacion en Glaucoma; [5]Hospital Regional del ISSSTE "Valentin Gomez Farias"

1998 — *A0550* **Biometric comparators in Central Asians with primary angle closure glaucoma (PACG) versus primary angle open glaucoma (PAOG).** *Assel Talaspayeva[1], Z. Zhamanbalina[1], A. S. Khouri[2].* [1]Glaucoma, Kazakh Research institute of eye diseases; [2]Ophtalmology, Rutgers New Jersey Medical School

1999 — *A0551* **Pseudoexfoliation Syndrome in Patients of Ethiopian Descent - An Initial Report.** *Asima Bajwa, N. Swarup, H. Ismail, L. Jones.* Ophthalmology, Howard University Hospital ↗

West Exhibition Hall B0019-B0038

Monday, April 29, 2019 11:15 AM-1:00 PM

Retina

246 Vitreoretinal interface disease

Moderator: Akito Hirakata

2000 — *B0019* **Schisis of the Retinal Nerve Fiber Layer in Epiretinal Membranes.** *Syed A. Hussnain, T. Sharma, D. C. Hood, S. Chang.* Ophthalmology, Columbia University

2001 — *B0020* **Factors in obtaining singlet microparticle populations in human vitreous for flow cytometric analysis.** *Harris C. Sultan, P. K. Rao, R. Rajagopal, A. Li, B. Marshall, R. S. Apte.* Ophthalmology, Washington University, St. Louis

2002 — *B0021* **Beware of what your patients find on YouTube; results for most watched floater videos.** *Erol E. Verter[1], B. Young[1], P. Coady[2, 1].* [1]Ophthalmology and Visual Science, Yale School of Medicine; [2]New England Retina Associates

2003 — *B0022* **Foveal abnormality associated with epiretinal tissue of intermediate reflectivity and increased blue fundus autofluorescence signal (FATIAS).** *Roberto dell'Omo[1], S. De Turris[2], M. Filippelli[1], C. Costagliola[1].* [1]Medicine and Health Sciences, University of Molise; [2]University of Ancona

2004 — *B0023* **Predictive factors for postoperative visual function based on an optical coherence tomography staging scheme in idiopathic epiretinal membrane.** *LIJUN SHEN.* Eye Hospital Of Wenzhou Medical University

2005 — *B0024* **Pars Plana Vitrectomy and vitreomacular interphase pathology. One year results and tomographic changes.** *Sara Crespo Millas, S. Di Lauro, A. Valisena, L. Manzanas, M. López Gálvez.* Ophthalmology, Hospital Clinico Universitario de Valladolid

2006 — *B0025* **Effect Of Funding Source On Reporting Bias In Studies Of Ocriplasmin Therapy For Vitreomacular Traction And Macular Hole.** *Sasha Hubschman[1], M. J. Venincasa[1], A. Kuriyan[2], J. Sridhar[1].* [1]Bascom Palmer Eye Institute, Miami Miller School of Medicine; [2]Department of Ophthalmology, Flaum Eye Institute, University of Rochester Medical Center, Rochester, NY

2007 — *B0026* **Vitreo-retinal interface abnormalities in an older European population: results from the AugUR study.** *Caroline Brandl, F. Borgmann, M. E. Zimmermann, H. Helbig, B. H. Weber, I. M. Heid, K. J. Stark.* University Regensburg

2008 — *B0027* **Predictive factors for successful treatment with intravitreal ocriplasmin.** *Michael Grinton[1], J. Rees[2], M. S. Habib[1], R. Hillier[3], D. Vaideanu-Collins[4], S. Jonathan[1], D. Steel[1].* [1]Sunderland Eye Infirmary, National Health Service (NHS); [2]School of Psychology, University of Sunderland; [3]Royal Victoria Infirmary, National Health Service; [4]James Cook University Hospital, National Health Service ***CR**

2009 — *B0028* **Evaluating color vision deficiency in patients with epiretinal membranes and its association with retinal surface defects.** *John Doan[1], C. Frambach[2], C. Yuh[3], K. White[2], Y. Chen[2], C. Kenney[2], K. Jameson[2], A. Browne[2].* [1]Medical College of Wisconsin; [2]University of California, Irvine; [3]Western University

2010 — *B0029* **Binocular random perimetry of unilateral macular hole without occlusion.** *Yuki Maekawa, S. Ikeda, E. Tsuiki, T. Kitaoka.* Department of Ophthalmology, Nagasaki University Hospital

2011 — *B0030* **Reflectance adaptive optics scanning light ophthalmoscopy of epiretinal membranes.** *Moataz M. Razeen, T. Leng, A. Dubra.* Ophthalmology, Stanford University ***CR**

2012 — *B0031* **Epidemiological analysis of post penetrant trauma related Endophthalmitis evaluated in Tertiary Brazilian Hospital in six years.** *Vinicius Bergamo, L. Nakayama, N. S. Moraes, L. Denadai.* Escola Paulista de Medicina

2013 — *B0032* **In Vivo Detecting Mouse Persistent Hyperplastic Primary Vitreous by Spectralis Optical Coherence Tomography.** *Qing Lian, L. Zhao.* Zhongshan Ophthalmic Center

2014 — *B0033* **Effectiveness of Ocriplasmin In Real-World Settings: A Systematic Literature Review.** *Ryan Constantine[1], K. H. Blot[2], B. M. Lescrauwaet[2], A. M. Khanani[1].* [1]Sierra Eye Associates; [2]Xintera bvba ***CR**

2015 — *B0034* **Posterior Vitreous Displacement in the Supine Position.** *Brittany Routledge[1], J. Nguyen-Cuu[1], K. M. Yee[1], J. Sebag[1, 2].* [1]VMR Institute for Vitreous Macula Retina; [2]Ophthalmology, Geffen School of Medicine, UCLA

2016 — *B0035* **Progression of full-thickness macular holes prior to surgery.** *Mark Alberti, M. N. Hermann, U. C. Christensen, M. la Cour.* Dept. of Ophthalmology, Rigshospitalet - Glostrup

2017 — *B0036* **Identification and functional analysis of novel FZD4 mutations in patients with Familial exudative vitreoretinopathy in Indian.** *zhu xiong.* School of medicine, University of Electronic Science and Technology of China

2018 — *B0037* **Vascular and Functional Defects in Fellow Eyes of Patients Affected by Unilateral Idiopathic Epiretinal Membranes.** *Andrea M. Coppe[2], G. Lapucci[2], V. Parisi[1], F. Petruzzella[1], G. Ripandelli[1].* [1]Ophthalmology, IRCCS - Fondazione Bietti; [2]AMC Research Group

2019 — *B0038* **Effect of epiretinal/inner limiting membrane (ERM/ILM) peeling on foveal distortion and its association with functional and morphological parameters in eyes with idiopathic ERM.** *Felix Datlinger, M. Georgopooulos, L. Aliyeva, C. Abela-Formanek, A. Pollreisz, U. Schmidt-Erfurth, S. Sacu.* Ophthalmology and Optometry, Medical University of Vienna

West Exhibition Hall B0039-B0059

Monday, April 29, 2019 11:15 AM-1:00 PM

Retina

247 Endophthalmitis: clinical

Moderator: Makoto Inoue

2020 — *B0039* **Exploring the 10 year Incidence of Endophthalmitis at a Tertiary Care Academic Referral Practice.** *Yvonne Lu, M. Farid, M. Wade, S. Garg.* Ophthalmology, University of California Irvine

2021 — *B0040* **Endophthalmitis Rates after 32 vs 30 Gauge Needle Intravitreal Injection.** *Pooja Parikh[2], R. Wong[1, 2], C. A. Harper III[1, 2], J. A. Martinez[1, 2], P. A. Nixon[1, 2], M. Levitan[1, 2], J. W. Dooner[1, 2], R. C. Young[1], S. Day Ghafoori[1, 2].* [1]Austin Retina Associates; [2]University of Texas Dell Medical School

2022 — *B0041* **The utility of vitreous cultures in the management of endophthalmitis following intravitreal injection of anti-vascular endothelial growth factor agents.** *Samir N. Patel, P. Storey, M. Pancholy, A. Obeid, T. D. Wibbelsman, H. Levin, J. Hsu, S. Garg, J. Dunn, J. Vander.* Retina Service, Wills Eye Hospital

2023 — *B0042* **Microbial isolates and antibiotic resistance trends in infectious endophthalmitis.** *Juliana M. Kato[1], L. M. Oliveira[1], T. Tanaka[1], J. N. Almeida Junior[3], F. Rossi[3], M. S. Oliveira[2], J. H. Yamamoto[1].* [1]Ophthalmology, Clinical Hospital of University of Sao Paulo School of Medicine; [2]Infectology, Clinical Hospital of University of Sao Paulo School of Medicine; [3]Microbiology, Clinical Hospital of University of Sao Paulo School of Medicine

2024 — *B0043* **Epidemiology, clinical features and outcomes of bacterial and fungal endogenous endophthalmitis at a tertiary care hospital.** *Sohani Amarasekera, M. Doss, T. Banaee, R. P. Kowalski, A. W. Eller.* Ophthalmology, UPMC

2025 — *B0044* **Incidence and outcomes of endophthalmitis resulting from intravitreal injections performed by resident physicians.** *Russell Day[1], J. Law[1, 2], J. Lindsey[1, 2].* [1]Vanderbilt University School of Medicine; [2]Department of Ophthalmology, Veterans Affairs - TVHS

2026 — *B0045* **Antibiotic prophylaxis and intravitreal injections: impact on the incidence of acute endophthalmitis.** *Florian BAUDIN[1, 2], E. Benzenine[3], A. Mariet[3, 4], A. M. Bron[1, 5], V. Daien[6, 7], J. Korobelnik[8, 9], C. Quantin[3, 4], C. Creuzot-Garcher[1, 5].* [1]Ophthalmology, Dijon University Hospital; [2]Physiology and cerebral and ischemic cardio-vascular diseases, Burgundy University; [3]Biostatistics and Bioinformatics (DIM), Dijon University Hospital; [4]Dijon University; [5]Eye and Nutrition Research Group, Bourgogne Franche-Comté University; [6]Ophthalmology, Montpellier University Hospital; [7]U1061, INSERM; [8]Ophthalmology, Bordeaux University Hospital; [9]U1219, INSERM

2027 — *B0046* **Clinical characteristics, outcome, and management of *Staphylococcus epidermidis* endophthalmitis.** *Tatiana Tanaka[1], J. M. Kato[1], L. M. Oliveira[1], E. F. Oda[1], T. S. Barbosa[1], F. Rossi[2], J. N. Almeida Junior[2], J. H. Yamamoto[1].* [1]Ophthalmology, University of São Paulo; [2]Microbiology, University of São Paulo

2028 — *B0047* **Analysis of inflammatory score characteristics of continuous subtenon administration versus intravenous administration for experimental bacterial endophthalmitis.** *duan yiqin[1], y. yang[2], x. yang[3], D. Lin[1].* [1]aier eye hospital group, changsha aier eye hospital; [2]The third xiangya hospital; [3]The Frist Affliated Hospital of Zhenzhou University

2029 — *B0048* **Utility of broad-range real-time PCR using preoperativelycollected aqueous humor for diagnosing viral endophthalmitis.** *Wataru Yamamoto[1], T. Sato[1], A. Tanaka[2], S. Sugita[4], T. Kaburaki[3], M. Takeuchi[1].* [1]Ophthalmology, National Defense Medical College, Tokorozawa, Saitama, Japan.; [2]ENOKI eye clinic; [3]Ophthalmology, University of Tokyo, Bunkyo, Tokyo, Japan.; [4]Riken center for developmental biology, Kobe, Hyogo, Japan

2030 — *B0049* **Fundus Findings in Endocarditis: results of a new screening protocol for endogenous endophthalmitis.** *Michelle Abou-Jaoude, G. Oberst, l. Coyne, A. Cherry, D. Moore, C. Fraser.* College of Medicine, University of Kentucky, Department of Ophthalmolog

2031 — *B0050* **Aspergillus endophthalmitis : Clinical presentations and factors determining outcomes.** *Rajeev R. Pappuru[1], V. Dave[1], A. Pathengay[3], S. Sharma[2], J. Joseph Ruben[2], R. Gupta[1], S. Shukla[3], T. Das[1].* [1]Smt**.** Kanuri Santhamma Center for vitreoretinal diseases, L V Prasad eye institute; [2]Jhaveri Microbiology Center, L V Prasad Eye Institute; [3]Vitreoretina and Uveitis services GMR Varalakshmi campus, L V Prasad Eye Institute

2032 — *B0051* **Endophthalmitis Rates Following Anti-VEGF Intravitreal Injections with 10% Betadine.** *Amber Hoang[1], K. Harkins[1], M. Gutierrez Velez[2], B. Hayes II[1], M. Greven[1], C. M. Greven[1], R. Shah[1].* [1]Ophthalmology, Wake Forest Baptist Health; [2]Wake Forest School of Medicine

2033 — *B0052* **Endophthalmitis following cataract surgery: visual outcomes and culture results.** *Hannah J. Levin, P. Storey, M. Pancholy, S. N. Patel, T. D. Wibbelsman, A. Obeid, A. C. Ho.* The Retina Service, Wills Eye Hospital ***CR**

2034 — *B0053* **Post-Injection Endophthalmitis: Benefit of Adjunctive Vitrectomy Following Primary Intravitreal Antibiotics and Predictive Factors of Visual Outcomes.** *Errol W. Chan[1], M. Eldeeb[2], L. Nicholson[1], N. Okhravi[1], J. W. Bainbridge[1].* [1]Moorfields Eye Hospital; [2]St Michael's Hospital

2035 — *B0054* **Management of a Cluster of Endophthalmitis Cases due to Nutritionally Variant Streptococcus Following Intravitreal Bevacizumab.** *Alexander Barnes[3], M. Iyer[2], S. Rathbun[1], S. Yeh[3], C. Bergstrom[4], G. Hubbard[3].* [1]University of Georgia; [2]Augusta University/ University of Georgia Medical Partnership Athens Retina Center; [3]Emory Eye Center; [4]Retina Consultants of Carolina

2036 — *B0055* **Endophthalmitis After Intravitreal Injection at an Academic Center.** *Rajinder S. Nirwan[1], M. H. Bawany[2], D. Diloreto[1], M. M. Chung[1], R. S. Ramchandran[1], a. bessette[1], D. Kleinman[1], A. E. Kuriyan[1].* [1]Flaum Eye Institute, University of Rochester Medical Center; [2]University of Rochester School of Medicine and Dentistry

2037 — *B0056* **Outcomes of Endophthalmitis Post Cataract Surgery.** *Noreen Shaikh[2], M. Abdelaziz[1], R. Garfinkel[1].* [1]Retina Group of Washington; [2]Ophthalmology, Georgetown/ Washington Hospital Center

2038 — *B0057* **Predictors of Vitrectomy in Cases of Endophthalmitis Associated with Open Globe Injury.** *Aditya Uppuluri, L. Thangmathesvaran, M. A. Zarbin, N. Bhagat.* Rutgers New Jersey Medical School

2039 — *B0058* **Endophthalmitis: Is antibiotic resistance a threat?** *Alexander D. Port[1], A. Orlin[2], M. Gupta[2], B. Levine[2].* [1]Ophthalmology, Boston University Medical Center; [2]Ophthalmology, Weill Cornell Medicine

2040 — *B0059* **Evaluation of different therapeutical approaches on the clinical outcome of endophthalmitis patients.** *Marcel Kitsche, L. E. Pillunat, N. Terai.* University Eye Center at Carl Gustav Carus Dresden

West Exhibition Hall B0339-B0374

Monday, April 29, 2019 11:15 AM-1:00 PM

Lens

248 Cataract Surgery II

Moderators: Vasanth Rao and Matthew A. Reilly

2041 — *B0339* **Intracameral Phenylephrine to Arrest Intraoperative Intraocular Bleeding.** *Mukhtar Bizrah, M. Corbett.* Western Eye Hospital, Imperial College Healthcare NHS Trust

2042 — *B0340* **Impact of the Optiwave Refractive Analysis in Post-LASIK Patients Undergoing Cataract Surgery.** *Siri Yalamanchili[1], A. Parikh[1], D. Gemmel[2], S. Erzurum[1, 3].* [1]Northeast Ohio Medical University; [2]Research, St**.** Elizabeth Health Center; [3]Eye Care Associates

2043 — *B0341* **Implementation of a Cataract Pre-operative Risk Stratification System and its Predictive Value on Intra-Operative Complications and Post-Operative Results.** *Jason Fan, D. Gong, J. De Rojas, B. Winn, G. Cioffi, R. Chen.* Ophthalmology, Columbia University

2044 — *B0342* **Comparing The Safety And Efficiency Of Resident And Attending Cataract Surgery Using Two Different Techniques.** *Fredric J. Gross[1, 2], d. E. Garcia-Zalisnak[1].* [1]Ophthalmology, EVMS; [2]Ophthalmology, Veterans Adminstration Hospital

2045 — *B0343* **Clinical evaluation of the volume of intracameral cefuroxime injection post-cataract surgery.** *Simrun S. Virdee[1], R. Nitiahpapand[1], R. Patel[1], C. Gizzi[1], S. Balal[2], A. Sharma[1].* [1]Bedford Hospital, Moorfields Eye Unit; [2]Moorfields Eye Hospital

2046 — *B0344* **Comparison of toric IOL stability after combined 25-gauge vitrectomy surgery for ERM.** *Yuki Nakano[1], T. Fujita[1], A. Ono[1], M. Kobayashi[1], R. Osaka[1], Y. Takasago[1], C. Shiragami[1], A. Tsujikawa[2], S. Kiyoshi[1].* [1]Department of Ophthalmology, Kagawa University Faculty of Medicine; [2]Department of Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine ***CR**, ♂

2047 — *B0345* **Comparison of Visual Performance of four types of Diffractive Multifocal Intraocular Lenses.** *Farideh Doroodgar[1], F. Karimian[3], S. Niazi[4], A. Sanginabadi[2].* [1]Tehran University of Medical Science; [2]Iran University of Medical Science; [3]Shahid Beheshti University of Medical Science; [4]Shahid Beheshti University of Medical Science ♂

2048 — *B0346* **Visual and autorefraction outcomes following toric intraocular lens insertion without calculation of posterior corneal astigmatism in the UK National Health Service.** *Valerie P. Saw[1], A. Porteus[2], A. Warwick[2].* [1]Cornea/External Disease, Imperial College Trust and University College London; [2]Imperial College Healthcare Trust

2049 — *B0347* **Scleral-fixation intraocular lens surgical outcome: a retrospective case study series.** *Aishwarya Vijay, R. A. Adelman, J. Liu.* Opthalmology, Yale University School of Medicine

2050 — *B0348* **Iris-clip lens implantation in vitrectomised eyes.** *Sandro Di Simplicio, M. Mikhail.* Vitreoretinal Service, Royal Victoria Infirmary

2051 — *B0349* **A Simple, Novel Approach to Cataract Extraction in the Setting of a Mature Cataract and Miotic Pupil.** *Stephen LoBue[1, 2], P. Tailor[1, 3], T. LoBue[1].* [1]Ophthalmology, LoBue Laser Eye Center; [2]Lincoln Medical Center; [3]Medical College of Georgia

2052 — *B0350* **Wet Lab Training for Retrobulbar Block Injections Using Donated Animal Tissue.** *Duaa Sharfi, J. V. Giovinazzo, A. Gupta, R. B. Rosen.* Ophthalmology, New York Eye and Ear Infirmary, Mount Sinai

2053 — *B0351* **Femtosecond Laser-Assisted Cataract Surgery (FLACS) In Angle-Closure Glaucoma.** *Samin Hong[1, 2].* [1]Ophthalmology, Yonsei University College of Medicine; [2]Ophthalmology, Hong Samin Yonsei Eye Clinic

2054 — *B0352* **Refractive Outcomes of Four Point Scleral Fixation of Akreos A060 Intraocular Lens Using Gore-tex Suture.** *Kenneth Fan[1], N. Patel[1], D. Laura[1], N. A. Yannuzzi[1], B. K. Williams[1], S. Read[1], J. A. Fortun[1], L. J. Haddock[1], C. R. Henry[1, 2], S. H. Yoo[1], J. Sridhar[1], T. A. Albini[1], K. Donaldson[1], H. Flynn[1], J. Townsend[1].* [1]Ophthalmology, Bascom Palmer; [2]Retina Consultants of Houston **CR*

2055 — *B0353* **Necessity of correcting remaining astigmatism due to axis misalignment of implanted toric intraocular lenses.** *Hirotaka Tanabe[1, 2].* [1]Ophthalmology, Keio University School of Medicine; [2]Ophthalmology, Ashikaga Red Cross Hospital/Tsukazaki Hospital

2056 — *B0354* **Comparison of Divide-and-Conquer and Endocapsular Disassembly Methods in Preserving Endothelial Count.** *Jacob Reynolds, D. McCartney, D. Han, C. Gregg, J. Lee, C. Reppa.* Ophthalmology, Texas Tech Health Sciences Center

2057 — *B0355* **Phaco sleeve-assisted hydrodissection in cataract surgery: a novel technique for more controlled hydrodissection.** *Ravi Patel, S. S. Virdee, R. Nitiahpapand, C. Gizzi, S. Balal, A. Sharma.* Moorfields Eye Hospital NHS Foundation Trust **CR*

2058 — *B0356* **Anterior segment structural changes following pediatric cataract surgery.** *Libby Wei[1], S. Kalarn[1], H. H. Yeung[2], C. Martinez[2], M. R. Levin[1], O. Saeedi[1], M. Jaafar[2], W. Madigan[2], J. Alexander[1].* [1]Ophthalmology and Visual Sciences, University of Maryland School of Medicine; [2]Children's National Health System

2059 — *B0357* **Tilt and decentration of intraocular lens after flanged intrascleral fixation and sutured fixation evaluate by swept-source anterior segment optical coherence tomography.** *Yoshihiro Nakagawa, Y. Suzuki, T. Suzuki.* School of Medicine, Tokai University

2060 — *B0358* **An Eye on the Air: Settle Plate Testing to Measure Air Quality in a Tertiary Care Ophthalmology Department during Fast Track Vs. Regular Cataract Procedures.** *Aishwarya Sundaram[1], J. Head[2], I. Davis[2], M. Seamone[3], A. Russell-Tattrie[2], D. O'Brien[1], C. D. Seamone[1].* [1]Department of Ophthalmology and Visual Sciences, Dalhousie University; [2]Division of Infectious Diseases, Department of Medicine; [3]Department of Ophthalmology and Visual Sciences, University of Alberta

2061 — *B0359* **Calibrated side port incision in phacoemulsification.** *tushya om parkash, R. Om Parkash, S. Mahajan.* Dr Om parkash eye hospital

2062 — *B0360* **Influence of angle κ postoperative higher order aberrations employing two Diffractive Trifocal IOL platforms.** *Roberto Gonzalez-Salinas[1, 2], C. CORREDOR ORTEGA[3], G. Cervantes Coste[3], N. Casillas-Chavarin[3], D. Valdepeña[3], A. Mendez-León[3], D. Malacara[4, 2], C. VELASCO BARONA[3].* [1]Research Department, Asociación para Evitar la Ceguera en México; [2]Laboratorio Nacional de Optica de la Visión; [3]Anterior Segment Surgery, Asociación para Evitar la Ceguera en México; [4]Centro de Investigaciones en Óptica A.C. (CIO)

2063 — *B0361* **Quality of vision after bilateral multifocal intraocular lens implantation in pregeriatric Hispanic population, after refractive lens exchange.** *Jose A. Nava, N. R. Morales-Mancillas, J. E. Valdez.* Instituto de Oftalmologia - Catarata, Tec de Monterrey

2064 — *B0362* **Perioperative management of antithrombotic agents for cataract surgery: a survey of cataract surgeons in the United States Veterans Health Administration.** *Ronald W. Milam[1, 2], A. Chomsky[2, 3], P. B. Greenberg[4, 5].* [1]Cole Eye Institute, Cleveland Clinic Foundation; [2]Vanderbilt Eye Institute, Vanderbilt University Medical Center; [3]Ophthalmology, VA Tennessee Valley Healthcare System; [4]Ophthalmology, Providence VA Medical Center; [5]Ophthalmology, Brown University Alpert Medical School

2065 — *B0363* **Outcomes of Artisan aphakia iris claw anterior chamber intraocular lens placement in children.** *Adam J. Cantor, D. Plager.* Ophthalmology, Indiana University School of Medicine

2066 — *B0364* **Yamane sutureless scleral fixated intraocular lenses: the Victorian experience.** *John R. Rocke[1], L. Fry[1], W. Atkins[1], D. Fabinyi[1], A. Sheridan[1], P. J. Allen[1, 2], T. Edwards[1, 2].* [1]Royal Victorian Eye and Ear Hospital; [2]Centre for Eye Research Australia

2067 — *B0365* **Visual acuity outcomes of cataract surgery in persons with type 2 diabetes: the Action to Control Cardiovascular Risk in Diabetes (ACCORD) Study.** *Debora H. Lee[1], E. Agron[1], T. D. Keenan[1], C. M. Greven[2], R. P. Danis[3], J. F. Lovato[4], W. T. Ambrosius[4], E. Y. Chew[1].* [1]National Eye Institute; [2]Ophthalmology, Wake Forest University School of Medicine; [3]Ophthalmology & Visual Sciences, University of Wisconsin, Madison; [4]Biostatistical Sciences, Wake Forest University School of Medicine ↗

2068 — *B0366* **Risk of posterior capsule rupture in eyes receiving intravitreal anti-VEGF injections prior to cataract surgery.** *D. Claire Miller[1, 2], J. Patnaik[1], A. Lynch[1], N. Mandava[1], M. Wildes[1], M. Taravella[1].* [1]Ophthalmology, University of Colorado School of Medicine; [2]Biostatistics, Colorado School of Public Health

2069 — *B0367* **The Impact of First and Second Eye Cataract Surgery on Motor Vehicle Crashes and Associated Costs.** *Lynn Meuleners, K. Brameld, M. Fraser, K. Chow.* Curtin Monash Accident Research Centre, Curtin University

2070 — *B0368* **The incidence of cystoid macular edema following uncomplicated phaco-emulsification cataract surgery in patients with and without epiretinal membrane.** *Colt Crymes[1], S. Berding[2], E. Myers[3], R. Toutkoushian[4], B. Crymes[5, 7], E. Patterson[5, 7], A. Demarco[5, 7], W. Sams[5, 7], M. N. Iyer[6, 7].* [1]University of Queensland-Ochsner Clinical School; [2]Philadelphia College of Osteopathic Medicine; [3]Medical College of Georgia; [4]University of Georgia; [5]Athens Eye Doctors & Surgeons, LLC; [6]Athens Retina Center; [7]Augusta University/University of Georgia Medical Partnership

2071 — *B0369* **Ten-year history of eyes with Retrodots – Monzen Eye Study –.** *Hiroshi Sasaki[1], E. Shibuya[1], N. Mita[1], H. Miyashita[1], N. Tanimura[4, 1], T. Shibata[1], H. Ishida[1], A. Arimoto[2, 1], K. Hagihara[3, 1], E. Kubo[1].* [1]Department of Ophthalmology, Kanazawa Medical University; [2]Anamizu General Hospital; [3]Ushitsu General Hospital; [4]Shinseikai Toyama Hospital

2072 — *B0370* **Ocular Comorbidities as Risk Factors for Refractive Surprise Following Cataract Surgery.** *Matthew D. Geiger, J. Patnaik, D. Miller, M. Taravella, R. Davidson, A. Palestine, N. Mandava, A. Lynch, K. Christopher, L. K. Seibold.* The University of Colorado Opthalmology **CR*

2073 — *B0371* **An Overview of Health Technology Assessments for Advanced Technology Intraocular Lenses.** *Paul Ursell[1], M. Dhariwal[2], M. Ainslie-Garcia[3], m. bourque[3].* [1]Ophthalmology, Epsom Hospital; [2]Alcon; [3]Cornerstone Research Inc **CR*

2074 — *B0372* **Prevalence of axial myopia and hyperopia in candidates for cataract surgery in Mexico.** *Schenny Murra Antón, A. Serrano Ahumada, R. Gonzalez-Salinas.* Anterior Segment, Asociación para Evitar la Ceguera en México, Hospital Luis Sánchez Bulnes

2075 — *B0373* **Demographics and Outcomes of Cataract Surgery in Rural Nepal.** *Poorav Patel[1], S. Bhatta[2], S. Awasthi[2], M. Lieberman[1].* [1]California Pacific Medical Center; [2]Geta Eye Hospital

2076 — *B0374* **Refining Metrics for Assessing the Quality of Care of Patients Undergoing Cataract Surgery for Use in Big Data Analyses.** *Eric Weinlander[1], N. Talwar[1], J. Weizer[1], S. Saleem[2], S. Pershing[3], B. Stagg[4], J. Mwanza[5], A. Lynch[6], A. Sugar[1], P. P. Lee[1], J. D. Stein[1].* [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai; [3]Ophthalmology, Stanford University; [4]Ophthalmology, Duke University; [5]Ophthalmology, University of North Carolina at Chapel Hill; [6]Ophthalmology, University of Colorado

West Exhibition Hall B0375-B0384

Monday, April 29, 2019 11:15 AM-1:00 PM

Lens

249 Posterior Capsular Opacification

Moderator: Frank J. Lovicu

2077 — *B0375* **Reactive Oxygen Species Play a Key Role in Endoplasmic Reticulum Stress Triggered by Sulforaphane in Human Epithelial Lens Cells.** *Ngoc Phuong Thao Huynh, M. Wormstone.* University of East Anglia

2078 — *B0376* **Large-scale analysis of intraocular lens opacifications using digital automated detection software.** *Christina Mastromonaco[1], M. Balazsi[2], J. Burnier[1], J. Coblentz[1], J. Lasiste[1], M. N. Burnier[1].* [1]The MUHC-McGill University Ocular Pathology & Translational Research Laboratory; [2]Medical Parachute **CR*

2079 — *B0377* **The epigenetic signaling pathway EZH2-H3K27me3 mediates AKT kinase controls of Epithelial-Mesenchymal Transition of Lens Epithelial Cells.** *LAN ZHANG[1], J. Xie[1, 2], Y. Xiao[1, 2], Z. Chen[1], J. Xiang[1, 2], Y. Liu[1], D. Li[1].* [1]Zhongshan Ophthalmic Center, Sun Yat-sen University; [2]Hunan Normal Univ

2080 — *B0378* **Histological comparison of in vitro and in vivo development of posterior capsule opacification in human donor tissue.** *Justin Christopher D'Antin[4, 1], C. Ribeiro Koch[2], F. Tresserra[3], R. Michael[4, 1], R. I. Barraquer[4, 1].* [1]Centro de oftalmología Barraquer; [2]University of São Paulo, USP; [3]Institut Universitari Dexeus; [4]Institut Universitari Barraquer

2081 — *B0379* **HSP90 as a novel therapeutic target for posterior capsule opacification.** *Yanzhong Hu, J. Li.* Cell Biology and Genetics, Henan Univeristy School of Medical Science

2082 — *B0380* **The predictors of posterior capsular opacification after refractive lens exchange.** *Tianyi Zhang, J. Schallhorn.* University of California San Francisco

2083 — *B0381* **Developement of a two component safety drug system for prevention of PCO with photodynamic therapy (PDT) with verteporfin and an antioxidative safety-supplement for PDT- effect reversal - an in vitro study on hLECs.** *Valeska A. Mueller[1], N. W. Schwarz[2].* [1]Opthalmology, City Augenarzt; [2]Ophthalmology, Augentagesklinik Warschauer Str

2084 — *B0382* **Super-enhancers inhibitor THZ1 suppresses TGFβ2-mediated EMT in Lens epithelial cells via Notch and TGFβ/Smad signaling pathway.** *Jie Ning, H. Shen.* Zhongshan Ophthalmic Center, Sun Yat-sen University

2085 — *B0383* **Long-term outcome of Nd:YAG laser posterior capsulotomy in children: Procedural strategies and visual outcome.** *Hyuk Jin Choi.* Ophthalmology, Seoul National University Hospital

2086 — *B0384* **BMP-4 inhibits proliferation and TGF-β-induced EMT in lens epithelial cells.** *Mingxing Wu, Y. Qin, H. Chen.* Cataract, Zhongshan Ophthalmic Center

West Exhibition Hall B0385-B0400

Monday, April 29, 2019 11:15 AM-1:00 PM

Physiology/Pharmacology

250 Cornea and lens

Moderator: Catherine A. Opere

2087 — *B0385* **CBT-001 ophthalmic solution for pterygium treatment-efficacy in rabbit corneal neovascularization model and human pterygium graft mouse model.** *Rong Yang[1], J. Ni[1], V. Dinh[1], J. Yang[2].* [1]Cloudbreak Therapeutics; [2]T2B Infrastructure Center for Ocular Disease, Inje University Busan Paik Hospital **CR*

2088 — *B0386* **Cost-Effectiveness analysis of addition of antifungal agents to cold storage media in tissues for Endothelial Keratoplasty.** *Allister Gibbons[1], E. H. Leung[2].* [1]Cornea, Bascom Palmer Eye Institute; [2]Ophthalmology, Baylor College of Medicine

2089 — *B0387* **Effects of nonsteroidal anti-inflammatory eye drop and steroid eye drop on bacterial kerartitis.** *Jae Woong Koh, H. Lim.* Ophthalmology, Chosun University Hospital ↗

2090 — *B0388* **The impact of alpha lipoic acid eyedrops on tear break-up time in patients with dry eye disease.** *Wiktor Stopyra.* Private Ophthalmic Hospital

2091 — *B0389* **Lens osmotic homeostasis involves TRPV1 channels as well as TRPV4.** *Nicholas A. Delamere[1, 3], A. Mandal[1], R. Mathias[2], J. Gao[2], M. Shahidullah[1, 3].* [1]Physiology, University of Arizona; [2]Physiology and Biophysics, Stony Brook University; [3]Ophthalmology and Vision Science, University of Arizona

2092 — *B0390* **A novel compound to protect ocular surface epithelial cells from BAK-induced cytotoxicity.** *Ali R. Djalilian[1], B. Rabiee[1], E. Ghahari[2], I. Putra[1], K. Anwar[1], X. Shen[1], M. Eslani[1], A. Aref[1], M. Rosenblatt[1].* [1]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]Department of Ophthalmology, University of California San Diego **CR*

2093 — *B0391* **Novel calcium chelating agent for the treatment of corneal mineralisation.** *Naomi Bennett[1], L. J. Hill[2], G. Begum[2], L. Grover[1].* [1]Chemical Engineering, Healthcare Technologies Institue; [2]Institute of Inflammation and Ageing, Medical and Dental Sciences, University of Birmingham

2094 — *B0392* **A novel nintedanib ophthalmic nanosuspension (AG-86893) for the treatment of pterygium.** *Tan Nguyen[1], S. Lai[1], T. Malone[2], L. A. Wheeler[3], M. Cherukury[1].* [1]Allgenesis Biotherapeutics Inc.; [2]TCM Consulting; [3]Zeteo Discovery Research LLC **CR*

2095 — *B0393* **Evaluation of stability of extemporaneously compounded vancomycin ophthalmic solutions.** *Ajay Sharma, J. Pak, B. Sayed, J. Yamaki.* Chapman University School of Pharmacy

2096 — *B0394* **Maintenance of tissue stiffness via metabolism in Presbyopia.** *Motoshi Hayano[1], H. Nagashima[1], S. Amano[1], A. Sakuma[2], T. Hishiki[3, 4], M. Suematsu[3], K. Tsubota[1].* [1]Ophthalmology, Keio University School of Medicine; [2]Kyoto Institute of Technology; [3]Department of Biochemistry, School of Medicine, Keio University; [4]Clinical and Translational Research Center, Keio University School of Medicine

2097 — *B0395* **Association of fungal species, *in vitro* susceptibility, and *in vivo* antifungal agent efficacy for isolates sampled from equine fungal keratitis.** *Megan Cullen[1], M. Jacob[3], V. Cornish[2], I. VanderSchel[2], H. V. Cotter[2], M. A. Cubeta[2], I. Carbone[2], B. C. Gilger[1].* [1]Department of Clinical Sciences, North Carolina State University; [2]College of Agriculture and Life Sciences, North Carolina State University; [3]Department of Population Health and Pathobiology, North Carolina State University

2098 — *B0396* **Efficacy of Autologous Serum Tears for the Treatment of Ocular Surface Disease.** *Parker Bussies[1], R. Diel[1, 4], A. Galor[2, 3].* [1]University of Miami Miller School of Medicine; [2]Bascom Palmer Eye Institute; [3]Ophthalmology, Miami Veterans Affairs Hospital; [4]Ophthalmology, University of Iowa Hospitals and Clinics

2099 — *B0397* **Pharmacodynamic Effect and Corneal Wound Healing of OTX-BPI, a Sustained Release Bupivacaine Intracanalicular Hydrogel Insert in Beagle Dogs.** *Rami F. Elhayek, J. Dexter, N. Bello, E. Kahn, S. Manning, C. D. Blizzard, A. Driscoll, J. Metzinger, M. H. Goldstein, P. K. Jarrett.* R&D, Ocular Therapeutix **CR*

2100 — *B0398* **The miR-29b mimic remlarsen inhibits fibrosis of a corneal ulcer by preventing EMT and reducing profibrotic gene expression.** *Corrie Gallant-Behm, S. Propp, A. L. Jackson.* miRagen Therapeutics Inc**.** **CR*

2101 — *B0399* **Brittle Cornea Syndrome:Molecular Diagnosis and Management.** *Lucia Lapenna[1], E. Albè[2], E. Ponzi[3], R. Ficarella[4], M. Gentile[5], T. Avitabile[6], A. Acquaviva[1].* [1]Ophtalmology, Di Venere Hospital; [2]Ophthalmology, Istituto Clinico Humanitas; [3]Medical Genetics, Di Venere Hospital; [4]Medical Genetics, Di Venere Hospital; [5]Medical Genetics, Di Venere Hospital; [6]Ophthalmology, Policlinico-Vittorio Emanuele

2102 — *B0400* **Effect of VEGF-C Inhibition on Corneal Neovascularization.** *Shruti Aggarwal[1], M. Kelly-Goss[2], R. Sieburth[2], P. Netland[2], S. Pierce-Cottler[2].* [1]Ophthalmology/ Cornea Surgery, Bascom Palmer Eye Institute; [2]University of Virginia

West Exhibition Hall B0401-B0448

Monday, April 29, 2019 11:15 AM-1:00 PM

Cornea

251 Corneal imaging and topography

Moderators: Anthony N. Kuo and Sangly P. Srinivas

2103 — *B0401* ***In vivo*** **imaging of Bowman's layer dystrophies (Reis-Bücklers and Thiel-Behnke corneal dystrophies) using anterior segment optical coherence tomography.** *Tsubasa Nishino, A. Kobayashi, H. Yokogawa, N. Mori, K. Sugiyama.* Kanazawa Univ Sch of Medicine

2104 — *B0402* **A New Topographic "Quad Signs" for Diagnosis and Grading of Pellucid Marginal Degeneration.** *Sare Safi[1, 2], M. Jafarinasab[1, 3], S. Feizi[3, 4], M. Seifi[1, 3], M. H. Babaei Zarch[1, 3].* [1]Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences; [2]Ophthalmic Epidemiology Research Center, Shahid Beheshti University of Medical Sciences; [3]Department of Ophthalmology, Labbafinejad Medical Center, Shahid Beheshti University of Medical Sciences; [4]Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences

2105 — *B0403* **Comparison of central corneal thickness measurements of non-contact Tonoref III and two ultrasound pachymetry devices OcuScan RxP and SP-100.** *Emmanouil V. Christodoulakis[1], K. C. Lazari[1], M. N. Karpathaki[1], M. Linardakis[2], K. G. Chliveros[3].* [1]Department of Ophthalmology, Rethymno General Hospital; [2]Department of Social Medicine, Faculty of Medicine, University of Crete; [3]Clinic of Social & Family Medicine, University of Crete, School of Medicine

2106 — *B0404* **Correlation of OSDI and ocular surface measurements through Keratograph 5M according to different age groups.** *Oscar Fernandez Vizcaya, C. Pacheco Del Valle, O. Baca Lozada, R. Velasco Ramos, E. Alegria Gomez, A. Babayan Sosa.* Cornea, Fundación Hospital Nuestra Señora de la Luz

2107 — *B0405* **Healthy vs pathological classification of corneal nerves images using deep learning.** *Fabio Scarpa, A. Colonna, A. Ruggeri.* University of Padova

2108 — *B0406* **Reliability of physicians' measurements when manually annotating images of microbial keratitis.** *Matthias F. Kriegel[1, 2], J. Loo[3], V. Prajna[4], S. Farsiu[5], M. Tuohy[1], P. M. Gompa[4], L. Niziol[1], M. A. Woodward[1].* [1]Ophthalmology and Visual Sciences, University of Michigan, Kellogg Eye Center; [2]Ophthalmology, Augenzentrum am St**.** Franziskus Hospital Muenster; [3]Biomed Engineering, Duke university; [4]Department of Cornea and Refractive Services, Aravind Eye Care System; [5]Ophthal & Biomed Engineering, Duke University **CR*

2109 — *B0407* **Imaging of corneal scars using polarization sensitive OCT.** *Stephan Holzer, F. Beer, N. Pircher, G. Schmidinger, M. Pircher, C. K. Hitzenberger, J. Lammer.* Medical University of Vienna

2110 — *B0408* **Analysis on depth of corneal neovascularization using anterior segment optical coherence tomography angiography in patients following cultivated oral mucosal epithelial sheet transplantation.** *Shoko Kiritoshi, Y. Oie, K. Nampei, M. Morota, S. Sato, R. Kobayashi, T. Nakao, T. Soma, S. Koh, K. Maruyama, S. Kawasaki, M. Tsujikawa, N. Maeda, K. Nishida.* Ophthalmology, Osaka University Graduate School of Medicine **CR*

2111 — *B0409* **Quantitative Analysis of Mosaic Nerve Fiber Length Density (mCNFL) in the Corneal Sub-basal Layer in Type 2 Diabetes (T2DM), based on Analysis of Region of Interest (ROI).** *Reza A Badian[1], T. P. Utheim[2, 3], N. S. Lagali[4].* [1]Faculty of Visual and Health Sciences, University of South-Eastern Norway; [2]Department of Medical Biochemistry, Oslo University Hospital; [3]Department of Plastic and Reconstructive Surgery, Oslo University Hospital; [4]Department of Ophthalmology, Linkoping University

2112 — *B0410* **Changes in the Anterior Segment Morphology and Iris-trabecular Contact in Patients with Keratoconus Undergoing Deep Anterior Lamellar Keratoplasty.** *Yue Li.* Eye, and ENT Hospital, Fudan University

2113 — *B0411* **Comparison of astigmatism value with Barrett online calculator by using different measuring instruments in aged related cataract patients.** *XU CHEN[1, 2], K. Wei[2], H. Liu[1].* [1]Aier School of Ophthalmology, Central South University.; [2]Department of Cataract and Glaucoma, Shanghai Aier Hospital

2114 — *B0412* **Repeatability and Reliability of a Combined Dual-Scheimpflug Placido Disc Corneal Topographer in Eyes with Keratoconus.** *Anne Poulsen[1], D. Jang[1], M. Khan[2], Z. N. Al-Mohtaseb[2], M. Chen[1], T. O'Rourke[1], D. Williams[1], K. Banerjee[1], X. Zhan[1], I. U. Scott[1], S. Pantanelli[1].* [1]Ophthalmology, Penn State Medical Center; [2]Ophthalmology, Baylor College of Medicine **CR*

2115 — *B0413* **Combination of AS-OCT and Placido disc topography in keratoconus patient.** *domenico schiano lomoriello, V. Bono, g. savini.* IRCCS-Fondazione Bietti

2116 — *B0414* **Biomechanical and tomographic Characteristics of the " Central Keratokonus".** *Elena Zemova[1, 2], T. Nzau[1], U. kluespies[1], L. Hamon[1], A. Langenbucher[2], N. Szentmary[1], B. Seitz[1], E. Flockerzi[1].* [1]Department of Ophthalmology, Saarland University Medical Center; [2]Institute of Experimental Ophthalmology, Saarland University Medical Center

2117 — *B0415* **Classical progression markers of keratoconus : pertinence in keratoconus progression evaluation after accelerated crosslinking (A-CXL).** *SOT Maxime, D. Marie, L. Lhuillier, J. Menet, c. goetz, N. Ouamara, J. Perone.* Ophtalmology, Chr Metz Thionville

2118 — *B0416* **Corneal Topography Parameters and Tear Film Breakup Characteristic in Keratoconus Patients.** *Dan Wu, J. Xu.* Department of Ophthalmology, Shanghai Eye, Ear, Nose and Throat Hospital

2119 — *B0417* **The Change in corneal anterior-posterior area ratio after penetrating keratoplasty with keratoconus by using anterior segment optical coherence tomography.** *GAKU ISHIDA, K. Kitazawa, M. Itoi, T. Inatomi, S. Kinoshita, C. Sotozono.* Kyoto prefectural university of medicine **CR*

2120 — *B0418* **Automatic Algorithm to Evaluate Orthokeratology Lenses Centration Fitting.** *Zhiqiang He[1], K. Li[1], K. Niu[1], F. Luo[2], H. Song[2].* [1]Beijing University of Posts and Telecommunications; [2]Center for Visual Science, Beijing Tongren Eye center

2121 — *B0419* **Changes in corneal densitometry after secondary Descemet Membrane Endothelial Keratoplasty (DMEK).** *Ingo Schmack[1], B. Agha[1], D. G. Dawson[2], T. Kohnen[1].* [1]Ophthalmology, University of Frankfurt; [2]Ophthalmology, University of Florida

2122 — *B0420* **Histology and OCT features of corneal stromal striae in an ovine animal model.** *Maria Silvana Galantuomo[1], P. Napoli[1], E. D'Aloja[2], A. Riva[3], F. Loy[3], M. Nioi[2], M. Fossarello[1].* [1]Surgical Science, Eye Clinic University of Cagliari; [2]Clinical Sciences and Public Health, Forensic Medicine Unit University of Cagliari; [3]Biomedical Sciences, Cytomorphology University of Cagliari

2123 — *B0421* **Non-contact laser confocal microscope for corneal imaging.** *Michele Pascolini, M. Minozzi, F. Carraro, N. Codogno, R. Pajaro, C. Tiso, S. Pajaro, C. Tanassi.* NIDEK Technologies Srl **CR*

2124 — *B0422* **Comparison of long-term corneal topographic changes after surgery of recurrent pterygia and primary pterygia.** *Takashi Ono[1, 2], Y. Mori[1], R. Nejima[1], K. Abe[1], J. Lee[1], T. Iwasaki[1], M. Aihara[2], K. Miyata[1].* [1]Ophthalmology, Miyata Eye Hospital; [2]Ophthalmology, the University of Tokyo

2125 — *B0423* **Central and peripheral cornea, limbal palisades of Vogt and blood flow visualized with cell-resolution non-contract *en face* full-field OCT.** *Viacheslav Mazlin[1], J. Scholler[1], P. XIAO[2], K. Irsch[3, 4], K. Grieve[3, 4], J. A. Sahel[3, 4], M. Fink[1], C. Boccara[1, 5].* [1]Institute Langevin; [2]Zhongshan Ophthalmic Centre, Sun Yat-sen University; [3]Quinze-Vingts National Eye Hospital; [4]Institut de la Vision; [5]LLTech SAS **CR*

2126 — *B0424* **Agreement and repeatability of the assessment of central corneal thickness using a novel optical coherence based biometer.** *Alexander Leube[1, 2], R. Agarwala[1], S. Wahl[1, 2].* [1]Ophthalmic Research Institute, University Tuebingen; [2]Technology and Innovation, Carl Zeiss Vision International GmbH **CR*

2127 — *B0425* **The Iris Camera Corneal Opacification Measurements may be a Useful Tool for Determining Disease Progression.** *CHIMDI E. EMMA-DURU[1, 2], C. Hillarby[1, 2], F. Carley[3], D. Morley[4], T. Aslam[1, 2].* [1]School of Health Science, Faculty of Biology Medicine and Health, The University of Manchester; [2]Division of Pharmacy and Optometry, School of Health Sciences, Manchester Royal Eye Hospital; [3]Ophthalmology, Manchester Royal Eye Hospital; [4]Cornea, Manchester Royal Eye Hospital ↗

2128 — *B0426* **Simulated keratometry using microscope-integrated optical coherence tomography.** *Hessam Roodaki[1, 2], W. Chen[3], D. Zapp[4], A. Eslami[1].* [1]Carl Zeiss Meditec; [2]Technische Universität München; [3]Carl Zeiss Meditec; [4]Klinik und Poliklinik für Augenheilkunde, Technische Universität München **CR*

2129 — *B0427* **Evaluation of ocular burns with Spectral Domain Optical Coherence Tomography.** *Rafael Barrera Redondo, O. Fernandez Vizcaya.* Hospital de la Luz

2130 — *B0428* **Corneal topography by specular reflection: a low-cost null-screen dynamic method.** *Martin I. Rodriguez Rodriguez, A. Carmichael Martins, B. Vohnsen.* School of Physics,, University College Dublin, Dublin, Ireland

2131 — *B0429* **Applanation force monitoring during *in vivo* corneal confocal laser scanning microscopy.** *Sebastian Bohn[1, 2], K. Sperlich[1, 2], H. Stolz[3], R. F. Guthoff[1, 2], O. Stachs[1, 2].* [1]Department of Ophthalmology, Rostock University Medical Center; [2]Department Life, Light & Matter, University Rostock; [3]Institute of Physics, University Rostock

2132 — *B0430* **Pterygium surgery and pre and postoperative analysis of corneal curvature.** *Thayana D. Rettor, W. A. ribeiro, E. Hoyama, I. L. oliveira, T. Matsuo, N. Hasegawa.* Hoftalon - Centro de Estudo e Pesquisa da Visão

2133 — *B0431* **Deep learning segmentation of the mouse cornea from anterior segment OCT in the presence of non-corneal and non-physiologic structures.** *Nambi Nallasamy[1], Y. Liu[2], A. N. Kuo[3].* [1]Ophthalmology and Visual Science, University of Michigan; [2]Cellular Biology and Anatomy, Augusta University; [3]Ophthalmology and Biomedical Engineering, Duke University **CR*

2134 — *B0432* **Regional analysis of Endothelium/Descemet's thickness in active corneal graft rejection.** *Taher K. Eleiwa[1], A. Elsawy[1, 2], V. Roongpoovapatr[1], M. Abou Shousha[1].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]Electrical and Computer Engineering, University of Miami COE **CR*

2135 — *B0433* **Malapposition of Graft-host Interface after Keratoplasty: an optical coherence tomography study.** *Yujin Zhao, H. Zhuang, J. Hong, J. Xu.* Eye & ENT Hospital of Fudan University

2136 — *B0434* **Improving the Scleral Clarity to Enable the Imaging of the Trabecular Meshwork using 800 nm Optical Coherence Tomography.** *Patrice Tankam, S. Murugan.* School of Optometry, Indiana University

2137 — *B0435* **Full assessment of cornea structure with a combined confocal Mueller Matrix and non-linear microscope.** *Jessica C. Ramella-Roman[1], J. Chue-Sang[1], M. Laughrey[1], N. Lopez[2], I. Saytashev[1].* [1]Herbert Wertheim College of Medicine, Florida International University; [2]Florida International University

2138 — *B0436* **Graph-based segmentation of corneal epithelium and enodthelium in Optical Coherence Tomography images.** *Amr Elsawy[1, 2], V. Roongpoovapatr[1], T. K. Eleiwa[1], G. Gregori[1], M. Abdel-Mottaleb[2], M. Abou Shousha[1, 2].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]Electrical and Computer Engineering, University of Miami **CR*

2139 — *B0437* **Objective and quantitative analysis of corneal transparency with clinical spectral-domain optical coherence tomography.** *Romain Bocheux[1, 2], B. Riviere[1, 2], P. Pernot[3], C. Georgeon[2], V. Borderie[2], K. Irsch[2], K. Plamann[1].* [1]Laboratoire d'Optique et Biosciences (LOB) – École polytechnique, CNRS UMR 7645, INSERM U 1182, and LOA – ENSTA ParisTech, École polytechnique, CNRS UMR 7639; [2]Institut de la Vision / Quinze-Vingts National Eye Hospital – Sorbonne University, CNRS UMR 7210, INSERM U 968; [3]Laboratoire de Chimie Physique – Université Paris Sud, CNRS UMR 8000

2140 — *B0438* **Enhanced ocular spot fluorometry in the frequency domain.** *Debra N. Rankin[1], S. Lingesh[2], V. Akshata[2], S. Murugan[1], P. Padmanabhan[3], S. R. Rachapalle[3], R. Babu[2], S. P. Srinivas[1].* [1]Indiana University; [2]Computer Science, DSCE College; [3]Opthamology, Medical Foundation

2141 — *B0439* **Correction of Optical Distortion in Scheimpflug Imaging of a Deformed Cornea at Maximum Concavity when Loaded by an Air-Puff.** *Monica Okon[1], Y. Ma[1], J. Liu[1, 2], C. J. Roberts[2, 1].* [1]Biomedical Engineering, The Ohio State University; [2]Ophthalmology, The Ohio State University **CR*, ↗

2142 — *B0440* **Peripheral ulcerative keratitis analysis in anterior segment-optical cocherence tomography : a case series.** *Louis DEBILLON, C. Bonnet, D. Monnet, A. Brézin.* Hopital Cochin

2143 — *B0441* **Anatomy of Corneal Perforations determined by Anterior Segment Optical coherence tomography (ASOCT).** *Amna ALMAAZMI, D. Said, M. Messina, d. harminder.* Division of Clinical Neuroscience, Department of Ophthalmology, Queen's Medical Center, University of Nottingham

2144 — *B0442* **Validation of a novel confocal microscopy imaging protocol with assessment of inter-rater correlation in patients with and without dry eyes.** *Jaskirat Takhar[2, 1], G. Seitzman[2, 3], J. Keenan[2, 3], J. A. Gonzales[2, 3].* [1]John A Burns School of Medicine; [2]Proctor Foundation, University of California, San Francisco; [3]Department of Ophthalmology, University of California, San Francisco

2145 — *B0443* **Depth-dependent analysis of corneal cross-linking performed over or under the LASIK flap by Brillouin microscopy.** *James B. Randleman[1], H. Zhang[1], m. roozbahani[1], A. L. PICCININI[1], G. Scarcelli[2].* [1]Ophthalmology, USC Roski Eye Institute; [2]Bioengineering, Univeristy of Maryland

2146 — *B0444* **The effect of statin use on overall corneal clarity in UK participants examined using Pentacam® densitometry.** *Mohammad N. Usman[2, 1], T. Raven-Martin[2, 1], F. Carley[1], K. Alzahrani[2, 1], C. Hillarby[2, 1].* [1]Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester, Manchester Academic Health Science Centre; [2]School of Health Science, Faculty of Biology, Medicine and Health, University of Manchester

2147 — *B0445* **Corneal Neovascularization Evaluated By Angioplex® OCT Angiography.** *Michelle L. Farah, E. Menegotto, T. Mizushima, C. Zett Lobos, M. Endo, A. Hofling-Lima.* Ophtalmology, Unifesp

2148 — *B0446* **A mathematical model for corneal posterior astigmatism calculus based on corneal anterior astigmatism.** *Cristina Pacheco Del Valle.* Cornea, Hospital de la Luz

2149 — *B0447* **Agreement of Three Topographers in Assessing the Shapes of Normal Corneas.** *Frank Spors[1], J. Shen[1], D. Tsang[1], L. McNaughton[1], D. J. Egan[2], P. G. Davey[1].* [1]Western University of Health Sciences; [2]Kentucky College of Optometry, University of Pikeville

2150 — *B0448* **Intraocular Pressure (IOP) and Anterior Segment Findings in Schizophrenia.** *Hampton Addis[1], E. Hong[2], H. O'Neill[2], O. Saeedi[1].* [1]Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine; [2]Department of Psychiatry, University of Maryland School of Medicine **CR*

West Exhibition Hall B0449-B0483

Monday, April 29, 2019 11:15 AM-1:00 PM

Cornea

252 Corneal Endothelium I

Moderators: Isabelle Brunette and Noriko Koizumi

2151 — *B0449* **Regulation of lipid peroxidation in corneal endothelial cells by peroxiredoxin 1.** *Matt Lovatt, V. Kocaba, J. S. Mehta.* Tissue Engineering and Stem Cell Group, Singapore Eye Research Institute

2152 — *B0450* **Hyperlipidemia disrupts corneal endothelium.** *JingHua Bu[1, 2], J. YU[1, 2], Y. Wu[1, 2], X. He[1, 2], H. He[1], Z. Liu[1, 2], W. Li[1, 2].* [1]Eye institute of Xiamen university; [2]Ophthalmology, Xiang'an Hospital of Xiamen University

2153 — *B0451* **Targeting non-muscle myosin II promotes corneal endothelial wound healing through regulating lamellipodial dynamics.** *Wei-Ting Ho[1, 2].* [1]Department of Ophthalmology, Far Eastern Memorial Hospital; [2]Graduate Institute of Clinical Medicine, College of Medicine, National Taiwan University

2154 — *B0452* **Bioenergic nucleotide nanoparticles increases survival of corneal endothelial cells by activating Na^+/K^+ dependent ATPase.** *Kui Dong Kang[2], R. Afzal[2], H. Hwang[2], S. Kim[1].* [1]Ophthalmology, YonSei Eye Hospital; [2]Ophthalmology, The Catholic University of Korea

2155 — *B0453* **Distribution and retention of clinical grade magnetic nanoparticles in human corneal endothelial cells for cell therapy.** *Olga Kuzmenko[1], N. J. Kunzevitzky[1, 2], J. L. Goldberg[1].* [1]Byers Eye Institute at Stanford; [2]Emmecell **CR*

2156 — *B0454* **A Non-Invasive Physical Biomarker for Evaluation of Corneal Endothelial Cells.** *Hiroshi Tanaka[1], A. Yamamoto[4], M. Toda[1], C. Sotozono[1], J. Hamuro[1], S. Kinoshita[2], M. Ueno[1], M. Tanaka[4, 3].* [1]Ophthalmology, Kyoto Prefectural University of Medicine; [2]Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine; [3]Physical Chemistry of Biosystems, Physical Chemistry; [4]Center for Integrative Medicine and Physics, Advanced Study

2157 — *B0455* **Discovery of aqueous humor biomarkers associated with corneal endothelial cell dysfunction using proteomic analysis.** *Yong Woo Ji[1], S. Ryu[2, 1], C. Moon[2, 1], H. Lee[3], J. Jung[2, 3], K. Kim[3], H. Lee[2].* [1]Ophthalmology, National Health Insurance Service Ilsan Hospital; [2]Ophthalmology, Yonsei College of Medicine, Severance Hospital; [3]Applied Chemistry, Kyung Hee University

2158 — *B0456* **The NH_3/H^+ Transporter Slc4a11 Facilitates Glutamine-dependent Mitochondrial Function and ROS Prevention by Mitochondrial Uncoupling.** *Diego G. Ogando, M. Choi, R. Shyam, E. T. Kim, S. Li, J. A. Bonanno.* School of Optometry, Indiana University

2159 — *B0457* **SLC4A11 is a mitochondrial protein in corneal endothelium.** *Moonjung Choi, D. G. Ogando, S. Li, R. Shyam, J. A. Bonanno.* School of Optometry, Indiana University

2160 — *B0458* **Autophagy and mitophagy in SLC4a11 KO Corneal Endothelial cells.** *Raji Shyam, D. G. Ogando, M. Choi, J. A. Bonanno.* Optometry, Indiana University Bloomington

2161 — *B0459* **Transcriptomic analysis of PPCD and the generation of a cell-based model of PPCD using CRISPR-Cas9 gene editing.** *Doug Chung[1], R. F. Frausto[1], V. Swamy[1], L. Carrigan[2], D. Wong[2], M. Morselli[3], M. Pellegrini[3], A. J. Aldave[1].* [1]Ophthalmology, Jules Stein Eye Institute, UCLA; [2]Department of Statistics, University of California, Los Angeles; [3]Quantitative and Computational Biology, UCLA

2162 — *B0460* **Extracellular matrix deposition by human corneal endothelial cells *in vitro*.** *Jennifer Young[1], D. Harkin[1, 2].* [1]Research, Queensland Eye Institute; [2]Health, Queensland University of Technology

2163 — *B0461* **Role of extracellular matrix for human corneal endothelial cell culture.** *Mohit Parekh[1], T. Ramos[1], S. Ferrari[2], D. Ponzin[2], S. Ahmad[1, 3].* [1]Institute of Ophthalmology, University College London; [2]Fondazione Banca degli Occhi del Veneto; [3]Moorfields Eye Hospital NHS Trust Foundation

2164 — *B0462* **Silencing of pro-apoptotic proteins as anti-apoptotic therapy for corneal endothelium.** *Thomas A. Fuchsluger[2, 1], D. Thieme[1], F. E. Kruse[1], S. Mahajan[1].* [1]Department of Ophthalmology, Friedrich-Alexander-University; [2]Dept. of Ophthalmology, Heidelberg University Hospital

2165 — *B0463* **Mitochondrial «burnout» in Fuchs endothelial corneal dystrophy.** *Sébastien J. Méthot[1], I. Brunette[2], S. Proulx[3], P. J. Rochette[1, 4].* [1]Axe Médecine Régénératrice, Centre de Recherche CHU de Québec - Université Laval; [2]Ophtalmologie, Université de Montréal; [3]LOEX/CUO - Recherche, Université Laval; [4]Ophtalmologie, Université Laval

2166 — *B0464* **Cell signalling associated with the formation of intercellular junctions of post-confluent corneal endothelial cells following TGF-β2 treatment.** *Kim Santerre[1, 2], S. Proulx[1, 2].* [1]Centre de recherche du CHU de Québec-UL; [2]Département d'Ophtalmologie, Université Laval

2167 — *B0465* **Biomimetic culture promotes the differentiation of iPS cells into corneal endothelial-like cells.** *Kai Liao[1, 2], S. Li[3], S. Tang[1, 2], J. Chen[2, 3].* [1]Aier School of Ophthalmology, Central South University; [2]Aier Eye Insitute; [3]Key Laboratory for Regenerative Medicine, Ministry of Education, Jinan University

2168 — *B0466* **Proteases and cell phenotype in Fuchs Endothelial Corneal Dystrophy.** *Isabelle Xu[1, 2], M. Thériault[1, 2], S. Proulx[1, 2].* [1]Ophtalmology, Université Laval; [2]Centre LOEX de l'Université Laval

2169 — *B0467* **Localization of CDKN2A/p16 -positive cells in the corneal endothelium of Fuchs dystrophy patients.** *Mario Matthaei, M. Schmidt, A. Hribek, S. E. Siebelmann, B. Bachmann, C. Cursiefen, L. M. Heindl.* Dept. of Ophthalmology, University of Cologne

2170 — *B0468* **TAZ (*Wwtr1*) deficiency: A murine model of late-onset Fuchs endothelial corneal dystrophy.** *Brian Leonard[1], S. Kim[1], I. Jalilian[1], R. VijayKrishna[2, 4], C. J. Murphy[1, 3], S. M. Thomasy[1, 3].* [1]VM: Surgical and Radiological Sciences, University of California, Davis; [2]The Ocular Surface Institute, College of Optometry, University of Houston; [3]Department of Ophthalmology & Vision Sciences, University of California, Davis; [4]Department of Biomedical Engineering, Cullen College of Engineering, University of Houston

Monday Posters
11:15 am – 1:00 pm

2171 — *B0469* **Laboratory exploration of Ripasudil in descemetorhexis with a human *ex vivo* model.** *Meidong Zhu[1, 2], L. Wen[1, 2], G. Moloney[2, 3], G. Sutton[1, 2], J. Treloggen[1], C. Petsoglou[1, 2].* [1]New South Wales Tissue Bank, New South Wales Organ and Tissue Donation Service; [2]Discipline of Ophthalmology, Sydney Medical School, The University of Sydney; [3]Corneal Unit, Sydney Eye Hospital

2172 — *B0470* **Potential functional restoration of corneal endothelial cells in Fuchs corneal dystrophy by ROCK inhibitor (Ripasudil).** *Friedrich E. Kruse[1], T. Tourtas[1], M. Zenkel[1], S. Kinoshita[2], U. Schlotzer-Schrehardt[1].* [1]Department of Ophthalmology, University of Erlangen Nurnberg; [2]Department of Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine

2173 — *B0471* **Genome-editing with CRISPR-Cas9 system targeting intronic CTG repeat of TCF4 gene in corneal endothelium.** *Takashi Miyai[1], K. Kitamoto[1], Y. Taketani[2], Y. Ouchi[3], T. Usui[1, 4].* [1]University of Tokyo; [2]Ophthalmology, Schepens Eye Research Institute/ Mass Eye and Ear; [3]Chiba University, Graduate School of Medicine; [4]Ophthalmology, International University of Health and Welfare

2174 — *B0472* ***Immortalization of Fuchs Endothelial Corneal Dystrophy (FECD) Corneal Endothelial Cells (CEnC) Retains TCF4 Repeat Expansion.*** *Stephan Ong Tone, G. Melangath, N. Deshpande, U. V. Jurkunas.* Ophthalmology, Schepens Eye Research Institute, Harvard Medical School **CR*

2175 — *B0473* **Involvement of a disintegrin and metalloproteinase 10 (ADAM10) in excessive extracellular matrix production in Fuchs endothelial corneal dystrophy.** *Yuya Komori[1], N. Okumura[1], N. Hanada[1], A. Tokunaga[1], T. Tourtas[2], U. Schlotzer-Schrehardt[2], F. E. Kruse[2], N. Koizumi[1].* [1]Doshisha University; [2]University of Erlangen-Nürnberg **CR*

2176 — *B0474* **Involvement of caspase 7 in the excessive production of extracellular matrix in Fuchs endothelial corneal dystrophy.** *Shigehito Tonomura[1], N. Okumura[1], M. Endo[1], M. Nakahara[1], T. Tourtas[2], U. Schlotzer-Schrehardt[2], F. E. Kruse[2], N. Koizumi[1].* [1]Doshisha University; [2]University of Erlangen-Nürnberg **CR*

2177 — *B0475* **NQO1 downregulation generates genotoxic DNA adducts in *in vitro* FECD model.** *Taiga Miyajima[1, 2], S. Vasanth[1], G. Melangath[1], N. Deshpande[1], Y. Chen[1], s. zhu[1], M. Zahid[3], E. Rogan[3], M. Price[4], F. W. Price[4], U. V. Jurkunas[1].* [1]ophthalmology, Schepens Eye Research Institute/MEEI; [2]Ophthalmology, Dokkyo Medical University; [3]Department of Environmental, Agricultural and Occupational Health, University of Nebraska Medical Center; [4]Price Vision Group

2178 — *B0476* **Increased mitochondrial DNA damage in females in the UV-A induced FECD model.** *Geetha Melangath, C. Liu, T. Miyajima, S. Vasanth, N. Deshpande, T. Miyai, U. V. Jurkunas.* Department of Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School **CR*

2179 — *B0477* **UV-A light induces G2/M phase arrest and subsequent endothelial-mesenchymal transition in Fuchs Endothelial Corneal Dystrophy.** *Tomas White, N. Deshpande, U. V. Jurkunas.* Harvard Medical School

2180 — *B0478* **Role of DNA damage repair in Fuchs Endothelial Corneal Dystrophy.** *Neha Deshpande, Y. Chen, T. Schmedt, S. Vasanth, G. Melangath, U. V. Jurkunas.* Ophthalmology, Schepens Eye Research Institute, HMS **CR*

2181 — *B0479* **A model of Fuchs Endothelial Corneal Dystrophy – related extracellular matrix expression by miR-29 knockdown *in vitro*.** *Agathe Hribek[1], T. Clahsen[1], S. E. Siebelmann[2], L. M. Heindl[2], B. Bachmann[2], C. Cursiefen[2], M. Matthaei[2].* [1]Experimental Ophthalmology, University Hospital Cologne; [2]Ophthalmology, University Hospital Cologne

2182 — *B0480* ***Ex Vivo* Functionality of 3D Bioprinted Corneal Endothelium Engineered with Ribonuclease 5-Overexpressing Human Corneal Endothelial Cells.** *Jae Chan Kim[1, 2], K. Kim[3], S. Lee[1].* [1]Ophthalmology, Cheil eye hospital; [2]Chung-Ang University; [3]Ophthalmology, Chung-Ang University Hospital

2183 — *B0481* ***In vitro* evaluation and transplantation of human corneal endothelial cells cultured on biocompatible carriers.** *Silke Oellerich[1], D. Spinozzi[1], A. Miron[1], I. Dapena[1], M. Rafat[2], G. Melles[1].* [1]Netherlands Institute for Innovative Ocular Surgery; [2]LinkoCare Life Science AB **CR*

2184 — *B0482* **Improving endothelial cell migration by novel *in vitro* 3D culture of corneal grafts.** *Alina Miron[1, 2], D. Spinozzi[1], J. Lie[1, 3], L. Baydoun[1, 2], S. Ni Dhubhghaill[1, 2], S. Oellerich[1], G. R. Melles[1, 2].* [1]R&D, Netherlands Institute for Innovative Ocular Surgery; [2]Melles Cornea Clinic; [3]Amnitrans EyeBank

2185 — *B0483* **Development of an ex vivo organ culture model of the cornea: a useful tool for corneal studies.** *Constandinos Carserides, R. Williams, V. Romano, H. J. Levis.* Eye and Vision Science, Liverpool University

East 1

Monday, April 29, 2019 1:15 PM-2:45 PM

Retinal Cell Biology / Glaucoma / Immunology/Microbiology

253 Glia in blood-retina barrier disorders - SIG

Glia play many essential roles in retinal health and integrity. For the past decade, significant progresses have been made in the understanding of glial actions in the retina. In this SIG, the panelists will lead the discussion on the roles of macroglia and microglia in the maintenance of the retina during the progression of diabetic retinopathy (DR), age-related macular degeneration (AMD) and other retinal degenerative disorders. Specifically, the discussion will be centered on the function of Müller glia as a regulator for vascular and neuronal health and its implication to DR and AMD and the treatment of these diseases, the interactions between microglia and vasculature and the relationship between microglia and Müller glia in retinal injury and degeneration, the potential mechanism of microglia-mediated inflammatory responses through the inner and outer blood-retina barriers and its involvement in aging and in the pathogenesis of DR and AMD, and the impacts of uncontrollable microglial activation to the retina.

Moderators: Yun-Zheng Le and Susanne Mohr

Glia in blood-retina barrier disorders. *Yun-Zheng Le.* [1]Medicine/Endocrinology, University of Oklahoma Health Sciences Center, Oklahoma City, OK; [2]Cell Biology and Ophthalmology and Harold Hamm Diabetes Center, University of Oklahoma Health Sciences Center, Oklahoma City, OK
Glia in blood-retina barrier disorders. *Susanne Mohr.* Physiology, Michigan State University, East Lansing, MI

Microglia-vascular interactions in retinal injury and degeneration. *Steven F. Abcouwer.* Ophthalmology and Visual Sciences, University of Michigan School of Medicine, Ann Arbor, MI

Müller glia in neuroprotection under diabetic and hypoxic conditions. *Yun-Zheng Le.* [1]Medicine/Endocrinology, University of Oklahoma Health Sciences Center, Oklahoma City, OK; [2]Cell Biology and Ophthalmology and Harold Hamm Diabetes Center, University of Oklahoma Health Sciences Center, Oklahoma City, OK

Müller glia as a regulator of vascular and neuronal health. *Susanne Mohr.* Physiology, Michigan State University, East Lansing, MI

Mechanism of microglia-mediated inflammatory responses through the RPE barrier. *Heping Xu.* Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom

East 2/3

Monday, April 29, 2019 1:15 PM-2:45 PM

Immunology/Microbiology / Retina

254 Next generation sequencing for pathogen discovery, ready for prime time? - SIG

The causative pathogens of many sight-threatening ocular infections are often undetected by traditional culture techniques. The landmark trial Endophthalmitis Vitrectomy Study (EVS) revealed that only 291 out of 420 (69.3%) endophthalmitis cases were culture-positive, leaving more than 30% of the cases without an etiologic diagnosis. Even more problematic is the culture-positivity rate following intravitreal injections. A recent review of 27,735 consecutive intravitreal injections showed that among 23 cases of endophthalmitis, 16 (70%) were culture-negative, demonstrating the need for a more sensitive modality for pathogen detection. Recent advances in molecular techniques have allowed more sensitive and specific diagnostic tools available for clinical use. In particular, next generation sequencing (NGS) allows massive parallel sequencing from a limited amount of sample and is being increasingly used for pathogen detections. However, no standard method of analyzing exists and its imitations are poorly understood. We will review the basics of NGS techniques and address the advantages and challenges of using NGS technology for pathogen detection in various presumed infectious cases.

Moderators: Cecilia Lee and James Chodosh

Next generation sequencing for pathogen discovery, ready for prime time? *Cecilia S. Lee.* University of Washington, Seattle, WA

Next generation sequencing for pathogen discovery, ready for prime time? *James Chodosh.* Massachusetts Eye and Ear, MA **CR*

Current updates on advanced molecular techniques for pathogen detection in ophthalmology. *Russell N. Van Gelder.* University of Washington, Seattle, WA

Current updates on advanced molecular techniques for pathogen detection in ophthalmology. *Paulo Bispo.* Massachusetts Eye and Ear, MA

Current updates on advanced molecular techniques for pathogen detection in ophthalmology. *Regis P. Kowalski.* University of Pittsburgh, PA

Use of deep DNA sequencing technique for anterior segment infections. *Todd Margolis.* Washington University in St. Louis, MO **CR*

Use of deep DNA sequencing technique for anterior segment infections. *Michael Zegans.* Dartmouth-Hitchcock Medical Center, NH

Use of deep DNA sequencing technique for anterior segment infections. *Tom Lietman.* Francis I. Proctor Foundation, CA

Use of deep DNA and RNA sequencing technique for posterior segment infections. *Thuy Doan.* Francis I. Proctor Foundation, CA

Use of deep DNA and RNA sequencing technique for posterior segment infections. *Lucia Sobrin.* Massachusetts Eye and Ear, MA

East 8&15

Monday, April 29, 2019 1:15 PM-2:45 PM

Retina / Anatomy and Pathology/Oncology / Biochemistry/Molecular Biology / Glaucoma / Immunology/Microbiology / Physiology/Pharmacology / Retinal Cell Biology / Visual Neuroscience / Visual Psychophysics/Physiological Optics

255 Cellular and Molecular Imaging of the Retina in Health and Disease - SIG

State-of-the-art retinal imaging technologies are now being leveraged to interrogate cellular and molecular functions approaching the scale at which they occur. This session will focus on recent advances toward cellular and molecular imaging of the retina in health and disease. The panelists will emphasize development and translation of optical imaging instrumentation, including new modes of adaptive optics imaging, and targeted imaging contrast agents for imaging specific cell subpopulations and molecular biomarkers of diesease. Key examples of applications in tissue culture and animal models as well as patients will be presented from a diverse panel of engineers, physicists, and biologists in ophthalmic and vision research.

Moderator: Jesse B. Schallek

Panelist. *Ashwath Jayagopal.* Ophthalmology Discovery and Biomarkers, F. Hoffmann-La Roche Ltd, Basel, Switzerland **CR*

Panelist. *Jesse B. Schallek.* [1]Ophthalmology, University of Rochester, Rochester, NY; [2]Center for Visual Science, University of Rochester, Rochester, NY

Panelist. *Colin J. Chu.* Ophthalmology, University of Bristol, United Kingdom

Panelist. *Jennifer J. Hunter.* [1]Ophthalmology, University of Rochester, Rochester, NY; [2]Center for Visual Science, University of Rochester, Rochester, NY

Panelist. *Donald T. Miller.* School of Optometry, Indiana University, Bloomington, IN
Organizer. *Ashwath Jayagopal.* Ophthalmology Discovery and Biomarkers, F. Hoffmann-La Roche Ltd, Basel, Switzerland **CR*

East 11/12

Monday, April 29, 2019 1:15 PM-2:45 PM

Cornea

256 Tear Biomarkers of Ocular Surface Diseases in the Clinic - SIG

The tear film is a pre-corneal optical interface with refractive functions for the eye and supervises important protective properties against environmental stress**.** Many systemic and neurodegenerative diseases affecting the eyes such as Rheumatoid arthritis, Sjogren's syndrome, type 2 diabetes, Alzheimer's disease, Multiple sclerosis and Parkinson's disease leave imprints in the tear film**.** These imprints, namely the biomarkers, have great value in the diagnosis and prognosis of the systemic and ocular surface diseases (OSD)**.** Tear analysis also offers interesting perspectives for patient stratification in clinical trial research**.** The purpose of this SIG will not only be to introduce sound and evidence based methods and promising tear/ocular surface novel biomarkers with potential to diagnose systemic and OSD but also generate discussion for possible consensus in the current and future application of "Omics" or Microfluidic-based technologies**.** Panelists and Speakers will share their experience in translational research and clinical practice with the audience, with the aim to forward the knowledge that tear analysis deserves a place in the patients' management in the modern Eye Clinic**.**

Moderators: Piera Versura and Murat Dogru

Organizer. *Piera Versura.* DIMES-Ophthalmology Unit, Alma Mater Studiorum University of Bologna, Bologna, Italy

Organizer. *Murat Dogru.* Keio University School of Medicine, Tokyo, Japan **CR*

Tear Biomarkers in Ocular Surface Disease and Dry Eye. *Stephen C. Pflugfelder.* Baylor College of Medicine, Houston, TX, TX **CR*

PANELIST DISCUSSION ON cells versus tears biomarkers of inflammation in OSD-pros and cons. *CRISTOPHE BAUDOUIN.* Quinze-Vingts National Ophthalmology Hospital, Paris, France **CR*

PANELIST DISCUSSION ON Tear biomarkers of SS. *Sarah F. Hamm-Alvarez.* USC Keck School of Medicine, Los Angeles, CA, CA

How can Dry Eye Disease (DED) tear biomarkers help clinicians in their decision-making process and patient selection in clinical trials? *Amalia Enriquez-De-Salamanca.* [1]IOBA (Institute of Applied Ophthalmobiology), University of Valladolid, Spain; [2]Biomedical Research Networking Center in Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), National Institute of Health, Spain

Neutrophil Extracellular Trap (NETs)-associated ocular surface disease biomarkers. *Sandeep Jain.* Cornea Service, Illinois Eye and Ear Infirmary, Chicago, IL, IL **CR*

PANELIST DISCUSSION ON how the emerging techniques for tear biomarker detection will impact on the daily clinical practice. *Benjamin D. Sullivan.* TearLab, San Diego, CA, CA **CR*

East Ballroom A

Monday, April 29, 2019 1:15 PM-2:45 PM

Retina / Clinical/Epidemiologic Research / Cornea / Genetics / Immunology/ Microbiology / Multidisciplinary Ophthalmic Imaging / Physiology/Pharmacology / Visual Psychophysics/Physiological Optics

257 Managing Patients with Diabetic Macular Edema, Diabetic Retinopathy, Neovascular and Non-Neovascular AMD, and Retinal Vein Occlusion: How Do We Best Utilize the Latest Data from Clinical Trials - SIG

The SIG will provide a forum for interpretation of the significance of the latest data from clinical trials in Diabetic Macular Edema, Diabetic Retinopathy, Neovascular and Non-Neovascular AMD, and Retinal Vein Occlusion, and discussion on how the results can be applied to clinical practice**.**
There will be no rehash of data presented elsewhere at ARVO**.** Strong audience participation will be encouraged.

Moderator: Peter A. Campochiaro

What Are Desired Endpoints in the Management of DME and Diabetic Retinopathy? *Quan D. Nguyen.* Byers Eye Institute, Stanford University, Palo Alto, CA **CR*

What are the Roles of OCT-Angiography, Wide-angle and Other Advanced Retinal Imaging Technologies in the Management of Retinal Vascular Diseases? *Philip J. Rosenfeld.* Bascom Palmer Eye Institute, University of Miami, Miami, FL **CR*

What Factors Lead to GA Development in Patients with Neovascular AMD? Should One Be Concerned with Frequent Anti-VEGF Therapy? *Judy E. Kim.* Eye Institute, Medical College of Wisconsin, Milwaukee, WI **CR*

What is the Role of Ocular Inflammation and Corticosteroids in the Pathogenesis and Management of DME and Diabetic Retinopathy? *David S. Boyer.* Retina Vitreous Associates Medical Group, Beverly Hills, CA **CR*

East Ballroom B

Monday, April 29, 2019 1:15 PM-2:45 PM

Multidisciplinary Ophthalmic Imaging Group

258 Multidisciplinary Ophthalmic Imaging Group - OCT advances in vascular and functional imaging

New advances in OCT, such as OCT angiography, OCT oximetry, and employment of adaptive optics, have been demonstrated in both clinical and research studies of ocular vascular and functional imaging**.** This is a rapidly evolving area that could have a significant impact on ophthalmic research and clinical studies**.** This MOI session provides the most updated information on advancement of functional OCT imaging for ocular circulation and discusses current limitations and future directions**.**

Moderators: David Huang, Richard B. Rosen and Bernhard Baumann

— 1:15 **Introduction**

— 1:16 **OCTA capillary velocimetry.** *Ruikang K. Wang.* Bioengineering, University of Washington **CR*

— 1:30 **Technical considerations in spectral analysis in visible-light OCT.** *Hao F. Zhang.* Biomedical Engineering, Northwestern University

— 1:44 **OCT angiography and oxymetry.** *Yali Jia.* Casey Eye Institute, Oregon Health & Science Univ**.** **CR*

— 1:58 **Ultrahigh speed 800 kHz SS-OCT for assessing microvasculature.** *James G. Fujimoto.* Electrical Engineering & Computer Sci, Massachusetts Inst of Technology **CR*

— 2:12 **Adaptive Optics OCT Angiography.** *Marinko V. Sarunic.* Engineering Science, Simon Fraser University **CR*

— 2:26 **Adaptive optics OCT angiography in clinics: What do we see more?** *Michael Pircher.* Center for Med Pyhs & Biomed Eng, Medical University of Vienna **CR*

— 2:40 **Discussion**

East Ballroom C

Monday, April 29, 2019 1:15 PM-2:45 PM

Biochemistry/Molecular Biology / Cornea / Glaucoma / Lens / Low Vision / Retina / Retinal Cell Biology / Visual Neuroscience

259 Aging as a factor in eye diseases - SIG

Age is one of the most relevant clinical traits in predicting disease risk, mental and physical performance, mortality, and many other serious health issues**.** The average population age is anticipated to significantly increase in the next few decades what brings the wealth of interest in studying aging and improving quality of life in advanced age individuals**.** Vision is one of the top predictors of aging**.** As people age, their risk increases for eye diseases and conditions such as age-related macular degeneration, cataract, diabetic retinopathy, dry eye, glaucoma, and low vision influencing the quality of life and well-being**.** Blindness and vision impairment and among the top three most feared medical conditions**.** On a molecular level, aging is associated with a gradual decline in the efficiency and accuracy of molecular processes, including changes in metabolism, gene expression, and epigenetics, leading to a deterioration of cell functions**.**
This session will concentrate on discussing how the molecular mechanism of aging is incorporated into the mechanism of several eye diseases and how an understanding of this relationship can help in finding successful therapies**.**

Moderator: Dorota Skowronska-Krawczyk

Introduction. *Dorota Skowronska-Krawczyk.* Ophthalmology, University of California San Diego, La Jolla, CA

Human aging and disease: Lessons from age-related macular degeneration. *Krzysztof Palczewski.* Ophthalmology, University of California Irvine, Irvine, CA

Cellular Changes in Aging Cornea and Ocular Surface in Health and Disease and Future Therapies with Gene Editing and Stem Cell Regeneration. *Natalie A. Afshari.* Ophthalmology, University of California San Diego, La Jolla, CA **CR*

Can understanding the molecular mechanisms of Posterior Capsular Opacification provide new insights into causes of age-related cataracts – a potential role for the immune system. *A Sue Menko.* Pathology, Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, PA

Epigenome dynamics during aging of mammalian rod photoreceptors. *Anand Swaroop.* Neurobiology-Neurodegeneration and Repair Laboratory, National Eye Institute, Bethesda, MD

Senescence and aging in neurodegeneration - what we can learn from glaucoma. *Dorota Skowronska-Krawczyk.* Ophthalmology, University of California San Diego, La Jolla, CA

West 211

Monday, April 29, 2019 1:15 PM-2:45 PM

260 Members-in-Training career forum: Preparing for your future career NOW!

This workshop is aimed at helping students, post-docs, and fellows prepare for their next career move**.** Invited speakers will provide their perspectives on careers in academia (teaching and research), industry, NIH intramural laboratories and nonprofit research foundations**.** Speakers will discuss lessons they have learned and what resources are available to make the transition**.** Smallgroup discussion will be held in the form of various roundtables focusing on topics ranging from preparing your CV, current activities and training you will need for various career choices, to negotiating a startup package**.**

Moderators: Colleen M. McDowell and Esther M. Bowie

— 1:15 **Introduction**

— 1:41 **Research in Academia.** *M Elizabeth Hartnett.* Retina Service, Moran Eye Center, Univ of Utah

— 1:45 **Evidence Based Teaching and Learning.** *Geeta K. Vemuganti.* School of Medical Sciences, University of Hyderabad

— 1:49 **"A career in industry and the return to academia".** *Abbot F. Clark.* Department of Pharmacology and Neuroscience, University of North Texas HSC **CR*

— 1:53 **Lessons Learned from my Clinical Research Career in the Federal Government.** *Emily Y. Chew.* Epidemiology & Clinical Applications, National Eye Inst/NIH

— 1:57 **Wanderings of a Scientist- how a varied career can help you achieve what you want.** *Stephen M. Rose.* Science Dept, Foundation Fighting Blindness

— 2:01 **Members-in-Training Career Forum: Preparing for your future career NOW! "In and Out of Industry".** *Barbara M. Wirostko[1, 2].* [1]Ophthalmology, University of Utah; [2]Chief Medical Officer, EyeGate **CR*

— 2:05 **Panel Discussion**

— 2:25 **Break-out session**

West 212-214

Monday, April 29, 2019 1:15 PM-2:45 PM

261 Getting published: The light and dark sides.

This workshop is part of an annual series co-sponsored by the ARVO Publications and Members-in-Training Committees**.** As scholarly publishing continues to grow, so too do pressures on scientists to continue to write and publish excellent material while also allowing only the most completely reviewed and high quality of manuscripts to favorably emerge from the peer-review process**.** It is therefore essential that scientists not only develop the abilities to successfully communicate their research and evaluate manuscripts (as part of the peer-review process), but also be able to adapt to the changing landscape of publishing in effective and ethical manners**.** The goal of this workshop will be to discuss tips for successfully writing and reviewing manuscripts**.** Invited speakers will provide their perspectives on how to most effectively write your work for publication, how to avoid the sometimes "blurry" lines of plagiarism (including self-plagiarism), how to produce strong and ethical reviews, and how to understand the many different journal and author indices that currently exist, as well as why we should care about them**.**

Moderators: Machelle T. Pardue and Jason Porter

— 1:15 **Introduction**

— 1:25 **Tips for effectively communicating your message - is there a minimum publishable unit (MPU)?** *Karla Zadnik.* College of Optometry, The Ohio State University **CR*

— 1:45 **Authorship ethics: Plagiarism – Walking on the Dark Side.** *Steven J. Fliesler[1, 2].* [1]Ophthalmology, SUNY-University at Buffalo ; [2]Resarch Service, VA Western NY Healthcare System

— 2:05 **Staying on the Light Side: How to be a good and ethical reviewer.** *Sarah E. Coupland[1, 2].* [1]Molecular and Clinical Cancer Medicine, Univ of Liverpool; [2]Pathology, Royal Liverpool University Hospital

— 2:25 **Journal and author indices: What do they mean and why should I care?** *Michael D. Twa.* School of Optometry, University of Alabama at Birmingham

West 217-219

Monday, April 29, 2019 1:15 PM-2:45 PM

Clinical/Epidemiologic Research / Cornea / Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Genetics / Glaucoma / Low Vision

262 Health disparities, social justice and vision research - SIG

Health disparities and social inequities are frequently reflected in the results of population research in eye care, both in the United States and abroad**.** This is particularly important given the elevated burden of treatable eye disease in under-represented populations, both domestic and international, such as refractive error, cataract, amblyopia, and trachoma**.**
The implications are many, including what research questions are asked, how projects are implemented, where capacity is built for research, and how results are interpreted**.** Despite this significant need, there is limited information about how to effectively conduct care and research in a sustainable manner, including effective health communication, community engagement, and trust-building**.** Together we will explore the underlying principles guiding such research and consider what questions can be considered by the vision research community**.** This panel brings together national and international experts in public health and ophthalmology to offer insights about a framework for moving forward**.**

Moderator: Allen O. Eghrari

Panelist. *Alfred Sommer.* Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD

Panelist. *Natalie A. Afshari.* University of California, San Diego, CA

Panelist. *Meraf A. Wolle.* Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD

Panelist. *Ala Moshiri.* Ophthalmology, University of California at Davis, Davis, CA

Organizer. *Allen O. Eghrari.* Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD

Organizer. *Megan E. Collins.* Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD

West 220

Monday, April 29, 2019 1:15 PM-2:45 PM

Biochemistry/Molecular Biology / Glaucoma / Immunology/Microbiology / Physiology/ Pharmacology / Retina / Retinal Cell Biology

263 Lipids in diverse functions and pathologies of the eye - SIG

Lipids are essential for organization, metabolism, and maintenance of homeostasis within the cell**.** Further, there are many types of lipids such as phospholipids, sphingolipids and sterols that have been suggested to play a role in pathogenesis of various diseases like Glaucoma, AMD etc**.** Due to the diverse roles of lipids in disease pathology, lipid research aims to study the pathways of these cellular lipids in biological systems**.** Over the last 30 years, new technological advances including mass spectrometry have led to the identification of several important physiological, pathological, and therapeutic lipid markers**.** This ARVO session will assemble an expert panel in lipid research for the purpose of stimulating discussion relating to the current and future trends of lipid research in ophthalmology**.**

Moderators: Christine A. Curcio and Nicolas G. Bazan

Organizer. *Gurkaran S. Sarohia.* University of British Columbia, Vancouver, British Columbia, Canada

Organizer. *Sanjoy K. Bhattacharya.* Bascom Palmer Eye Institute, Miami, FL

The Elovanoids are mediators of the omega-3 lipidome and target transcriptome architecture to sustain photoreceptor function. *Nicolas G. Bazan.* Ophthal & Neuroscience, LSU Health Sciences Center, LA **CR*

Cholesterol-related pathways in retinal structure and function. *Irina A. Pikuleva.* Ophthalmology and Visual Sciences, Case Western Reserve University, Cleveland, OH

Caveolae membrane domains in ocular cell physiology and pathophysiology. *Michael H. Elliott.* Departments of Ophthalmology and Physiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

Detection of lipids in AMD retinas via Imaging Mass Spectrometry. *Kevin L. Schey.* Department of Biochemistry and Ophthalmology and Visual Sciences, Vanderbilt University, Nashville, TN

The role of the PEMT phosphatidylcholine synthesis pathway in the maintenance of visual sensitivity. *Natalia Surzenko.* Department of Nutrition, University of North Carolina, Chapel Hill, NC

West 221/222

Monday, April 29, 2019 1:15 PM-2:45 PM

264 NIH-CSR peer review workshop

Whether you are new to the NIH grant process, or established NEI investigators seeking information to successfully navigate your NEI grant applications and research protocols through human research protections review or Institutional Animal Care and Use Committee assurance, join this session to meet with the NEI Extramural Staff**.** During this session, you will learn about new regulations concerning Human Subject and Animal Models research and how it applies to extramural grants and how to ensure your institution is meeting the requirements or the policy and the law**.** There will be short presentations, Q&A, and roundtable discussion with the staff**.**

Moderator: Paek-Gyu Lee

— 1:15 **Introductions**

— 1:30 **NIH-CSR Peer Review Workshop.** *Michael Chaitin.* National Institute of Health - CSR

— 1:45 **NIH-CSR Peer Review Workshop.** *Nataliya Gordiyenko.* National Institute of Health - CSR

— 2:00 **NIH-CSR Peer Review Workshop.** *Robert Elliott.* National Institute of Health - CSR

— 2:15 **Discussions**

West 223/224

Monday, April 29, 2019 1:15 PM-2:45 PM

265 VSS at ARVO - Vision after sight restoration

Visual deprivation during development can have a profound effect on adult visual function, with congenital or early acquired blindness representing one extreme in terms of the degree of eprivation and adult sight loss representing another**.** As better treatments for blindness become available, a critical question concerns the nature of vision after restoration of sight and the level of remaining visual system plasticity**.** This symposium will highlight recent progress in this area, as well as how vision therapy can best be deployed to optimize the quality of post-restoration vision**.** This is the biennial VSS@ARVO symposium, features speakers from the Vision Sciences Society**.**

Moderator: David H. Brainard

— 1:15 **Introductions**

— 1:17 **Understanding the human visual pathways responsible for residual visual processing after damage to V1.** *Holly Bridge.* University of Oxford

— *1:39* **The Boy who Mistook his Friend for a Bottle: How does face-perception develop following extended blindness?** *Sharon Gilad-Gutnic.* Brain and Cognitive Science, Massachusetts Institute of Technology

— *2:01* **Simulating percepts induced by electrical cortical stimulation.** *Geoffrey Boynton.* Psychology, University of Washington

— *2:23* **Training-induced visual restoration after adult-onset V1 damage.** *Krystel R. Huxlin.* Flaum Eye Institute, University of Rochester **CR*

ARVO Ballroom

Monday, April 29, 2019 3:00 PM-3:45 PM

266 Friedenwald Award and Lecture

Retinal neurodegenerative diseases, which include age-related degeneration, retinitis pigmentosa, and glaucoma, are a major cause of blindness worldwide**.** Advances over the last several decades in molecular biology, cell biology, and genetics have provided insights into the mechanisms underlying these diseases**.** This increased understanding together with developments in stem cell modeling and single cell transcriptomic analysis of the human retina is making possible improved approaches for retinal drug discovery**.** This lecture will describe efforts, by our lab and others, to combine stem cell and related advances to identify lead molecules for the development of new treatments for the retinal neurodegenerative diseases**.**

— *3:00* **Introduction: Anand Swaroop**

— *3:05* **From transcription to drug discovery, and from photoreceptors to RGCs, a fun journey - Donald Zack, MD, PhD, FARVO**

East 2/3

Monday, April 29, 2019 4:00 PM-5:45 PM

Physiology/Pharmacology

267 Aqueous humor dynamics and IOP

Moderators: Carol B. Toris and W Daniel Stamer

2186 — *4:00* **By targeting Tie2/VE-PTP in Schlemm's canal, AKB-9778 lowers intraocular pressure via increasing outflow facility in mice.** *W Daniel Stamer[1], G. Li[1], I. D. Navarro[1], A. Nottebaum[2], D. Vestweber[2], K. G. Peters[3].* [1]Ophthalmology, Duke University; [2]Max Planck Institute; [3]Aerpio Pharmaceuticals **CR*

2187 — *4:15* **Density and volume of giant vacuoles with and without pores in the inner wall endothelium of Schlemm's canal with increasing pressures.** *David L. Swain[1, 2], T. Le[1], B. Fernandes[1], H. Yamada[1], G. Lamaj[1], S. Yasmin[1], I. Dasgupta[1], H. Gong[1, 2].* [1]Ophthalmology, Boston University School of Medicine; [2]Anatomy and Neurobiology, Boston University School of Medicine

2188 — *4:30* **Endothelial Caveolin-1 Deficiency Results In Enlarged Distal Vessels.** *Michael H. Elliott[1, 2], M. E. McClellan[1, 2], I. D. Navarro[3, 4], J. Gurley[1, 2], W. Stamer[3, 4].* [1]Ophthalmology, OUHSC; [2]Dean McGee Eye Institute; [3]Ophthalmology, Duke University; [4]Duke Eye Center

2189 — *4:45* **Validation of changes in anterior chamber biometrics in rabbit eyes measured by ultrasound biomicroscopy.** *Carol B. Toris[1, 2], R. Helms[1], E. Chan[1], G. Anunike[1], K. Girish[1], J. Buzzard[1], P. P. Pattabiraman[1].* [1]Case Western Reserve University; [2]Ophthalmology, University of Nebraska Medical Center

2190 — *5:00* **The Mechanogated PIEZO1 Channel Regulates Ca^{2+} Homeostasis and Formation of Focal Contacts in Human Trabecular Meshwork Cells.** *Oleg Yarishkin[1], T. T. Phuong[1], J. M. Baumann[2, 4], S. Redmon[1], M. Lakk[1], D. Krizaj[1, 3].* [1]Department of Ophthalmology and Visual Sciences, University of Utah; [2]Department of Bioenginering, University of Utah; [3]Department of Neurobiology and Anatomy, University of Utah; [4]Bioengineering Graduate Program, University of Utah

2191 — *5:15* **Glycosylation profile of the Human Aqueous Humor Proteome.** *Ashok Sharma[1, 2], S. Kodeboyina[1], T. Lee[1], S. Sharma[1, 3], W. Zhi[1], L. Ulrich[3], K. E. Bollinger[3, 4].* [1]Center for Biotechnology and Genomic Medicine, Augusta University; [2]Department of Population Health Sciences, Augusta University, Augusta; [3]Department of Ophthalmology, Augusta University, Augusta; [4]Department of Cellular Biology and Anatomy, Augusta University, Augusta

2192 — *5:30* **Modeling and Simulation of glaucoma treatment in the human eye.** *Elfriede Friedmann[1, 2], V. Olkhovskiy[1, 2], G. U. Auffarth[1, 3].* [1]Heidelberg University; [2]Department of Applied Mathematics; [3]Department of Ophthalmology

East 8&15

Monday, April 29, 2019 4:00 PM-5:45 PM

Retina

268 Imaging the Posterior Segment-Clinical

Moderators: Joseph Carroll and Jennifer I. Lim

2193 — *4:00* **Analysis of Retinal Sublayer Thicknesses and Rates of Progressive Thinning in Stargardt Disease.** *Ian Han, S. S. whitmore, C. Fortenbach, D. Critser, E. M. Stone.* University of Iowa Hospitals and Clinics

2194 — *4:15* **Longitudinal Results of a Prospective Study of Spectral Domain Optical Coherence Tomography of Sickle Cell Retinopathy Eyes.** *Jennifer I. Lim, D. Cao, J. Sun, M. Niec.* Ophthal-Eye & Ear Infirm, University of Illinois **CR*

2195 — *4:30* **Relationship between adaptive optics scanning light ophthalmoscopy success and structural differences on optical coherence tomography in achromatopsia.** *Katie M. Litts[1], M. Georgiou[2, 3], R. Mastey[1], E. J. Patterson[1], M. Michaelides[2, 3], J. Carroll[1, 4].* [1]Ophthalmology & Visual Sciences, Medical College of Wisconsin; [2]Institute of Ophthalmology, University College London; [3]Moorfields Eye Hospital; [4]Cell Biology, Neurobiology and Anatomy, Medical College of Wisconsin **CR*

2196 — *4:45* **Examining the relationship between cone density and ellipsoid zone reflectivity.** *Alison L. Huckenpahler[1], E. J. Patterson[2], A. E. Salmon[1], K. M. Litts[2], R. Mastey[2], E. Woertz[1], J. Cava[2], J. Carroll[2, 1].* [1]Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin; [2]Ophthalmology & Visual Sciences, Medical College of Wisconsin

2197 — *5:00* **Imageability and Registration of Multimodal Imaging using Machine Learning.** *Amir Sadeghipour, M. Arikan, O. Ismail, M. König, B. Baltali, B. Gerendas, U. Schmidt-Erfurth.* Medical University of Vienna **CR*

2198 — *5:15* **Ultrawide-field retinal imaging markers for atypical and typical Alzheimer's disease.** *Imre Lengyel[1], L. Csincsik[1], N. Quinn[1], T. MacGillivray[2], T. Shakespeare[3], S. Crutch[3], T. Peto[1].* [1]The Queen's University Belfast; [2]University of Edinburgh; [3]University College London **CR*

East 11/12

Monday, April 29, 2019 4:00 PM-5:45 PM

Retinal Cell Biology / Retina

269 Emerging cell-based therapies to tackle retinal diseases - Minisymposium

Cell-based therapies represent a potentially progressive avenue to treat retinal diseases beyond the traditional use of conventional drugs**.** This minisymposium aims to present findings from recent studies utilizing various cell-based strategies, ranging from cell transplantation to the use of stem cells for the treatment of retinal diseases such as agerelated macular degeneration**.**

Moderator: Jason S. Meyer

2199 — *4:00* **Comparative transcriptomic and epigenomic analyses elucidate mechanisms regulating Müller glia reprogramming in damaged retinas.** *David R. Hyde.* Dept of Biological Sciences, University of Notre Dame

2200 — *4:21* **Bone marrow stem cell therapy for retinal disease.** *Susanna S. Park.* Ophthalmology & Vision Science, Univ of California Davis Eye Ctr **CR*, ↗

2201 — *4:42* **Stem-cell based therapy for dry AMD.** *Amir H. Kashani[1, 2].* [1]Ophthalmology, University of Southern California; [2]USC Roski Eye Institute **CR*, ↗

2202 — *5:03* **Human induced pluripotent stem cell-derived retinal organoids and their potential for stem cell-based therapies for retinal degenerative diseases.** *Valeria Canto Soler.* Ophthalmology, University of Colorado **CR*

2203 — *5:24* **Strategies to restore visual function in end-stage retinal disease by stem cell-derived photoreceptor translantation.** *Rachael A. Pearson.* Institute of Ophthalmology, University College London

East Ballroom A

Monday, April 29, 2019 4:00 PM-5:45 PM

Multidisciplinary Ophthalmic Imaging Group

270 Deep learning for classification and segmentation

Moderators: Sina Farsiu, Aaron Y. Lee and Michael J. Girard

2204 — *4:00* **Machine Learning Based End-to-End Pipeline for Optical Coherence Tomography Angiography of Diabetic Retinopathy.** *Morgan Heisler[1], D. Lu[1], J. Lo[1], S. Karst[3], N. Schuck[2], M. Ju[1], I. Zadro[4], S. Loncaric[4], S. Warner[3], D. Maberley[3], M. F. Beg[1], E. V. Navajas[3], M. V. Sarunic[1].* [1]School of Engineering Science, Simon Fraser University; [2]Faculty of Medicine, University of British Columbia; [3]Department of Ophthalmology and Visual Sciences, University of British Columbia; [4]Faculty of Electrical Engineering and Computing, University of Zagreb **CR*

2205 — *4:15* **Fully automated artificial intelligence (AI) pipeline for feature-based segmentation and classification of diabetic retinopathy in fundus photographs.** *Yue Wu[1], F. Wang[3, 4], S. Xiao[1], Y. Kihara[1], T. Spaide[1], C. S. Lee[1], A. Y. Lee[1, 2].* [1]UW; [2]eScience, University of Washington; [3]Eye Institute Reading Center, Shanghai Jiaotong University; [4]Ophthalmology, Shanghai General Hospital **CR*

2206 — *4:30* **Feature agnostic networks outperform classical machine learning approaches in the detection of glaucoma in OCT volumes.** *Bhavna J. Antony[1], S. Maetschke[1], H. Ishikawa[2], G. Wollstein[2], J. S. Schuman[2], S. Wail[1].* [1]Multimedia Analytics, IBM Research Australia; [2]NYU Langone Health, NYU Eye Center **CR*

2207 — *4:45* **A Multi-device, Multi-ethnicity Deep Learning Algorithm to Detect Glaucoma from A Single Optical Coherence Tomography Scan of the Optic Nerve Head.** *Liang Zhang[1], S. Devalla[1], C. Cheng[2], D. Milea[2], M. E. Nongpiur[2], B. Mani[2], M. Lawlor[3], M. Bikbov[4], C. Y. Cheung[5], Y. Wang[6], X. Zhang[7], A. Kadziauskiene[8], T. Aung[2], A. Thiery[9], M. J. Girard[1, 2].* [1]Biomedical Engineering, National University of Singapore; [2]Singapore Eye Research Institute, Singapore National Eye Centre; [3]Save Sight Institute, Faculty of Medicine and Health, University of Sydney; [4]Ufa Eye Research Institute; [5]Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong; [6]Beijing Institute of Ophthalmology, Beijing Tongren Hospital, Capital Medical University; [7]Zhongshan Ophthalmic Center; [8]Vilnius University Hospital Santaros Klinikos; [9]Department of Statistics and Applied Probability, National University of Singapore **CR*

2208 — *5:00* **Development and validation of a deep learning algorithm for distinguishing capillary dropout from signal reduction artifacts on OCT angiography.** *Yukun Guo, T. Hormel, A. Camino, J. Wang, D. Huang, T. S. Hwang, Y. Jia.* Casey Eye Institute, OHSU **CR*

2209 — *5:15* **Detecting Retinal Nerve Fiber Layer Segmentation Errors on Spectral Domain-Optical Coherence Tomography with a Deep Learning Algorithm.** *Alessandro A. Jammal[1, 2], A. C. Thompson[1], N. Ogata[1], E. B. Mariottoni[1], C. Urata[1], V. P. Costa[2], F. A. Medeiros[1].* [1]Visual Performance Laboratory, Duke University; [2]Department of Ophthalmology, Universidade Estadual de Campinas (UNICAMP) **CR*

2210 — *5:30* **Deep learning based hybrid OCT-OCTA segmentation of Bruch's membrane in pathology.** *Julia Schottenhaml[1, 2], S. B. Ploner[1, 2], E. M. Moult[2], J. S. Duker[3], N. K. Waheed[3], J. G. Fujimoto[2], A. K. Maier[1].* [1]Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg; [2]Electrical Engineering and Computer Science and Research Laboratory of Electronics, Massachusetts Institute of Technology; [3]New England Eye Center, Tufts Medical Center **CR*

East Ballroom B

Monday, April 29, 2019 4:00 PM-5:45 PM

Retina

271 AMD-clinical research

Moderators: Akitaka Tsujikawa and Robyn H. Guymer

2211 — *4:00* **Validated Prediction Models for Macular Degeneration Progression and Predictors of Visual Acuity Loss Identify High Risk Individuals.** *Johanna M. Seddon[1], B. Rosner[2].* [1]Ophthalmology and Visual Sciences, Macular Degeneration Center of Excellence, University of Massachusetts Medical School; [2]Channing Division of Network Medicine, Harvard Medical School **CR*

2212 — *4:15* **Metabolomic- Genomic Association in Age-Related Macular Degeneration.** *Deeba Husain[1], Y. Qianyu[2], I. Lains[1], W. Chung[2], R. Kelly[3], R. Silva[4], J. B. Miller[1], D. Vavvas[1], I. K. Kim[1], J. Lasky-Su[3], L. Liang[2], J. W. Miller[1].* [1]Retina Service/Opthal, Massachusetts Eye and Ear Infirmary; [2]School of public health, Harvard Univ; [3]Channing Lab, Brigham and Women Hospital, Harvard Medical School; [4]Faculdadw de Medicina, Universidade de Coimbra **CR*

2213 — *4:30* **Classification of Intermediate Age-Related Macular Degeneration by Short-Term Risk for Atrophy on Spectral Domain Optical Coherence Tomography.** *Eleonora M. Lad[1], K. Sleiman[1], D. L. Banks[2], S. Hariharan[1], T. E. Clemons[3], E. Y. Chew[4], C. A. Toth[1].* [1]Ophthalmology, Duke University Medical Center; [2]Statistical Sciences, Duke University Medical Center; [3]Emmes; [4]National Eye Institute **CR*

2214 — *4:45* **Nascent Geographic Atrophy as a Surrogate Endpoint in Age-Related Macular Degeneration.** *Robyn H. Guymer[2, 1], M. McGuinness[2], L. A. Hodgson[2], C. D. Luu[2, 1], Z. Wu[2].* [1]Surgery, University of Melbourne; [2]Centre for Eye Research Australia ↗

2215 — *5:00* **Macular sensitivity endpoints in geographic atrophy secondary to age-related macular degeneration - exploratory analysis of two parallel randomized phase 3 trials.** *Dolly S. Chang[1, 2], V. Steffen[2], S. S. Gao[2], J. Briggs[3, 2], C. Rabe[2], L. Honigberg[2], Y. Sepah[1], D. Ferrara[2].* [1]Byers Eye Institute, Stanford University; [2]Genentech, Inc.; [3]Howard University College of Pharmacy **CR*,↗

2216 — *5:15* **Reticular Pseudodrusen as a Risk Factor for Progression of Age-related Macular Degeneration.** *Amitha Domalpally[1], J. W. Pak[2], E. Agron[3], T. E. Clemons[4], E. Y. Chew[3].* [1]Dept of Ophthalmology and Visual Sciences, Fundus Photograph Reading Center; [2]Dept of Ophthalmology and Visual Sciences, Fundus Photograph Reading Center; [3]National Eye Institute; [4]EMMES corporation ↗

2217 — *5:30* **Choroidal neovascularization classification system based on machine learning to distinguish pachychoroid neovasculopathy from age-related macular degeneration.** *Masahiro Miyake[1], Y. Hosoda[1], K. Yamashiro[2], S. Ooto[1], A. Takahashi[1], A. Oishi[1], M. Miyata[1], A. Uji[1], H. Tamura[1], M. Hata[1], A. Tsujikawa[1].* [1]Kyoto Univ Grad Sch of Medicine; [2]Ophthalmology, Otsu Red Cross Hospital **CR*, ↗

West 211

Monday, April 29, 2019 4:00 PM-5:45 PM

Cornea

272 Corneal surgery:non-refractive

Moderators: Sanjay V. Patel and Jennifer Rose-Nussbaumer

2218 — *4:00* **Pediatric Keratoprosthesis With Implementation of a Conjunctival Flap: Outcomes, Complications, and Future Directions.** *Faraaz Khan[1], M. H. Bawany[2], M. M. Chung[1], K. M. Callais[1], J. Aquavella[1].* [1]Flaum Eye Institute, University of Rochester Medical Center; [2]University of Rochester School of Medicine and Dentistry

2219 — *4:15* **Nano-hydroxyapatite on PMMA optic surface to improve tissue adhesion and biointegration of keratoprosthesis.** *Andri K. Riau[1, 2], N. C. Lwin[1], J. Chodosh[3], B. Liedberg[2], S. Venkatraman[2], J. S. Mehta[1, 4].* [1]Singapore Eye Research Institute; [2]Nanyang Technological University; [3]Massachusetts Eye and Ear, Harvard Medical School; [4]Singapore National Eye Centre **CR*

2220 — *4:30* **Clinical Outcomes and Higher Order Aberrations after Combination Intracorneal Ring Segments and Corneal Collagen Crosslinking.** *Steven A. Greenstein[1, 2], L. Rosato[1], P. Hersh[1, 2].* [1]Cornea and Laser Eye Institute; [2]Ophthalmology, Rutgers University - New Jersey Medical School **CR*, ↗

2221 — *4:45* **Infectious Keratitis following Accelerated Corneal Collagen Cross-linking in Keratoconus - Long term outcomes.** *Pranita Sahay, P. K. Maharana, N. Sharma.* Dr R P Centre for Ophthalmic Sciences, All India Institute of Medical Sciences

2222 — *5:00* **Cross-linking Assisted Infection Reduction: A Randomized Clinical Trial (CLAIR).** *Jennifer Rose-Nussbaumer[1, 2], A. Austin[1], T. C. Porco[1], V. Prajna[3], R. Naveen[3].* [1]Ophthalmology, University of California San Francisco; [2]Ophthalmology, The Permanente Medical Group; [3]Aravind Eye Hospital ↗

2223 — *5:15* **Prognosis of eyes with Fuchs endothelial corneal dystrophy based on Scheimpflug tomography as part of a revised classification.** *Sanjay V. Patel, S. Y. Sun, K. Wacker, K. H. Baratz.* Ophthalmology, Mayo Clinic

2224 — *5:30* **Outcomes after Descemet Membrane Endothelial Keratoplasty (DMEK) in a German multicenter study.** *Klara C. Borgardts[1], K. Spaniol[1], B. Bachmann[2], M. Hellmich[2], G. Geerling[1], P. Maier[3], P. M. Wiedemann[4], K. Bartz-Schmidt[5], M. Pattmoeller[7], A. Maier-Wenzel[6].* [1]Eye clinic, University Hospital of Düsseldorf (UKD); [2]Eye clinic, University Hospital of Cologne; [3]Eye clinic, University Hospital of Freiburg; [4]Eye clinic, University Hospital of Leipzig; [5]Eye clinic, University Hospital of Tuebingen; [6]Eye clinic Charite, University Hospital of Berlin; [7]Eye clinic, Saarland University Hospital

West 212-214

Monday, April 29, 2019 4:00 PM-5:45 PM

Cornea

273 Corneal Tissue Engineering and Regenerative Medicine

Moderators: James L. Funderburgh, Julie T. Daniels and Carla Sanchez Martinez

2225 — *4:00* **Effects of MHC conformity on corneal epithelial cell sheet transplantation in non-human primates.** *Yu Yoshinaga[1], T. Soma[1], R. Hayashi[2], S. Azuma[1], K. Maruyama[3], Y. Hashikawa[1], T. Katayama[1], N. hosen[4], T. Shiina[5], K. Ogasawara[6], K. Nishida[1].* [1]Ophthalmology, Osaka University Graduate School of Medicine; [2]Stem Cells and Applied Medicine, Osaka University Graduate School of Medicine; [3]Innovative Visual Science, Osaka University Medical School; [4]Cancer Stem Cell Biology, Osaka University Graduate School of Medicine; [5]Molecular Life Science, Tokai University School of Medicine; [6]Pathology, Shiga University of Medical Science

2226 — *4:15* **Stem Cells Reduce Corneal Fibrosis and Inflammation via Exosome-Mediated Delivery of miRNA.** *James L. Funderburgh[1], G. Shojaati[3], I. Khandaker[1], M. L. Funderburgh[1], A. Dos Santos[2], S. X. Deng[2].* [1]Ophthalmology, Univ of Pittsburgh School of Medicine; [2]Stein Eye Institute, UCLA; [3]Kantonsspital Winterthur

2227 — *4:30* **Corneal Endothelial Lamellae Regeneration Therapy via Cell Sheet Engineering.** *Sarah Tsurkan[1], M. Binner[1], J. Bessert[1, 2], R. Selzer[2], K. Engelmann[3, 2], C. Werner[1, 4], M. Tsurkan[1].* [1]IBP, Leibniz Institute for Polymer Research; [2]Institute of Anatomy, Medical Faculty Carl Gustav Carus, Technische Universität Dresden; [3]Department of Ophthalmology, Klinikum Chemnitz gGmbH; [4]CRTD/DFG-Center for Regenerative Therapies Dresden, Technische Universität Dresden

2228 — *4:45* **A new method to construct tissue engineered corneal endothelial layer by spray printing.** *Mengyuan Xie[1, 2], Q. Zeng[3], Z. Cui[4], Y. Guo[4], S. Liu[3], P. Wang[3], J. Zhang[1, 2], J. Chen[4, 5].* [1]Department of Optoelectronic Engineering, Jinan University; [2]Key Laboratory of Optoelectronic Information and Sensing Technologies of Guangdong Higher Education Institutes, Jinan University; [3]Ophthalmology Department, First Affiliated Hospital of Jinan University; [4]Key Laboratory for Regenerative Medicine of Ministry of Education, Jinan University; [5]Aier Eye Institute

2229 — *5:00* **Corneal regeneration using autologous ABCB5+ skin stem cells for bilateral limbal stem cell deficiency.** *Bruce Ksander[1, 2], Y. Sasamoto[3], E. Hoffmann[1, 2], K. Korobkina[1, 2], N. Frank[3, 4], M. H. Frank[5, 6].* [1]Schepens Eye Research Institute, Harvard Medical School; [2]Mass Eye & Ear; [3]Department of Medicine, Brigham and Women's Hospital; [4]Department of Medicine, VA Boston Healthcare System; [5]Transplantation Research Program, Boston Children's Hospital; [6]Harvard Stem Cell Institute, Harvard Medical School **CR*

2230 — *5:15* **Long-Term Results of Cultured Limbal Stem Cell versus Limbal Tissue Transplantation in Stage 3 Limbal Deficiency.** *Vincent M. Borderie[1], D. Ghoubay[1], C. Georgeon[1], M. Borderie[1], H. Rouard[2].* [1]Ophthalmology, CHNO des 15-20; [2]EFS - Ile-de-France **CR*, ↗

2231 — *5:30* **Results of a Phase I-IIA Multicentre Clinical Trial Evaluating an Allogeneic Nanostructured Artificial Anterior Human Cornea.** *Miguel Gonzalez Andrades[3, 2], C. González Gallardo[1], B. Mataix[4], S. Medialdea[5], J. Martinez-Atienza[6], A. Ruiz-Garcia[7], S. Arias[7], A. Campos[8], R. Mata[6], N. Cuende[6], M. Alaminos[8].* [1]Ophthalmology Service, University Hospital Complex of Granada; [2]Department of Ophthalmology, Massachusetts Eye and Ear and Schepens Eye Research Institute, Harvard Medical School; [3]Department of Ophthalmology,. Maimonides Biomedical Research Institute of Cordoba (IMIBIC), Reina Sofia University Hospital and University of Cordoba; [4]Ophthalmology Service, University Hospital Virgen Macarena; [5]Ophthalmology Service, University Hospital Virgen de las Nieves; [6]Andalusian Initiative for Advanced Therapies, Junta de Andalucía; [7]GMP Network of the Andalusian Initiative for Advanced Therapies, Cell Therapy and Tissue Engineering Unit, University Hospital Complex of Granada; [8]Tissue Engineering Group, Department of Histology, University of Granada **CR*, ↗

West 217-219

Monday, April 29, 2019 4:00 PM-5:45 PM

Lens

274 Lens Cell Biology

Moderators: S Amer Riazuddin and Catherine Cheng

2232 — *4:00* **The physiological significance of autophagy in lens morphogenesis.** *S Amer Riazuddin[1], S. Y. Khan[1], M. Ali[1], F. Kabir[1], C. Na[2], Y. Ma[3], C. Qiu[3], M. Naeem[4], S. Riazuddin[4, 5], J. Hejtmancik[6].* [1]The Wilmer Eye Institute, Johns Hopkins University School of Medicine; [2]Department of Biological Chemistry, Johns Hopkins University School of Medicine; [3]Yale Stem Cell Center, Yale University School of Medicine; [4]National Centre of Excellence in Molecular Biology, University of the Punjab; [5]Allama Iqbal Medical College, University of Health Sciences; [6]Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health

2233 — *4:15* **Comparative Morphology of Lens Organelle-Free Zone Formation in Three Primate Species Supports the Role of the Nuclear Excisosome.** *M J. Costello[1], K. O. Gilliland[1], A. Mohamed[2], K. L. Schey[3].* [1]Cell Biology and Physiology, University of North Carolina; [2]Ophthalmic Biophysics, LV Prasad Eye Institute; [3]Biochemistry, Vanderbilt University

2234 — *4:30* **Live-imaging collective migration of lens fibre cells.** *Yuki Sugiyama, I. Masai.* Developmental Neuroscience Unit, Okinawa Institute of Science and Technology

2235 — *4:45* **Eph-ephrin signaling plays a role in lens shape, resilience, nucleus size and refractive index.** *Catherine Cheng[1], M. Amadeo[2], K. Wang[3], B. Pierscionek[3].* [1]School of Optometry, Indiana University; [2]Department of Molecular Medicine, The Scripps Research Institute; [3]School of Science and Technology, Nottingham Trent University

2236 — *5:00* **Ankyrin-B is required for lens fiber cell lateral membrane organization, hexagonal symmetry, tension and function.** *Vasanth Rao[1], A. Allen[2], R. Maddala[3].* [1]Ophthal & Pharmacology, Duke University; [2]Trinity College of Arts & Sciences at Duke University, Duke University; [3]Ophyhalmology, Duke University Medical Center

2237 — *5:15* **Cross-talk between AQP1 of lens epithelium and AQP0 of lens fibers in mice.** *Woo-Kuen Lo, S. K. Biswas.* Neurobiology, Morehouse School of Medicine

West 221/222

Monday, April 29, 2019 4:00 PM-5:45 PM

Low Vision Group

275 Visual Impairment and Multi-Morbidity

Moderators: Dawn K. DeCarlo and Ava K. Bittner

2238 — *4:00* **Effect of Contour Interaction on Visual Acuity in Cerebral Visual Impairment and Retinal Disorders.** *Jasmine Junge, D. A. Orel-Bixler.* Vision Science/Optometry, UC Berkeley

2239 — *4:15* **The impact of mild cognitive impairment on the accuracy of an interview based assessment of vision and/or hearing loss.** *Andrea Urqueta Alfaro[1, 2], C. McGraw[3], D. Guthrie[4], W. Wittich[1, 2].* [1]School od Optometry, Universite de Montreal; [2]Centre de recherche interdisciplinaire en réadaptation du Montréal métropolitain; [3]CRIR/ Centre de réadaptation MAB-Mackay du CIUSSS du Centre-Ouest-de-l'Île-de-Montréal; [4]Wilfrid Laurier University

2240 — *4:30* **Effect of reduced visual acuity on the Montreal Cognitive Assessment.** *Aaron Johnson[1, 2], Z. Stark[1], C. Murphy[1, 2], W. Wittich[3, 2], E. Morrice[1, 2].* [1]Psychology, Concordia University; [2]CRIR/Centre de Réadaptation MAB-Mackay du CIUSSS du Centre-Ouest-de-l'Île-de-Montréal; [3]Optometry, University of Montreal

2241 — *4:45* **Fatigue in adults with visual impairment: a structural equation model explaining severity and impact.** *Ruth M. Van Nispen[1], W. Schakel[1], C. Bode[2], P. van de Ven[3], H. P. van der Aa[1], C. Hulshof[4], G. van Rens[1, 5].* [1]Ophthalmology and Amsterdam Public Health research institute, Amsterdam UMC; [2]Psychology, Health & Technology, University of Twente; [3]Epidemiology and Biostatistics, Amsterdam UMC; [4]Coronel Institute of Occupational Health, Amsterdam Public Health research institute, Amsterdam UMC; [5]Ophthalmology, Elkerliek Hospital

2242 — *5:00* **Effectiveness of an Innovative and Comprehensive Eye Care Model for Individuals in Residential Care Facilities: A Residential Ocular Care Multi-Centered Randomized Controlled Trial.** *Ecosse L. Lamoureux[1], E. K. Fenwick[1], M. Constantinou[2], E. holloway[3], E. A. Finkelstein[4], m. coote[5], J. Jackson[6], G. Rees[2], R. Man[1].* [1]Population Health, Singapore National Eye Research Institute; [2]Centre for Eye Research Australia; [3]University of Melbourne; [4]Duke-NUS Medical School; [5]Royal Victorian Hospital; [6]Australian College of Optometry ➚

2243 — *5:15* **The Contribution of Topical Glaucoma Medications to Systemic Polypharmacy and Their impact on Functional Outcomes.** *Ken Kitayama[1], A. Mihailovic[2], P. Y. Ramulu[2].* [1]Johns Hopkins Bloomberg School of Public Health; [2]Johns Hopkins University/Wilmer Eye Institute

ARVO Ballroom

Monday, April 29, 2019 4:00 PM-5:45 PM

Glaucoma

276 Biomechanics

Moderators: Claude F. Burgoyne and Colm J. O'Brien

2244 — *4:00* **A computational parametric analysis of the effects of the size and location of the laser peripheral iridotomy on the aqueous humor pressure following pupil dilation.** *Rouzbeh Amini[1], A. Pant[1], R. Repetto[2], S. Dorairaj[3].* [1]Dept of Biomedical Engineering, University of Akron; [2]Department of Civil, Chemical and Environmental Engineering, University of Genoa; [3]Department of Ophthalmology, Mayo Clinic ➚

2245 — *4:15* **Analysis of IOP-induced lamina cribrosa displacement and strain using digital volume correlation of optical coherence tomography images.** *Harry A. Quigley[1], D. Midgett[2], T. Nguyen[3].* [1]Ophthalmology, Johns Hopkins Wilmer Eye Inst; [2]Johns Hopkins University; [3]Johns Hopkins University ***CR**

2246 — *4:30* **Age-related increase in anterior optic nerve head compression in response to IOP elevation.** *Yanhui Ma[1], E. Pavlatos[1], X. Pan[2], S. Kwok[1], K. Clayson[1, 3], J. Liu[1, 4].* [1]Department of Biomedical Engineering, The Ohio State University; [2]Department of Biomedical Informatics, The Ohio State University; [3]Biophysics Interdisciplinary Group, The Ohio State University; [4]Department of Ophthalmology and Visual Science, The Ohio State University

2247 — *4:45* **Modulating human intraocular and intracranial pressure using the ex-vivo Translaminar Autonomous System.** *Tasneem P. Sharma[1], A. F. Clark[1], H. Lohawala[2], C. M. McDowell[1].* [1]Pharmacology and Neuroscience, North Texas Eye Research Institute, University of North Texas Health Science Center; [2]Mechanical Engineering, University of Texas at Arlington ***CR**

2248 — *5:00* **Translaminar Pressure Effect on the Lamina Cribrosa of Non-Human Primate Eyes as a Function of Depth.** *Katie Lucy[1], B. Wang[2], H. Ishikawa[1], J. S. Schuman[1], M. Wu[1, 3], I. A. Sigal[2], M. A. Smith[2], G. Wollstein[1].* [1]Department of Ophthalmology, NYU Langone Health, NYU Eye Center; [2]Department of Ophthalmology, Eye and Ear Institute, UPMC Eye Center; [3]Division of Biostatistics, Departments of Population Health and Environmental Medicine, NYU School of Medicine ***CR**

2249 — *5:15* **Intraocular Pressure Spikes Following Therapeutic Intravitreal Injections are Correlated with Ocular Rigidity.** *Mark R. Lesk[2, 1], D. N. Sayah[2, 1], J. Mazzaferri[2], R. Duval[1], F. A. Rezende[1], S. Costantino[2, 1].* [1]Ophthalmology, University of Montreal; [2]Maisonneuve-Rosemont Hospital Research Center

2250 — *5:30* **Clinically relevant artefactual intraocular pressure lowering resulting from corneal biomechanical changes under latanoprost treatment: data from the UKGTS.** *Soledad Aguilar Munoa[1], J. Mohamed-Noriega[1, 2], A. P. Khawaja[1], D. F. Garway-Heath[1].* [1]NIHR Biomedical Research Center at Moorfields Eye Hospital NHS Foundation trust and UCL Institute Of Ophthalmology; [2]Departamento de Oftalmología, Hospital Universitario UANL **CR*, ↗

Harbour Ballroom

Monday, April 29, 2019 4:00 PM-5:45 PM

Glaucoma

277 Neuroprotection

Moderators: Elena Vecino and Hari Jayaram

2251 — *4:00* **Promising New Gene Therapy for Optic Nerve Regeneration and Neuroprotection.** *Margaret M. Runner[1], C. Gutekunst[2], R. Gross[2].* [1]Ophthalmology, University of Southern California; [2]Neurosurgery, Emory University

2252 — *4:15* **Sustained growth factor cotreatment enhances survival of miPSC-derived RGCs following intravitreal transplantation.** *Julia Oswald[1], C. Pernstich[2], P. Y. Baranov[1].* [1]Opthalmology, Schepens Eye Research; [2]Cell Guidance Systems Ltd **CR*

2253 — *4:30* **Neuroprotection of Retinal Ganglion Cells by AAV2-gamma-Synuclein Promoter-Mediated CRISPR/Cas9 Gene Editing.** *Liang Li, Q. Wang, H. Huang, Y. Sun, J. L. Goldberg, Y. Hu.* Ophthalmology, Stanford University

2254 — *4:45* **Inner retinal injury induced by acute elevation of IOP is mediated independently of Shp2 silencing effects.** *mojdeh abbasi[1], V. Gupta[1], N. Chitranshi[1], K. Pushpitha[1], y. dheer[1], S. L. Graham[1, 2].* [1]Clinical Medicine, Macquarie University; [2]Save Sight Institute, University of Sydney

2255 — *5:00* **MAP4K4 and GSK-3 pathways complement DLK/LZK signaling to control cell death and axon degeneration in retinal ganglion cells.** *Amit K. Patel[1], K. Mitchell[2], B. S. Hansen[2], C. Berlinicke[2], R. Broyer[1], D. J. Zack[2], D. S. Welsbie[1].* [1]Ophthalmology, University of California San Diego; [2]Ophthalmology, Wilmer Eye Institute, Johns Hopkins University

2256 — *5:15* **Pharmacologic inhibition of the NLRP3 inflammasome - a novel neuroprotective therapy for glaucoma.** *Anitha Krishnan[1, 2], M. Dua[1, 2], C. H. Mitchell[3], W. Lu[3], M. S. Gregory-Ksander[1, 2].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear; [2]Ophthalmology, Harvard Medical School; [3]Anatomy and Cell Biology, University of Pennsylvania

2257 — *5:30* **Fas signaling triggers glial-mediated neuroinflammation in glaucoma.** *Meredith S. Gregory-Ksander[1, 2], W. Lu[3], C. H. Mitchell[3], A. Kocab[5], D. N. Zacks[4], A. Krishnan[1, 2].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear; [2]Ophthalmology, Harvard Medical School; [3]Anatomy and Cell Biology, University of Pennsylvania; [4]Kellog Eye Center, University of Michigan; [5]ONL Therapeutics **CR*

West Exhibition Hall A0001-A0021

Monday, April 29, 2019 4:00 PM-5:45 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

278 Optic Neuropathy

Moderator: Jae Ho Jung

2258 — *A0001* **Long-term experience with idebenone in pediatric Leber's hereditary optic neuropathy (LHON) patients in a real-world setting.** *Magda Silva[1], X. Lloria[1], C. Catarino[2], F. Lob[3], B. Livonius[3], T. Klopstock[2].* [1]Santhera Pharmaceuticals; [2]Friedrich-Baur Institute, University Hospital of the Ludwig-Maximilians University; [3]Department of Ophthalmology, University Hospital of the Ludwig-Maximilians University **CR*

2259 — *A0002* **Antibody mediated retinal damage in a NMO animal model.** *Laura Petrikowski[1, 2], S. Reinehr[1], F. Graz[1, 2], S. Haupeltshofer[2], I. Kleiter[2], R. Gold[2], B. Dick[1], S. Faissner[2], S. C. Joachim[1].* [1]University Eye Hospital, Experimental Eye Research Institute; [2]St**.** Josef Hospital, Ruhr-University Bochum, Neuroimmunology

2260 — *A0003* **Contribution of intraocular pressure disparity in head-down tilt to the development of Spaceflight-Associated Neuro-ocular Syndrome.** *Nitya Murthy[2], M. W. Mutter[2], J. Bradley[2], L. J. Watson[1, 2], A. Hickenbotham[3, 2], E. Kinzer[2].* [1]Kentucky College of Osteopathic Medicine, University of Pikeville; [2]Kentucky College of Optometry, University of Pikeville; [3]College of Health Sciences, Tusculum University

2261 — *A0004* **Presentation Features for a Multinational Treatment Trial of Nonarteritic Anterior Ischemic Optic Neuropathy.** *Mark J. Kupersmith[1, 2], N. Miller[3], L. A. Levin[5], S. Klier[4].* [1]Neurology / Ophthalmology, Icahn School of Medicine at Mount Sinai; [2]New York Eye and Ear Infirmary; [3]Wilmer Institute of Johns Hopkins School of Medicine; [4]Quark Pharmaceutical; [5]McGill University **CR*, ↗

2262 — *A0005* **Evaluation of treatment for traumatic optic neuropathy.** *Boglarka Racz, P. Iserovich, K. Petrukhin.* Ophthalmology, Columbia University Medical Center **CR*

2263 — *A0006* **Optimization of Crush Force in a Porcine Model of Traumatic Optic Neuropathy.** *Gregory Bramblett[1], J. Harris[1], J. Cleland[1], V. Gorantla[2], M. Sandoval[1], L. Harris[1], P. Edsall[1], L. Benowitz[3], J. L. Goldberg[4], A. Holt[1].* [1]USAISR; [2]Institute for Regenerative Medicine, Wake Forest School of Medicine; [3]Childrens Hospital, Harvard University School of Medicine; [4]Byers Eye Institute, Stanford University **CR*

2264 — *A0007* **A large epidemiological study of Leber's hereditary optic neuropathy (LHON).** *Alexander L. Pearson[1], L. Poincenot[2], R. Karanjia[1].* [1]Faculty of Medicine, University of Ottawa; [2]LHON Project at www**.**LHON**.**org

2265 — *A0008* **Rat model of posterior ischemic optic neuropathy.** *Fred N. Ross-Cisneros[1], W. C. Sultan[1], S. Asanad[1], A. A. Sadun[2, 1].* [1]Neuro-Ophthalmology, Doheny Eye Institute; [2]Ophthalmology, University of California at Los Angeles **CR*

2266 — *A0009* **Elamipretide (MTP-131) Topical Ophthalmic Solution for the Treatment of Leber's Hereditary Optic Neuropathy.** *Rustum Karanjia[1, 2], S. G. Coupland[1], M. Garcia[2], A. A. Sadun[2].* [1]Ophthalmology, University of Ottawa; [2]Ophthalmology, Doheny Eye Centers & David Geffen School of Medicine UCLA **CR*, ↗

2267 — *A0010* **Ultrastructural changes of white matter injury depends on the Blood-optic nerve barrier and astrocytes reactivity in the progression of rat anterior ischemic optic neuropathy (rAION).** *Kishan Kapupara, Y. Wen, R. Tsai.* Tzu chi institute of eye research

2268 — *A0011* **Reexamining the incidence of nonarteritic anterior ischemic optic neuropathy.** *Robert Foster[1], O. Crum[2], E. Lesser[3], D. O. Hodge[3], M. Bhatti[1, 4], J. Chen[1, 4].* [1]Department of Ophthalmology, Mayo Clininc; [2]College of Medicine, Mayo Clinic; [3]Department of Health Sciences Research, Mayo Clinic; [4]Department of Neurology, Mayo Clinic

2269 — *A0012* **Considering long-term real-world management of patients with Leber's hereditary optic neuropathy (LHON) in light of the recommendations of the International Consensus Statement.** *Xavier Lloria[1], M. Silva[1], C. Catarino[2], F. Lob[3], B. Livonius[3], G. Rudolph[3], T. Klopstock[2].* [1]Santhera; [2]Friedrich-Baur Institute, University Hospital of the Ludwig-Maximilians University; [3]Department of Ophthalmology, University Hospital of the Ludwig-Maximilians University **CR*

2270 — *A0013* **Neuroprotective effects of a novel ROCK inhibitor in a rodent model of anterior ischemic optic neuropathy.** *Yu Chieh Ho[1, 3], C. Huang[2], Y. Wen[1], C. Liu[5], R. Tsai[1, 4].* [1]Institute of Eye Research, Buddhist Tzu Chi General Hospital; [2]National Taiwan University Hospital; [3]Department of Medical Physiology, Tzu Chi University; [4]Institute of Medical Research, Tzu Chi University; [5]Drug Delivery Technology Department, Industrial Technology Research Institute

2271 — *A0014* **Idebenone treatment increases chances of stabilization-recovery of visual acuity in patients affected by dominant optic atrophy (DOA).** *Martina Romagnoli[1], C. La Morgia[1, 2], M. Carbonelli[1], L. Di Vito[1], P. Barboni[3, 4], V. Carelli[1, 2].* [1]IRCCS Institute of Neurological Sciences of Bologna, Bellaria Hospital; [2]Unit of Neurology, Department of Biomedical and NeuroMotor Sciences (DIBINEM), University of Bologna; [3]Studio Oculistico d'Azeglio; [4]IRCCS Scientific Institute San Raffaele **CR*

2272 — *A0015* **Blue light stimulation of melanopsin retinal ganglion cells reveals visual cortex activation and modulates cognition in LHON patients.** *Chiara La Morgia[1, 2], S. Evangelisti[4], C. Testa[4], G. Vandewalle[5], C. Bianchini[4], D. Manners[4], P. Fantazzini[6, 7], M. Carbonelli[1], A. A. Sadun[3], C. Tonon[4], R. Lodi[4, 2], V. Carelli[1, 2].* [1]IRCCS Institute of Neurological Sciences of Bologna, Bellaria Hospital; [2]Unit of Neurology, Department of Biomedical and NeuroMotor Sciences (DIBINEM), University of Bologna; [3]Doheny Eye Institute; [4]Functional MR Unit, University of Bologna; [5]Cyclotron Research Center, University of Liege; [6]Department of Physics, University of Bologna; [7]Centro Enrico Fermi

2273 — *A0016* **Clinical evaluation of giant cell arteritis-related adverse outcomes in patients diagnosed with healing/healed arteritis on temporal artery biopsy.** *Carter Lim[2], H. Nithianandan[2], V. Kansal[3], S. Han[4], J. Farmer[5, 1], D. Albreiki[1].* [1]Ophthalmology, University of Ottawa; [2]Faculty of Medicine, University of Ottawa; [3]Ophthalmology, University of Saskatchewan; [4]Ophthalmology, McMaster University; [5]Pathology and Molecular Medicine, University of Ottawa

2274 — *A0017* **mTORC2 activation determines the retinal ganglion cell fate via Akt signaling after autophagy induction in traumatic optic nerve injury.** *Rong-Kung Tsai[1, 2], Y. Wen[1], J. Zhang[3], K. Kapupara[1].* [1]Institute of Eye Research, Tzu-Chi Medical Center; [2]Institute of Medical Siences, Tzu Chi University; [3]Department of Ophthalmology, Buddhist Tzu Chi Medical Center

2275 — *A0018* **Choroidal Vascularity Index in Arteritic Versus Non-arteritic Anterior Ischemic Optic Neuropathy.** *Marco Pellegrini, G. Giannaccare, F. Bernabei, F. Moscardelli, C. Schiavi, E. C. Campos.* Ophthalmology Unit, S**.**Orsola-Malpighi University Hospital

2276 — *A0019* **Arteritic anterior ischemic optic neuropathy associated with giant cell arteritis in Korean patients.** *YEONJI JANG[1], J. Choi[2, 3], J. JUNG[1].* [1]Ophthalmology, Seoul national university hospital; [2]Neurology, Pusan National University Yangsan Hospital; [3]Research Institute for Convergence of Biomedical Science and Technology, Pusan National University Yangsan Hospital

Monday Posters
4:00 pm – 5:45 pm

2277 — *A0020* **New perspective: Optic neuropathy after branch retinal vein occlusion.** *Siqing Yu[1], X. Liu[2], M. Abegg[1], A. Ebneter[1].* [1]Department of Ophthalmology, Bern University Hospital and University of Bern; [2]Department of Ophthalmology, 1st Affiliated Hospital of Xi'an Jiaotong University

2278 — *A0021* **A new association: Acute macular neuro retinopathy in acute optic neuritis.** *Martine Mauget-Faysse, V. VASSEUR, R. Deschamps, L. Salomon.* Rothschild Foundation

West Exhibition Hall A0022-A0034

Monday, April 29, 2019 4:00 PM-5:45 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

279 Multiple Sclerosis and the Eye

Moderator: Lynn K. Gordon

2279 — *A0022* **A Meta-Analysis Study of the Effect of Early Intervention on Disease Progression in Patients with Clinically Isolated Syndrome to Multiple Sclerosis.** *Mashael Namaeh, A. Buzzelli.* College of Health Sciences, Tusculum University

2280 — *A0023* **Predictors of quality of vision impairment in Multiple Sclerosis.** *Bernardo F. Sanchez Dalmau[1], E. H. Martinez-Lapiscina[2, 3], A. Camos[1], I. Pulido-Valdeolivas[2], S. Alba[2], L. Sanchez-Vela[2], P. Villoslada[2].* [1]Ophthalmology Department, Hospital Clinic; [2]Idibaps; [3]Neurology Service., Hospital Clinic **CR*

2281 — *A0024* **Camblobs2™, a novel chart for contrast sensitivity testing, shows correlation to Mars™ chart in MS patients with optic neuritis.** *Lara Tchakmakian, V. Bachir, W. Wittich, J. Marinier.* School of Optometry, University of Montreal

2282 — *A0025* **Quantifying Color Vision Impairment in Patients with Multiple Sclerosis Using Cone Contrast Test.** *Kayla M. White[3], C. Yuh[1], C. Frambach[3], J. Doan[2].* [1]Western University of Health Sciences; [2]Medical College of Wisconsin; [3]UC Irvine School of Medicine

2283 — *A0026* **Relationship between Uhthoff Phenomenon and demyelination in the visual pathways in multiple sclerosis.** *Federica Ristoldo[1], Y. You[1], A. Invernizzi[2], A. Klistorner[1], C. Fraser[1].* [1]Save Sight Institute - University of Syndney; [2]University of Milan **CR*

2284 — *A0027* **Frequency of internuclear ophthalmoplegia, nystagmus and other ocular manifestations in multiple sclerosis; a population-based study.** *Sarah C. Xu[1], E. Flanagan[2], R. Foster[1], F. Wang[1], M. Bhatti[1], J. Chen[1].* [1]Ophthalmology and Visual Science, Mayo Clinic; [2]Neurology, Mayo Clinic

2285 — *A0028* **Corneal sub-basal nerve plexus analysis in patients with multiple sclerosis.** *Valeria Testa[1], N. De Santis[1], R. Scotto[1], C. E. Pastorino[1], M. Cellerino[2], A. Uccelli[2], C. E. Traverso[1], M. M. Iester[1].* [1]Eye Clinic-DINOGMI, University of Genoa; [2]Neurologic Clinic-DINOGMI, University of Genoa

2286 — *A0029* **Characteristics of retinal structural and microvascular alterations of optic neuritis in neuromyelitis optica spectrum disorders.** *Sisi Chen, Y. Chen, W. Kwapong, M. Shen.* School of Opthalmology and Optometry, Wenzhou Medical University

2287 — *A0030* **Monoclonal antibody therapy for neuromyelitis optica: a systematic review and meta-analysis.** *Jonathan T. Caranfa[1], C. G. Kohn[1], W. L. Baker[2], D. M. Waitzman[3].* [1]School of Medicine, University of Connecticut; [2]Evidence-based Medicine, Hartford Hospital; [3]Ophthalmology, University of Connecticut

2288 — *A0031* **Suppression of Experimental Optic Neuritis and Myelitis by Amnion-derived Multipotent Progenitor Cells.** *Reas Sulaimankutty[1], K. Dine[1], A. Ross[1], K. Willett[1], R. Banas[2], L. R. Brown[2], K. S. Shindler[1].* [1]Univ of Pennsylvania, Scheie Eye Inst; [2]Noveome Biotherapeutics, Inc., **CR*

2289 — *A0032* **Ganglion cell layer thickness on optical coherence tomography allows differentiation of MS patients without optic neuritis from age-matched controls.** *Vanessa Bachir[1, 2], J. Marinier[1], W. Wittich[1], L. Tchakmakian[1].* [1]Optometry, University of Montreal; [2]Institut de l'Oeil des Laurentides

2290 — *A0033* **Chronic demyelination contributes to accelerated retinal ganglion cell fibre loss in multiple sclerosis.** *Yuyi You[1], S. L. Graham[2], A. Klistorner[1].* [1]Sydney University; [2]Macquarie University

2291 — *A0034* **ST266 maintains neuroprotective effects in experimental optic neuritis after removal of high molecular weight proteins.** *Keirnan Willett[1], R. Sulaimankutty[1], K. Dine[1], H. Wessel[2], L. R. Brown[2], K. S. Shindler[1].* [1]Ophthalmology, University of Pennsylvania, Scheie Eye Institute; [2]Noveome Biotherapeutics Inc. **CR*

West Exhibition Hall A0035-A0055

Monday, April 29, 2019 4:00 PM-5:45 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

280 Idiopathic Intracranial Hypertension, Dementia and Neurodegerative Disorders

Moderators: Randy H. Kardon and Jeong-Min Hwang

2292 — *A0035* **The New Zealand Genetic Frontotemporal Dementia Study (FTDGeNZ): Baseline retinal characteristics.** *Hannah M. Kersten[1], B. Ryan[2, 3], K. L. Brickell[2, 3], C. Ilse[2, 3], E. Vaghefi[1], D. Addis[4, 2], L. Tippett[2, 3], M. Curtis[2, 3], H. Danesh-Meyer[5].* [1]School of Optometry and Vision Science, University of Auckland; [2]Centre for Brain Research, University of Auckland; [3]Brain Research New Zealand, Rangahau Roro Aotearoa; [4]Rotman Research Institute, Baycrest Health Sciences; [5]Department of Ophthalmology, University of Auckland

2293 — *A0036* **Pupillary light reflex in two-photon vision experiments.** *Agnieszka Zielinska[1], P. Ciacka[2], M. Martynow[3], M. Wojtkowski[2, 1], K. Komar[1, 3].* [1]Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Torun; [2]Institute of Physical Chemistry, Polish Academy of Sciences; [3]Baltic Institute of Technology **CR*

2294 — *A0037* **Macular and wide-field eighty-second screening tests using multifocal pupil perimetry.** *Corinne F. Carle[1, 2], J. van Kleef[1], E. M. Rohan[1], F. Sabeti[1, 3], J. Wong[1], A. Cho[1], T. Maddess[1].* [1]John Curtin School of Medical Research, The Australian National University; [2]ANU Medical School, The Australian National University; [3]University of Canberra **CR*

2295 — *A0038* **Objective Measurement of Functional Defects in Age-related Macular Degeneration by Pupil Campimetry.** *Carina Kelbsch[1], J. Lange[1], H. Wilhelm[1], B. Wilhelm[2], T. Peters[2], M. Kempf[1], L. Kuehlewein[1], K. Stingl[3].* [1]University Eye Hospital, Centre for Ophthalmology Tuebingen; [2]STZ eyetrial at the Centre for Ophthalmology, University of Tübingen, Tübingen, Germany; [3]Institute for Ophthalmic Research, Centre for Ophthalmology Tübingen, University of Tübingen, Tübingen, Germany

2296 — *A0039* **Outer Retina Thinning Distinguishes Frontotemporal Degeneration from Alzheimer's Disease.** *Benjamin J. Kim[1], M. Grossman[2], A. Saludades[1], D. Song[1], J. L. Dunaief[1], B. McGeehan[1], G. Ying[1], T. S. Aleman[1], D. Irwin[2].* [1]Ophthalmology, Scheie Eye Institute / UPenn; [2]Penn FTD Center, Department of Neurology, University of Pennsylvania

2297 — *A0040* **Circumpapillary retinal nerve fiber layer thickness (cpRNFLT) and key domains of cognitive function.** *Hui Wang[1, 2], T. Elze[2], T. Luck[3, 4], J. Kynast[5, 6], J. Girbardt[7], F. Rodriguez[5, 3], A. Witte[5, 6], C. Engel[5, 7], M. Wang[2], N. Baniasadi[2], D. Li[2], M. Loeffler[5, 7], A. Villringer[6, 8], S. Riedel-Heller[5, 3], M. Schroeter[6, 8], F. Rauscher[5, 7].* [1]Institute for Psychology and Behavior, Jilin University of Finance and Economics; [2]Schepens Eye Research Institute, Harvard Medical School; [3]Institute of Social Medicine, Occupational Health and Public Health (ISAP),Leipzig University; [4]Department of Economic and Social Sciences, Institute of Social Medicine, Rehabilitation Sciences and Healthcare Research (ISRV), University of Applied Sciences Nordhausen; [5]Leipzig Research Centre for Civilization Diseases (LIFE), Leipzig University; [6]Department of Neurology, Max Planck Institute for Human Cognitive and Brain Sciences; [7]Institute for Medical Informatics, Statistics and Epidemiology, Leipzig University; [8]Clinic for Cognitive Neurology, Leipzig University ***CR**

2298 — *A0041* **Optical coherence tomography as a prospective imaging tool in Alzheimer's disease and Parkinson's disease.** *William Robert Kwapong[1], M. Qu[2], Y. Chen[1], H. Miao[1], Y. Zhang[1], Z. Han[2], F. Lu[1], M. Shen[1].* [1]School of Ophthalmology and Optometry, Wenzhou Medical University; [2]Second Affiliated Hospital and Yuying Childrens' Hospital of Wenzhou Medical University

2299 — *A0042* **Axonal protection by nicotinamide riboside with inhibition of p62 in TNF-induced optic nerve degeneration.** *Yasushi Kitaoka[1, 2], K. Sase[1], C. Tsukahara[1, 2], N. Fujita[1, 2], H. Takagi[1].* [1]Ophthalmology, St Marianna Univ School of Med; [2]Molecular Neuroscience, St**.** Marianna University Graduate School of Medicine

2300 — *A0043* **An analysis of postoperative visual field result of tailored anterior temporal lobectomy.** *WEI XIAO.* Zhongshan Opthalmic Center

2301 — *A0044* **A Review Of The Differences Between IIH And SANS To Propose Novel Terrestrial Analogs For SANS.** *Shehzad Batliwala[1], T. J. Brunstetter[3], B. J. Tarver[2], S. J. Clemett[4], M. Nelman-Gonzalez[6], S. S. Mason[5], C. Sams[2].* [1]Ophthalmology, Dean McGee Eye Institute; [2]NASA Johnson Space Center; [3]U**.**S**.** Navy; [4]ERC/ Jacobs (JETS); [5]MEIT; [6]KBRWyle

2302 — *A0045* **Treatment of Occipital Neuralgia with low-dose Botulinum Toxin (BOTOX®) injection(s).** *Halward Blegen[1], A. Mehta[1], J. Santamaria[1], T. Ray[2], A. Grant[1].* [1]Ophthalmology, San Antonio Military Medical Center; [2]Uniformed Services University of the Health Sciences

2303 — *A0046* **Sustained Ocular Venous Fluid Shift During Spaceflight May Contribute to Optic Disc Edema.** *Karina Marshall-Goebel[1], B. Macias[1], S. Laurie[1], S. Lee[1], D. Martin[1], S. Dulchavsky[2], A. Hargens[3], M. B. Stenger[4].* [1]Cardiovascular & Vision Laboratory, NASA Johnson Space Center, KBRWyle; [2]Henry Ford Hospital; [3]University of California, San Diego; [4]NASA Johnson Space Center

2304 — *A0047* **Detection of Mild Traumatic Brain Injury by a Virtual Reality System.** *David Delil Kara[1], M. Ring[2], W. Mehringer[2], B. Eskofier[2], F. F. Hennig[4], G. Michelson[1, 3].* [1]Friedrich-Alexander University Erlangen-Nürnberg (FAU); [2]Department of Computer Science Friedrich-Alexander University Erlangen-Nürnberg (FAU), Machine Learning and Data Analytics Lab (MaD Lab); [3]Talkingeyes&More GmbH; [4]Department of Trauma Surgery, Friedrich-Alexander University Erlangen-Nürnberg (FAU) ***CR**

2305 — *A0048* **Detection of Visual Loss in IIH with Static Automated Perimetry: Temporal Wedge Defects.** *Michael Wall[1, 2], A. Subramani[5], L. X. Chong[4], R. Galindo[5], A. Turpin[3], R. H. Kardon[5], M. J. Thurtell[5], B. Jane[5], I. Marin-Franch[6].* [1]Neurology & Ophthalmology, Univ of Iowa, Carver Coll of Med; [2]Neurology, Iowa City Veterans Administration Health Care System; [3]School of Computing and Information Systems, University of Melbourne; [4]Optometry, Deakin University; [5]Ophthalmology and Visual Sciences, University of Iowa; [6]Computational Optometry

2306 — *A0049* **Tree Shrew Spontaneous Retinal Venous Pulsation Changes Due to Changes in the Translaminar Pressure Difference.** *Michael Dattilo[1], B. C. Samuels[2], C. R. Ethier[3].* [1]Ophthalmology, Georgia Tech/Emory Eye Institute; [2]Ophthalmology, University of Alabama at Birmingham; [3]Biomedical Engineering, Georgia Institute of Technology/Emory University

2307 — *A0050* **Neuro-ophthalmic Manifestation after Repair of Cerebrospinal Fluid Leak.** *Aishwarya Pastapur[1], O. Solyman[2], B. Ozgen[3], S. Joe[4], P. MacIntosh[2].* [1]College of Medicine, University of Illinois at Chicago; [2]Ophthalmology & Visual Sciences, University of Illinois at Chicago; [3]Department of Radiology, University of Illinois at Chicago; [4]Department of Otolaryngology and Head and Neck Surgery, University of Illinois at Chicago

2308 — *A0051* **Anatomical and functional changes of optic disc and retinal nerve fiber layer after bariatric surgery in morbidly obese Korean patients with lower BMI.** *Kibum Pak, S. Ha, K. Choi, J. Chung.* Ophthalmology, Soonchonhyang university Seoul hospital

2309 — *A0052* **Transverse Venous Sinus Stenosis in Idiopathic Intracranial Hypertension – A Prospective Pilot Study.** *Wesley Chan[1], L. Green[2], A. Mishra[1], C. Maxner[1, 2], J. J. Shankar[3].* [1]Department of Ophthalmology & Visual Sciences, Dalhousie University; [2]Division of Neurology, Department of Medicine, Dalhousie University; [3]Department of Radiology, University of Manitoba

2310 — *A0053* **Venous Sinus Stenting Improves Visual Outcomes in Idiopathic Intracranial Hypertension.** *Michelle Sun[1], A. Tandon[1], A. Patsalides[2], M. Dinkin[1], C. Oliveira[1].* [1]Ophthalmology, Weill Cornell, New York Presbyterian Hospital; [2]Neurosurgery, Weill Cornell New York Presbyterian ***CR**

2311 — *A0054* **Dynamic changes of the optic nerve sheath and pituitary gland with treatment of idiopathic intracranial hypertension.** *John J. Chen[1, 2], D. P. Hanson[3], D. R. Holmes[3], J. K. Cutsforth-Gregory[2], G. Lanzino[4], M. Bhatti[1, 2], J. A. Garrity[1], J. J. Huston[5].* [1]Ophthalmology, Mayo Clinic; [2]Neurology, Mayo Clinic; [3]Biomedical Engineering and Physiology, Mayo Cilnic; [4]Neurosurgery, Mayo Clinic; [5]Radiology, Mayo Clinic ↗

2312 — *A0055* **Positive Predictive Value of International Classification of Disease Codes for diagnoses of Idiopathic Intracranial Hypertension.** *Fareshta Khushzad, R. Kumar, I. Muminovic, H. Moss.* Neuro-Ophthalmology, Stanford University

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West Exhibition Hall A0361-A0380

Monday, April 29, 2019 4:00 PM-5:45 PM

Anatomy and Pathology/Oncology

281 Retinoblastoma

Moderator: Sameh Gaballah

2313 — *A0361* **Role of Hypoxia in RetinoblastomaY79 cell line.** *Geeta K. Vemuganti[3], n. RVL[3], J. Alexander[1], H. Kalirai[1], A. Kondapi[2], S. Kaliki[4], P. Kallamadi[5], H. Nemani[5], S. E. Coupland[1].* [1]Liverpool Ocular Oncology Research Group, University of Liverpool; [2]School of Life Sciences, University of Hyderabad; [3]School of Medical Sciences, University of Hyderabad; [4]LV Prasad Eye Institute, The Operation Eyesight Universal Institute for Eye Cancer; [5]National Institute of Nutrition, National Animal Resource Facility for Biomedical Research

2314 — *A0362* **Angiogenic factors affect retinoblastoma invasiveness and stem cell gene expression.** *Claudia Prospero Ponce[1], G. Hinojosa[1], R. Penland[1], D. Gombos[3, 4], P. Chevez-Barrios[1, 2].* [1]Pathology and Genomic medicine, Methodist Hospital; [2]Departments of Pathology and Laboratory Medicine and Ophthalmology, Weill Cornell Medicine; [3]Ophthalmology, MDAnderson Cancer Center; [4]Ophthalmology, Baylor College of Medicine

2315 — *A0363* **Identification of stemness of primary retinoblastoma cells by stem cell markers, phenotype, and tumorigenicity with culture and xenograft models.** *Rong Lu[1, 2], H. Ma[1, 2], Z. Tang[1, 2], Y. Chen[1, 2], C. Nie[1, 2], Y. Gao[1, 2].* [1]Zhongshan Ophthalmic Center; [2]State Key Laboratory of Ophthalmology

2316 — *A0364* **Genome editing-based read-through of stop codons in cells with retinoblastoma-relevant nonsense mutations in the *RB1* gene.** *Dong Hyun Jo[1, 2], H. Jang[3, 4], Y. Jung[3, 4], J. Kim[1, 2], H. Jun[1, 2], H. Dimaras[5], T. W. Corson[6], S. Bae[3, 4], J. Kim[1, 7].* [1]Fight against Angiogenesis-Related Blindness (FARB) Laboratory, Clinical Research Institute, Seoul National University Hospital; [2]Tumor Microenvironment Research Center, Global Core Research Center, Seoul National University; [3]Department of Chemistry, Hanyang University; [4]Research Institute for Convergence of Basic Sciences, Hanyang University; [5]Ophthalmology & Vision Sciences, The Hospital for Sick Children; [6]Ophthalmology, Indiana University School of Medicine; [7]Department of Biomedical Sciences, Seoul National University College of Medicine

2317 — *A0365* **The Retinoblastoma Tumor Microenvironment Contributes to Drug Resistance.** *Matthew W. Wilson[1, 2], Z. K. Goldsmith[1], M. Brouner[1], R. C. Brennan[3, 1], B. A. King[1], V. M. Morales-Tirado[1].* [1]Ophthal/Hamilton Eye Int, Univ of Tennessee Health Sci Ctr; [2]Surgery, St Jude Children's Research Hospital; [3]Oncology, St Jude Children's Research Hospital

2318 — *A0366* **Her2 expression in retinoblastoma and adjacent "normal" retina detected by *in situ* hybridization.** *Gail M. Seigel[1], D. Shah[2], P. Mendoza[3], H. E. Grossniklaus[3], Y. Song[4], J. Shan[4].* [1]Center for Hearing and Deafness, University at Buffalo; [2]Pharmaceutical Sciences, University at Buffalo; [3]Pathology and Laboratory Medicine, Emory University; [4]Dept of Genetics, Albert Einstein College of Medicine

2319 — *A0367* **Interaction of Immune Checkpoints in Tumor-Stromal Microenvironment of Primary and Chemoreduced Retinoblastoma.** *Lata Singh[1], M. K. Singh[2], M. A. Rizvi[1], S. Kashyap[2].* [1]Biosciences, JAMIA MILLIA ISLAMIA; [2]Ocular Pathology, Dr.R.P. Centre for Ophthalmic Sciences, Dr.R.P.Centre for Ophthalmic Sciences, AIIMS

2320 — *A0368* **The importance of cavitary spaces in retinoblastoma.** *RAFAEL NOJIRI MOREIRA, J. Lasiste, I. V. Valle, M. Eugenia Orellana, E. B. Abreu, M. N. Burnier.* The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

2321 — *A0369* **Clinicopathological evaluation of childhood ocular tumors.** *Gabriela Cavalieri, V. C. Lima, A. T. Dias, C. Mastromonaco, S. Bergeron, J. Burnier, M. N. Burnier.* The MUHC-McGill University OcularPathology & Translational Research Laboratory

2322 — *A0370* **DEPICT HEALTH Supports Clinical Trial of Sustained-release Episcleral Topotecan for Retinoblastoma.** *Brenda L. Gallie[1, 2], S. Soliman[1, 4], F. Shaikh[3], R. Carvalho[5], T. Truong[6], K. Flegg[7], A. Murphree[8].* [1]Dept Ophthalmology and Vision Science, The Hospital for Sick Children; [2]Departments of Ophthalmology, Medical Biophysics, and Medical Genetics, University of Toronto; [3]Department of Hematology & Oncology, The Hospital for Sick Children; [4]Department of Ophthalmology, Faculty of Medicine, Alexandria University; [5]3T Ophthalmic Technologies; [6]Techna Institute; [7]International Retinoblastoma Consortium; [8]The Vision Center, Children's Hospital Los Angeles **CR*

2323 — *A0371* **Adjuvant use of laser in eyes with macular retinoblastoma treated with primary systemic chemotherapy.** *Mai Tsukikawa[1], A. W. Stacey[1, 2], D. Fabian[2], V. Smith[3], Z. Naeem[3], J. Ainsworth[4], M. Parulekar[4], A. Reddy[2, 3], M. Sagoo[2, 3].* [1]Ophthalmology, University of Washington; [2]Moorfields Eye Hospital; [3]Barts Health NHS Trust; [4]Birmingham Children's Hospital

2324 — *A0372* **Retinal and Choroidal Macular Features in Eyes affected by Vascular Choroidopathy after Intra-Arterial Chemotherapy for Retinoblastoma assessed by Optical Coherence Tomography.** *Jessica Sergenti[1, 2], M. Gaillard[1], C. Stathopoulos[1], S. Houghton[1], F. Puccinelli[3], M. Beck-Popovic[4], F. Munier[1].* [1]Jules-Gonin Eye Hospital, Fondation Asile des Aveugles, University of Lausanne; [2]University Eye Clinic of Pavia, IRCCS Fondazione Policlinico San Matteo; [3]Interventional Neuroradiology Unit, Centre Hospitalier Universitaire Vaudois; [4]Unit of Pediatric Onco-Hematology, Centre Hospitalier Universitaire Vaudois

2325 — *A0373* **Tumor size criteria for Group D and E eyes in the International Classification System for Retinoblastoma: effect on rates of globe salvage and high-risk histopathologic features.** *Sona Shah[1, 2], J. W. Kim[2, 3], S. Green[3], J. O'Fee[1, 2], B. Tamrazi[3], J. L. Berry[2, 3].* [1]Keck School of Medicine of USC; [2]USC Roski Eye Institute; [3]Children's Hospital Los Angeles

2326 — *A0374* **Ruthenium Brachytherapy After Intraarterial Chemotherapy For Retinoblastoma.** *Gregor D. Willerding[1, 2], N. Krause[1].* [1]Klinik für Augenheilkunde, DRK Kliniken Berlin Westend; [2]Augenklinik, Charite

2327 — *A0375* **Clinically preventable causes of unfavourable retinoblastoma treatment outcomes.** *Helen Dimaras[1, 2], A. Selvarajah[1], K. Hougham[1], W. Sim[1], J. B. Hu[1], B. L. Gallie[1, 2], F. Shaikh[1], S. Gaballah[1].* [1]The Hospital for Sick Children; [2]Ophthalmology & Vision Sciences, The University of Toronto

2328 — *A0376* **Comparison of Outcomes, Adverse Events, and Treatment Burden of Intravenous Chemotherapy vs. Intra-arterial Chemotherapy for Retinoblastoma: Results of a Pilot Study.** *Pranav Santapuram[1], J. Burris[1], D. Friedman[2], T. Koyama[3], A. Daniels[4].* [1]Vanderbilt University School of Medicine ; [2]Pediatrics, Vanderbilt University School of Medicine; [3]Biostatistics, Vanderbilt University Medical Center; [4]Ophthalmology and Visual Sciences, Vanderbilt University Medical Center

2329 — *A0377* **Management of Retinoblastoma in Older Children (>5 years) Using Intra-Arterial Chemotherapy: Comparison of Outcomes to Pre-Chemotherapy and Intravenous Chemotherapy Eras.** *Evan B. Selzer[1, 4], R. J. Welch[4], P. Jabbour[2], A. Leahey[3], S. L. Carol[4].* [1]Sidney Kimmel Medical College at Thomas Jefferson University; [2]Endovascular Service of the Department of Neurosurgery, Thomas Jefferson University; [3]Pediatric Oncology, Children's Hospital of Philadelphia; [4]Ocular Oncology Service, Wills Eye Hospital, Thomas Jefferson University

2330 — *A0378* **An Intraocular Pressure Predictive of High-Risk Histopathologic Features in Group E Retinoblastoma Eyes.** *Mary E. Kim[2, 1], S. Shah[2, 1], E. Zolfaghari[2], R. Jubran[3], M. W. Reid[2], J. W. Kim[2, 1], J. L. Berry[2, 1].* [1]USC Roski Eye Institute, Keck School of Medicine of the University of Southern California; [2]The Vision Center at Children's Hospital Los Angeles; [3]The Children's Center for Cancer and Blood Diseases, Children's Hospital Los Angeles

2331 — *A0379* **Impact of choroidal invasion on survival in patients with retinoblastoma.** *Asad Loya[1], T. Ayaz[2], C. Y. Weng[1, 3].* [1]Baylor College of Medicine; [2]University of Texas Medical Branch at Galveston ; [3]Ophthalmology, Ben Taub Hospital

2332 — *A0380* **Neonatal Retinoblastoma: Analysis of Treatment Outcomes in the Pre-Chemotherapy, Intravenous Chemotherapy, and Intra-arterial Chemotherapy Eras.** *David A. Camp[1], L. A. Dalvin[1, 2], R. Schwendeman[1], L. S. Lim[1], C. L. Shields[1].* [1]Ocular Oncology, Wills Eye Hospital; [2]Ophthalmology, Mayo Clinic **CR*

West Exhibition Hall A0381-A0435

Monday, April 29, 2019 4:00 PM-5:45 PM

Biochemistry/Molecular Biology

282 Biochemistry and Molecular Biology of the Retina

Moderators: Frank M. Dyka and Wen-Tao Deng

2333 — *A0381* **Functional characterization of Asn965 and Asn1974 variants in the Walker-A motif of ABCA4 associated with Stargardt Disease.** *Fabian Garces, L. L. Molday, G. Gutierrez, R. S. Molday.* The University of British Columbia

2334 — *A0382* **Elevated levels of A2E and lipofuscin fluorescence in the retinal pigment epithelium of mice that lack retinol dehydrogenase RDH8 are decreased by dark rearing.** *Yiannis Koutalos[1], N. P. Boyer[1], D. A. Thompson[2, 3].* [1]Ophthalmology, Medical Univ of South Carolina; [2]Ophthalmology and Visual Sciences, University of Michigan School of Medicine; [3]Biological Chemistry, University of Michigan School of Medicine

2335 — *A0383* **The effects of old age on RD and myopia in IRBP KO mice.** *Kristie L. Liao, S. Markand, S. Ferdous, K. J. Donaldson, J. H. Boatright, J. M. Nickerson.* Ophthalmology, Emory University

2336 — *A0384* **Polyphenols in the prevention of oxidative stress-induced damage of ARPE-19 cells.** *Pablo Tate, M. C. Marazita, M. Marquioni Ramella, A. M. Suburo.* IIMT-CONICET-AUSTRAL

2337 — *A0385* **Treatment of retinoblastoma cells with TCP induces dose-dependent cell death.** *Jennifer Rha, S. Ferdous, M. A. Chrenek, M. Griffin, J. H. Boatright, H. E. Grossniklaus, J. M. Nickerson.* Emory University

2338 — *A0386* **Deletion of Fatty Acids Transport Protein 4 (FATP4) Improves Cone-Mediated Vision in a Mouse Model of Leber Congenital Amaurosis (LCA).** *Minghao Jin[1], S. Li[2].* [1]Neuroscience Center and Department of Ophthalmology, LSU School of Medicine; [2]Neuroscience Center, LSU School of Medicine

2339 — *A0387* **Gelatinase activity and the formation of Müller glia-derived progenitor cells in the avian retina.** *Warren Campbell[1], A. deshmukh[2], S. Blum[1], J. Leight[2], A. J. Fischer[1].* [1]Neuroscience, The Ohio State University; [2]Biomedical Engineering, The Ohio State University

2340 — *A0388* **Effects of LumegaZ™ and PreserVision™ on Visual Function in a Young Population.** *Robert J. Donati[1], D. W. Evans[2].* [1]Basic and Vision Sciences, Illinois College of Optometry; [2]Guardion Health Sciences **CR*

2341 — *A0389* **RGR opsin and RDH10 in Müller Cells Affect Light Dependent Synthesis of Chromophore Precursor for Cone Pigment Regeneration.** *Gabriel H. Travis[1], A. Tsan[1], J. D. Cook[2], A. Morshedian[1], L. Yuan[1], E. Ng[1], T. Xu[1], R. A. Radu[1], G. L. Fain[1], J. J. Kaylor[1].* [1]Stein Eye Institute, UCLA School of Medicine; [2]Thermo Fisher

2342 — *A0390* **Restoring protein synthesis delays retinal degeneration.** *Christopher R. Starr[1], N. Sonenberg[2], M. S. Gorbatyuk[1].* [1]Optometry and Vision Sciences, University of Alabama at Birmingham; [2]Biochemistry, McGill University

2343 — *A0391* **Retinoid recycling is impaired in Stargardt iPSC-derived RPE.** *Roxana A. Radu[1], N. Kady[1], J. Hu[1], J. Pei[1], M. Lloyd[1], D. Bok[1], M. B. Gorin[1], S. Karumbayaram[2], A. Matynia[1].* [1]Ophthalmology, UCLA Stein Eye Institute; [2]Eli and Edythe Broad Stem Cell Research Center at UCLA

2344 — *A0392* **Role of SERPINI1 in the retinal function and determining the effects of oxidative stress on serpin expression.** *Rashi Rajput[1], V. Gupta[1], A. Godinez[1], K. Pushpitha[1], y. dheer[1], L. Garthwaite[1], S. L. Graham[1, 2], N. Chitranshi[1].* [1]Clinical Medicine, Macquarie University; [2]Save Sight Institute, University of Sydney

2345 — *A0393* **The age-related transcriptome of the retinal pigment epithelium of the macular-bearing *Callithrix jacchus*.** *Michael Böhm[1], K. Hadrian[1], S. Schlatt[2], J. Wistuba[2], S. Thanos[3], S. Rahmann[4], L. Klein-Hitpass[5].* [1]Department of Ophthalmology, Essen University Hospital; [2]Centre of Reproductive Medicine and Andrology (CeRA), Westfalian Wilhelms-University Münster; [3]Institute for Experimental Ophthalmology, Westfalian Wilhelms-University Münster; [4]Genome Informatics, University Duisburg-Essen; [5]Institute for Cell Biology, University Hospital Essen

2346 — *A0394* **Characterization and functional analysis of Lsd1 within the murine eye.** *Salma Ferdous, I. Gefke, J. H. Boatright, H. E. Grossniklaus, J. M. Nickerson.* Emory University

2347 — *A0395* **Molecular Imaging Mass Spectrometry, Lipidomics, and Functional Assessment of DHA Mechanisms of Retina Uptake and Retention.** *William C. Gordon, B. Jun, M. I. Kautzmann, N. G. Bazan.* Ophthalmology & Neuroscience Center, LSU Health Sciences Center

2348 — *A0396* **Characterization of *raifteiri*, a novel zebrafish inherited retinal dystrophy model.** *Breandan N. Kennedy[1], M. English[2], S. Virdi[4], M. Starostik[3], S. Carter[1], R. Geisler[4], A. Reynolds[1], A. Swaroop[2], H. Sundaramurthi[1].* [1]Sch of Biomolecular and Biomedical Sci, University College Dublin; [2]National Eye Institute; [3]Johns Hopkins Institute; [4]Institute of Toxicology and Genetics, Karlsruhe Institute of Technology

2349 — *A0397* **Implications of the *MAP9* mutation as a modifier of canine *RPGRIP1* cone-rod dystrophy.** *Courtney Spector, R. Sudharsan, K. Roszak, G. D. Aguirre, K. Miyadera.* Clinical Science and Advanced Medicine, University of Pennsylvania

2350 — *A0398* **Retina Phosphatidyl Choline Molecular Species Containing DHA and VLC-PUFAs Display Cell-selective Decreases in AdipoR1 Conditional KOs.** *Bokkyoo Jun, M. I. Kautzmann, K. Do, W. C. Gordon, N. G. Bazan.* Neuroscience Center, LSU Health Sciences Center

2351 — *A0399* **Modest exercise inactivates retinal glycogen synthase kinase-3ß.** *Jana T. Sellers[1], R. H. Isaacson[1], P. Girardot[1, 2], J. M. Nickerson[1], J. H. Boatright[1, 2].* [1]Ophthalmology, Emory University; [2]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center

2352 — *A0400* **Systemic Pentosan Polysulfate Administration Causes Retinal Function Loss in the C57Bl/6J Mouse.** *Preston Girardot[1, 2], X. Zhang[1, 4], I. Gefke[1], W. Wu[1], A. M. Hanif[3], N. Jain[1], J. M. Nickerson[1], J. H. Boatright[1, 2].* [1]Department of Ophthalmology, Emory University; [2]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center; [3]Emory University School of Medicine; [4]Department of Ophthalmology, Second Xiangya Hospital, Central South University

2353 — *A0401* **Proteomic Profile of Extracellular Vesicles from Uveal Melanoma cell lines.** *Thupten Tsering.* Pathology and oncology, RIMUHC

2354 — *A0402* **Exercise protects against retinal degeneration and retinal pigment epithelium (RPE) stress in the RHO$^{tvrm4/+}$ mouse model of retinitis pigmentosa.** *Xian Zhang[1, 2], P. Girardot[1], J. T. Sellers[1], W. Wu[1, 5], H. Skelton[6], J. M. Nickerson[1], M. T. Pardue[3, 4], J. H. Boatright[1, 3].* [1]Ophthalmology, Emory University; [2]Ophthalmology, Second Xiangya Hospital of Central South University; [3]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center; [4]Department of Biomedical Engineering, Georgia Institute of Technology; [5]The First Affiliated Hospital of Medical School of Xi'an Jiaotong University; [6]Morehouse School of Medicine

2355 — *A0403* **Usefulness of Recoverin to express and purify visual proteins.** *Line Cantin[1, 2], C. Salesse[1, 2].* [1]CUO-Recherche, Université Laval; [2]PROTEO, Université Laval

2356 — *A0404* **Depth perception deficit in Rbfox1 knockout animals is associated with the downregulation of Vamp1 and Vamp2.** *Lei Gu, J. Caprioli, N. Piri.* Ophthalmology, University of California Los Angeles

2357 — *A0405* **High-throughput localization of lncRNAs guides functional studies in the RPE.** *Michael H. Farkas[1, 2], T. J. Kaczynski[1, 2], E. D. Au[1], L. A. Skelton[1, 2], M. E. Sousa[1, 2], S. J. Fliesler[1, 2].* [1]Ophthalmology, Biochemistry, and Neuroscience Program, State University of New York at Buffalo; [2]Research Service, VA Western NY Healthcare System

2358 — *A0406* **Rpe65 L450 allele increases sensitivity to light damage in C57BL/6J mice.** *Micah A. Chrenek[1], J. T. Sellers[1], K. L. Liao[1], B. Still[1], J. M. Nickerson[1], J. H. Boatright[1, 2].* [1]Ophthalmology, Emory University; [2]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center

2359 — *A0407* **Telomerase activity and telomere length are restored by Elovanoids (ELV) upon exposure to uncompensated oxidative stress or oligomeric amyloid β in human retinal pigment epithelial cells (RPE).** *Surjyadipta Bhattacharjee[1], N. A. Petasis[2], N. G. Bazan[1].* [1]Neuroscience & Ophthal, LSU Neuroscience Center; [2]Department of Chemistry & Loker Hydrocarbon Research Institute, University of Southern California **CR*

2360 — *A0408* **High resolution two photon scanning fluorescence polarization microscopy for assessing photoreceptor disc membrane structure in living photoreceptors.** *Peter D. Calvert, N. Maza, C. Barnes, S. Lee.* Center for Vision Research, Ophthalmology, SUNY Upstate Medical University

2361 — *A0409* **Stretch with precision - a novel technique for biomechanical modulation of the retina in vitro.** *Jens Nääv Ottosson, L. T. Taylor, F. K. Ghosh.* Dept of Ophthalmology, Lund University, Sweden

2362 — *A0410* **Characterization of CNGB1-related proteins in the mouse inner retina.** *Steven J. Pittler[1], J. Gayet[2], T. Puthussery[2], P. Kotla[1].* [1]School of Optometry, Optometry and Vision Science, University of Alabama at Birmingham; [2]School of Optometry, University of California, Berkeley

2363 — *A0411* **Importance of an essential ligand-binding domain in the vitamin A transporter Rbpr2 for proper eye development and photoreceptor cell survival in Zebrafish.** *GLENN LOBO[1], A. Solanki[1], a. kondkar[2], Y. Su[1], D. Nihalani[1], B. Rohrer[1].* [1]Medical University of South Carolina; [2]Ophthalmology, King Saud University

2364 — *A0412* **The use of High-Resolution Imaging Mass Spectrometry to compare the lipids in mammalian retinal cells *in vivo* and *in vitro*.** *Javier Araiz[1], X. Pereiro[2], N. Ruzafa[2], A. Acera[2], R. Fernandez[3], J. Fernandez[3], G. Barreda[4], E. Astigarraga[4], E. Vecino[2].* [1]Ophthalmology, University of the Basque Country UPV/EHU; [2]Cell Biology and Histology, University of the Basque Country UPV/EHU; [3]Physical Chemistry, University of the Basque Country UPV/EHU; [4]IMG Pharma

2365 — *A0413* **Photoreceptor Survival Factor, Clusterin, is Enriched in Human Retinal Pigment Epithelial Exosomes.** *Shinwu Jeong[1], A. Vargas[1], K. Yamamoto[1], E. Lee[1, 3], C. M. Craft[1, 2].* [1]MDA Vision Research, USC Roski Eye Institute, Department of Ophthalmology, Keck School of Medicine of the University of Southern California; [2]Department of Cell & Neurobiology, Keck School of Medicine of the University of Southern California; [3]Department of Biomedical Engineering, USC Viterbi School of Engineering of the University of Southern California

2366 — *A0414* **Deletion of Tribbles Pseudokinase-3 Ameliorates Retinal Function in CEP290^{RD16} Mice.** *Asif Elahi[1], P. M. Pitale[1], T. Satoh[2], S. Akira[2], M. S. Gorbatyuk[1].* [1]Optometry and Vision Sciences, University of Alabama at Birmingham; [2]Osaka University

2367 — *A0415* **Interphotoreceptor Retinoid-Binding Protein (IRBP) prevents myopia, independent of mouse genetic backgrounds.** *Shanu Markand[1], S. Kim[1], M. A. Chrenek[1], J. H. Boatright[1, 2], J. M. Nickerson[1].* [1]Opthalmology, Emory University; [2]Atlanta VA Medical Center

2368 — *A0416* **Membrane binding of Retinol Dehydrogenase 11, a visual cycle protein.** *Christian Salesse[1], O. V. Belyaeva[2], N. Y. Kedishvili[2], M. Methot[1].* [1]CHU de Quebec-ULaval, Universite Laval; [2]Department of Biochemistry and Molecular Genetics, University of Alabama at Birmingham

2369 — *A0417* **Conditional deletion of *Des1* in the mouse retina does not impair the visual cycle in cones.** *Philip Kiser[1, 2], A. V. Kolesnikov[3], J. Kiser[4], Z. Dong[5], B. Chaurasia[6], L. Wang[6], S. Summers[6], T. Hoang[7], S. Blackshaw[7], N. S. Peachey[2], V. Kefalov[3], K. Palczewski[4].* [1]Physiology and Biophysics, University of California Irvine; [2]Research, Louis Stokes Cleveland VAMC; [3]Washington University; [4]Ophthalmology, University of California Irvine; [5]Polgenix Inc.; [6]University of Utah; [7]Johns Hopkins University

2370 — *A0418* **Immediate and Early Events Associated with Photobiomodulation in RPE Cells.** *Michael L. Denton[1], C. Gonzalez[1], G. Noojin[2], S. O'Connor[3], J. Lalonde[4], V. Yakovlev[4, 3], J. Pope[5].* [1]Air Force Research Lab; [2]Engility, Corp; [3]Physics/Astronomy, TAMU; [4]Biomedical Engineering, TAMU; [5]National Research Council

2371 — *A0419* **Oxysterol-induced expression of genes associated with autism and allied pathways in 661W cells.** *Bruce A. Pfeffer[1], L. Xu[2], S. J. Fliesler[1, 3].* [1]Ophthalmology, Biochemistry, and Neuroscience Program, SUNY-University at Buffalo; [2]Medicinal Chemistry, University of Washington; [3]Research Service, VA Western NY Healthcare System **CR*

2372 — *A0420* **Withdrawal_Fluid and CO2 transport across the retinal pigment epithelium: a theoretical model.** *Rodolfo Repetto[1], M. Dvoriashyna[1], A. Foss[2], E. A. Gaffney[3].* [1]Department of Civil, Chemical and Environmental Engineeging, University of Genoa; [2]Department of Ophthalmology, Nottingham University Hospitals; [3]Wolfson Centre for Mathematical Biology, Mathematical Institute, University of Oxford

2373 — *A0421* **PAR1 activation induces Glutamate release from RPE cells that is Ca^{+2} and PKC-dependent.** *Irene Lee Rivera[1], E. López[1], A. Lopez-Colome[1, 2].* [1]Instituto de Fisiología Celular UNAM; [2]Instituto de Oftalmología Conde de Valenciana

2374 — *A0422* **Generation of a transgenic mouse for inducible ectopic *CRX* expression.** *CHI SUN, S. Chen.* Ophthalmology and Visual Sciences, Washington University in St. Louis

2375 — *A0423* **Suppression of TGF-β2-induced RPE cells contraction by RAR-α agonist.** *Yuka Kobayashi, C. Yamashiro, M. Hatano, M. Kobayashi, S. Uchi, K. Tokuda, R. Yanai, K. Kimura.* Yamaguchi University School of Medicine

2376 — *A0424* **LncRNA NEAT1 inhibits cell proliferation by competitively binding to miR-34a in the retinal pigment epithelium.** *Xiaoyin Ma, F. Li, L. Hou.* School of Ophthalmology and Optometry and Eye Hospital, Wenzhou Medical University

2377 — *A0425* **Removal of the circadian clock gene *Bmal1* in the RPE abolishes the daily peak of photoreceptor outer segment disc phagocytosis.** *Christopher De Vera[1], J. A. Dixon[2], M. A. Chrenek[2], K. Baba[1], P. Iuvone[2], G. Tosini[1, 2].* [1]Neuroscience Institute & Department of Pharmacology and Toxicology, Morehouse School of Medicine; [2]Emory Eye Center & Department of Ophthalmology, Emory University

2378 — *A0426* **Pyruvate Kinase M2 Isoform Deletion in Cone Photoreceptors Results in Age-Related Cone Degeneration.** *Raju V. Rajala[1, 2], Y. Wang[1], K. Soni[1], A. Rajala[1].* [1]Ophthal/Dean McGee Eye Inst, Univ of Oklahoma Hlth Sci Ctr; [2]Physiology, University of Oklahoma Health Sciences Center

2379 — *A0427* **Characterization of RPE65 knockout in *Xenopus laevis*.** *Colette N. Chiu, P. Stanar, B. M. Tam, O. L. Moritz.* Ophthalmology and Visual Sciences, University of British Columbia

2380 — *A0428* **Retinal Degeneration and Impaired Phagocytosis of Photoreceptor Outer Segment Discs in *Prcd*-Knockout Mice.** *Tamar Ben-Yosef[1], G. Allon[1], I. Mann[1], U. Wolfrum[2], I. Perlman[1].* [1]Faculty of Medicine, Technion; [2]Institute of Molecular Physiology, Johannes Gutenberg-University of Mainz

2381 — *A0429* **The weak enzymatic activity of truncated lecithin retinol acyltransferase (LRAT) mutants cannot be explained by their affinity for all-*trans* retinol.** *Sarah Roy[1, 3], A. Coutinho[2], L. Cantin[1, 3], M. Gauthier[1, 3], M. Prieto[2], S. Gagne[4, 3], C. Salesse[1, 3].* [1]CUO-Recherche, Université Laval; [2]Instituto Superior Técnico, Universidade Lisboa; [3]PROTEO, Université Laval; [4]Institut de biologie intégrative et des systèmes, Université Laval

2382 — *A0430* **Novel *in* and *ex vivo* methods to reveal abnormal RPE morphology and microglial cell migration following light-induced retinal damage.** *Wenfei Wu[1, 2], K. J. Donaldson[3, 1], K. L. Liao[1], I. Gefke[1], J. H. Boatright[1, 4], H. E. Grossniklaus[1], J. M. Nickerson[1].* [1]Ophthalmology, Emory University; [2]Ophthalmology, The First Affiliated Hospital of Medical School of Xi'an Jiaotong University; [3]Neuroscience Institute, Georgia State University; [4]Atlanta VAMC Center for Visual & Neurocognitive Rehabilitation

Monday Posters
4:00 pm – 5:45 pm

2383 — *A0431* **Expression and function of Cathepsin B in the retinal pigment epithelium.** *Karina Hadrian[1], M. Lever[1], S. Schlatt[2], J. Wistuba[2], S. Thanos[3], S. Rahmann[4], L. Klein-Hitpass[5], M. Böhm[1].* [1]Department of Ophthalmology, Essen University Hospital; [2]Centre of Reproductive Medicine and Andrology, University of Münster; [3]Institute for Experimental Ophthalmology, University of Münster; [4]Genome Informatics, Institute of Human Genetics, University of Duisburg-Essen; [5]Institute for Cell Biology, Essen University Hospital

2384 — *A0432* **Adult primary human retinal pigment epithelial cells expanded in GMP-approved animal material-free medium.** *Richard Nagymihaly, G. Nguyen, M. Moe, G. Petrovski.* Department of Ophthalmology, Center for Eye Research, Oslo University Hospital and University of Oslo

2385 — *A0433* **Identification of RPE65 as an Action Point of Fatty Acids Transport Protein 4 in Mouse Models of Leber Congenital Amaurosis.** *Songhua Li[2], W. C. Gordon[1], N. G. Bazan[1], M. Jin[1].* [1]Neuroscience Center and Department of Ophthalmology, LSU Health Sciences Center; [2]Neuroscience Center, LSU Health Sciences Center

2386 — *A0434* **Altered Expression of LINC00276 is Associated with Retinal Pigment Epithelial Dysfunction Induced by Proinflammatory Cytokines.** *William Samuel[1], R. Kutty[1], C. N. Nagineni[2], O. A. Postnikova[1], C. Jaworski[1], T. Duncan[1], T. Redmond[1].* [1]Laboratory of Retinal Cell and Molecular Biology, National Eye Institute, National Institutes of Health; [2]Center for Cancer Research, National Institutes of Health

2387 — *A0435* **Prevention of oxidative stress-induced metabolic aberrations in the neural retina by caffeine.** *Kavita R. Hegde, K. Deacon.* Natural Sciences, Coppin State University

West Exhibition Hall A0552-A0568

Monday, April 29, 2019 4:00 PM-5:45 PM

Glaucoma

283 Clinical Studies

Moderators: Arthur J. Sit and Peter Khouri

2388 — *A0552* **Making a correct diagnosis of glaucoma, the EMGT experience.** *Hanna Maria Öhnell, B. Bengtsson, A. Heijl.* clinical sciences, Malmö, Lund University **CR*, ↗

2389 — *A0553* **Evaluation of the efficacy and safety of latanoprost 0.005% without benzalkonium chloride and its noninferiority to latanoprost 0.005% with benzalkonium chloride in patients with open-angle glaucoma and ocular hypertension.** *David Wirta[1], R. Malhotra[2], J. Peace[3], B. Shen Lee[4], A. Ogundele[5], K. N. Sall[6], M. McMenemy[7].* [1]Eye Research Foundation; [2]Ophthalmology Associates; [3]Peace Eyecare; [4]Vision Optique; [5]Sun Pharmaceuticals Industries, Inc.; [6]Sall Research Medical Center; [7]Berkeley Eye Center **CR*, ↗

2390 — *A0554* **Long-term safety evaluation of latanoprost 0.005% without benzalkonium chloride in patients with open-angle glaucoma and ocular hypertension.** *Bridgitte Shen Lee[1], R. Malhotra[4], K. N. Sall[2], A. Ogundele[5], J. Peace[3].* [1]Vision Optique; [2]Sall Research Medical Center; [3]Peace Eyecare; [4]Ophthalmology Associates; [5]Sun Pharmaceutical Industries, Inc. **CR*, ↗

2391 — *A0555* **12-month efficacy and safety of brimonidine tartrate 0.2%/timolol 0.5% ophthalmic solution in Korean patients with primary open-angle and normal-tension glaucomas–*The KOCO Study.*** *Sang Woo Park[1], K. Park[2], J. Kim[3], J. Lee[4], Y. Lee[5], J. Maglambayan[6], S. Simonyi[6].* [1]Department of Ophthalmology, Chonnam National University Medical School and Hospital; [2]Department of Ophthalmology, Seoul National University College of Medicine; [3]Department of Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine; [4]Department of Ophthalmology, Pusan National University School of Medicine; [5]Allergan Korea; [6]Allergan Singapore Pte. Ltd. **CR*, ↗

2392 — *A0556* **Comparison of add-on effect of brimonidine tartrate 0.1% ophthalmic solution on intraocular pressure between primary and secondary glaucoma.** *Shimpei Sugaoka, T. Kanda, M. Taguchi, K. Kanda, H. Goto, M. Takeuchi.* National Defence Medical College

2393 — *A0557* **The Efficacy and Safety Profile of Netarsudil 0.02% in Glaucoma Treatment: Real-World Outcomes.** *Melih Ustaoglu[1], E. Shiuey[2], C. Sanvicente[1], R. Razeghinejad[1], L. J. Katz[1], J. S. Myers[1], D. Lee[1].* [1]Glaucoma Research Center, Wills Eye Hospital; [2]Sidney Kimmel Medical School, Thomas Jefferson University

2394 — *A0558* **Safety and efficacy of long-term ripasudil 0.4% instillation for the reduction of intraocular pressure in Japanese open-angle glaucoma patients.** *Yuko Maruyama[2, 1], Y. Ikeda[2, 3], K. Mori[2], K. Yoshii[4], M. Ueno[2], H. Yoshikawa[5], C. Sotozono[2], S. Kinoshita[6].* [1]Ophthalmology, Kyoto First Red Cross Hospital; [2]Ophthalmology, Kyoto Prefectural University of Medicine; [3]Ophthalmology, Oike-Ikeda Eye Clinic; [4]Mathematics and Statistics in Medical Sciences, Kyoto Prefectural University of Medicine; [5]Ophthalmology, Kyoto Second Red Cross Hospital; [6]Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine **CR*

2395 — *A0559* **Early clinical experience with latanoprostene bunod.** *Hannah Lamberg[1], N. Kumar[2], D. Reed[2], J. Gilbert[2], S. E. Moroi[2].* [1]University of Michigan; [2]Ophthalmology and Visual Sciences, University of Michigan **CR*

2396 — *A0560* **Effects of a novel glaucoma eye drop Mikeruna®.** *Rika Yamada, K. NIIMI.* ophthalmology, Niimi Eye Institute

2397 — *A0561* **Recombinant human nerve growth factor (rhNGF) eye drops for glaucoma: Results from a prospective double -masked randomized controlled trial.** *Mariana Nunez[1], L. Popova[1, 2], B. T. Nguyen[1, 3], S. L. Groth[1, 4], A. Dennis[1], Z. Li[1], T. Khavari[1], S. Y. Wang[1], R. Chang[1], A. C. Fisher[1], J. L. Goldberg[1].* [1]Ophthalmology, Byers Eye Institute, Stanford University; [2]Medicine, Michigan University; [3]Ophthalmology, Cullen Eye Institute, Baylor College of Medicine; [4]Ophthalmology, Vanderbilt Eye Insitue ↗

2398 — *A0562* **Efficacy and Safety of Intravitreal Aflibercept Injection (IAI) in Neovascular Glaucoma (NVG): The VEGA Study.** *Tomomi Higashide[1], M. Inatani[2], K. Matsushita[3], M. Ueki[4], T. Kubota[5], Y. Iwamoto[6], M. Kobayashi[6], S. Leal[7].* [1]Ophthalmology, Kanazawa Univ Sch of Med Sci; [2]Faculty of Medical Sciences, University of Fukui; [3]Osaka University Graduate School of Medicine; [4]Osaka Medical College, Takatsuki; [5]Oita University Faculty of Medicine; [6]Bayer Pharmaceuticals; [7]Bayer Consumer Care AG **CR*, ↗

2399 — *A0563* **Effect of sustained-release bimatoprost implant (Bimatoprost SR) on visual field Mean Deviation in glaucoma patients in a phase 1/2 clinical trial.** *Douglas J. Rhee[1], I. Stalmans[2], M. Bejanian[3], M. L. Goodkin[3], J. Zhang[3], K. Wang[4], M. R. Robinson[3], R. A. Lewis[5].* [1]Glaucoma, Case Western Reserve University; [2]University Hospitals UZ Leuven; [3]Allergan plc; [4]Independent Consultant; [5]Sacramento Eye Consultants **CR*, ↗

2400 — *A0564* **Prostaglandin Analogs vs Pilocarpine in Reversion of Intraocular Pressure Peak at 6AM in Glaucoma.** *Sebastiao Cronemberger, D. Souza, A. A. Veloso, M. S. Pereira.* Ophthalmology, Federal Univ of Minas Gerais

2401 — *A0565* **Topical tacrolimus limits ocular hypertensive responses in topical steroid-treated eyes with refractory allergic ocular diseases.** *Dai Miyazaki[1], F. Ehara[1], Y. Inoue[1], A. Fukushima[2], Y. Ohashi[3], N. Ebihara[4], E. Uchio[5], S. Okamoto[6], J. Shoji[7], E. Takamura[8], K. Namba[9], H. Fujishima[10].* [1]Ophthalmology, Tottori University; [2]Kochi Univ; [3]Ehime Univ; [4]Juntendo Univ; [5]Fukuoka Univ; [6]Okamoto Eye Clinic; [7]Nihon Univ; [8]Tokyo Women's Medical University; [9]Hokkaido Univ; [10]Tsurumi Univ School of Dental Med **CR*

2402 — *A0566* **Effect of Citicoline and Docosahexaenoic acid (DHA) in the visual function of glaucoma patients.** *Antonio Morilla-Grasa[1], V. Garcia[1], N. Avalos[2], M. Bermudez[3], D. Urbaneja[4], M. Vidal[1], K. Gonzales[1], A. Roches[1], M. Muñoz[1], A. Anton-Lopez[1, 5].* [1]INSTITUT CATALA DE RETINA; [2]Ophthalmology, Hospital Nuestra Señora del Prado; [3]Clinica de Oftalmologia; [4]Ophthalmology, University Hospital of Wales; [5]Universidad Intrernacional de Catalunya **CR*, ↗

2403 — *A0567* **Effect of topical anti-glaucoma drugs on the incidence of herpetic simplex keratitis.** *Shayan Shokoohi, A. Iovieno, M. Etminan, S. Yeung.* Ophthalmology & Visual Sciences, University of British Columbia

2404 — *A0568* **The changes in intraocular pressure and angle structure after pupillary dilation in patients with primary angle closure suspect and visually significant cataract.** *Mengya Zhao[1, 2], Q. Sun[1], G. Hu[1], B. Zhu[1], Y. Wang[1], L. Ge[1], Q. Luo[1], Y. Miao[1], N. Tian[1], Y. Han[2], X. Xu[1].* [1]Ophthalmology, Shanghai General Hospital; [2]Ophthalmology, University of California, San Francisco

West Exhibition Hall A0569-A0601

Monday, April 29, 2019 4:00 PM-5:45 PM

Glaucoma

284 IOP Measurement

Moderators: Leonard K. Seibold and Joel Palko

2405 — *A0569* **Seasonal variation of intra-ocular pressure in glaucoma with and without short tear break-up time.** *Masahiko Ayaki[1], M. Kuze[3], K. Yuki[2], m. kawashima[1], m. uchino[1], K. Tsubota[1], K. Negishi[1].* [1]Keio Univ; [2]Keio Univ; [3]Mie Univ **CR*

2406 — *A0570* **The association of toxic anterior segment syndrome and intraocular pressure.** *Noa Geffen[2, 4], K. Shouchane-Blum[1], A. Gershoni[1], M. Mimouni[3], A. Zahavi[1].* [1]Ophthalmology, Rabin Medical Center ; [2]Ophthalmology, Rabin Medical Center; [3]Ophthalmology, Rambam Health Care Campus; [4]Ein Tal Medical Center

2407 — *A0571* **Effect of General Anesthesia on Intraocular Pressure in Pediatric Patients: A Meta-analysis.** *Sukhumal Thanapaisal[1, 2], J. Oatts[1], J. Zhao[1], C. I. Perez[1], Q. Liu[1, 3], T. C. Porco[1], Y. Han[1].* [1]Ophthalmology, University of California San Francisco; [2]Ophthalmology, Khon Kaen University; [3]Ophthalmology, Henan Eye Institute

2408 — *A0572* **The correlation between Glaucoma polygenic risk score and IOP measured by Icare® HOME tonometry within and outside of office hours.** *Mona S. Awadalla[1], M. Hassall[1], A. Qassim[1], T. Nguyen[1], X. Han[2], S. MacGregor[2], J. Landers[1], J. E. Craig[1], D. A. Mackey[5], A. W. Hewitt[3, 4].* [1]Ophthalmology, Flinders University; [2]QIMR Berghofer Medical Research Institute; [3]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, University of Melbourne; [4]Menzies Institute for Medical Research, University of Tasmania; [5]Centre for Ophthalmology and Visual Science, Lions Eye Institute, University of Western Australia

2409 — *A0573* **Twenty-Four-Hour Light-Induced Ocular Hypertension in Rats Provides a Non-invasive Chronic Model for Testing Intraocular Pressure Lowering Drugs.** *Julie Schaub, E. N. Oglesby, S. Quillen, E. Kimball, M. E. Pease, J. Jefferys, I. F. Pitha, H. A. Quigley.* Johns Hopkins University **CR*

2410 — *A0574* **Effect of anesthesia, body temperature, and stress on intraocular pressure in rats.** *Christina Nicou[1], C. L. Passaglia[2], A. Pillai[2].* [1]Medical Engineering, University of South Florida; [2]Chemical and Biomedical Engineering, University of South Florida

2411 — *A0575* **Intraocular pressure change following the washout of topical ocular hypotensives medication.** *Henrietta Ho, J. Ho, P. Grassi, P. Alaghband, E. Galvis, A. De Antonio Ramiez, R. Lim, K. Lim.* Ophthalmology, St Thomas' Hospital

2412 — *A0576* **Continuous positive airway pressure (CPAP) related intraocular pressure increase at night in people with and without glaucoma.** *Matt Schneiders[1], D. Wozniak[2], R. R. Bourne[3, 4], I. Smith[2].* [1]Department of Ophthalmology, North West Anglia NHS Foundation Trust; [2]Royal Papworth Hospital's Respiratory Support and Sleep Centre (RSSC), Royal Papworth Hospital NHS Foundation Trust; [3]Vision and Eye Research Unit, School of Medicine, Anglia Ruskin University; [4]Cambridge Eye Research Centre, Cambridge University Hospitals

2413 — *A0577* **High intraocular pressure in the view of the risk of open angle glaucoma in Korean; Korea National Health and Nutrition Examination Survey.** *Joon Mo Kim[1], K. Kim[2], D. Shin[1].* [1]Ophthalmology, Kangbuk Samsung Hospital; [2]Ophthalmology, Nowon Eulji Medical Center, Eulji University

2414 — *A0578* **Peak IOP and Corneal Hysteresis as a Risk Factor in Patients with Progressive Glaucoma. Water-Drinking Test Performed with an ORA-G3 Device.** *Sara Aurora Garcia y Otero Sánchez[1], J. A. Paczka[2, 1], L. Giorgi-Sandoval[2, 3], A. Orozco Garcia[1], J. Rodriguez-Lopez[2, 4].* [1]Oftalmología, Universidad de Guadalajara ; [2]Unidad de Diagnostico temprano del Glaucoma; [3]Asistencia e Investigación en Glaucoma; [4]Universidad de Guadalajara

2415 — *A0579* **Location in glaucomatous visual field loss vulnerable to posture-induced intraocular pressure changes.** *Yusuke Manabe, A. Sawada, T. Yamamoto.* Ophthalmology, Gifu University Graduate School of Medicine

2416 — *A0580* **Postural Change in Intraocular Pressure and Agreement between Goldmann Applanation, Tonopen, and Perkins Tonometry.** *Kanza Aziz[1], J. Fu[1, 2], V. Varadaraj[1], A. M. Kretz[1], S. Moroi[3], D. S. Friedman[1].* [1]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [2]Ophthalmology, Beijing Tongren Hospital, Beijing Tongren Eye Center, Capital Medical University; [3]Kellogg Eye Center, University of Michigan **CR*, ↗

2417 — *A0581* **Postural Change In Intraocular Pressure Analyzed by Waist Hip Ratio And Body Mass Index.** *Levi Smith[1], D. Howard[1], W. Whitworth[1], A. Cushings[1], C. Majcher[1], W. E. Sponsel[1, 2], R. Trevino[1].* [1]Rosenberg School of Optometry, UIW; [2]Biomedical Engineering, University of Texas San Antonio

2418 — *A0582* **Telemetric Intraocular Pressure Monitoring in Boston Keratoprosthesis Patients with the Eyemate-IO Pressure Sensor: Dynamics in the first year of follow-up.** *Philip Enders[1], J. Hall[2], M. Bornhauser[2], K. Mansouri[3], L. Altay[1], S. Schrader[4], T. S. Dietlein[1], B. Bachmann[1], T. Neuhann[2], C. Cursiefen[1].* [1]Department of Opthalmology, University Hospital of Cologne, Germany; [2]MVZ Prof**.** Neuhann mit Augenabteilung, Rotkreuzklinikum München; [3]Glaucoma Research Center, Swiss Vision Network, Montchoisi Clinic; [4]Department of Ophthalmology, Pius Hospital of the University of Oldenburg **CR*

2419 — *A0583* ***In Vivo*** **Optical Monitoring of Intraocular Pressure in Boston Keratoprosthesis.** *Pui-Chuen Hui, J. Chodosh, C. H. Dohlman, E. I. Paschalis.* Ophthalmology, Harvard Medical School/ Mass**.** Eye and Ear

2420 — *A0584* **Evaluation of differences in Intraocular Pressure (IOP) measurement between Tonoref III and Goldmann Applanation Tonometry (GAT).** *Katerina C. Lazari[1], M. N. Karpathaki[1], M. Linardakis[2], E. V. Christodoulakis[1].* [1]Ophthalmology, Rethymno General Hospital; [2]Department of Social Medicine, University of Crete, Faculty of Medicine

2421 — *A0585* **Agreement of three tonometers with Goldmann Applanation Tonometry (GAT).** *Peter Campbell[1, 2], D. Edgar[1], R. Shah[1].* [1]Optometry and Visual Sciences, City, University of London; [2]Ophthalmology, Guy's and St Thomas' NHS Foundation Trust

2422 — *A0586* **Usefulness of Dynamic Contour Tonometry in Patients with Progressive Glaucoma and a History of Laser Refractive Surgery.** *Sang Yeop Lee, H. Bae, G. Sung, C. Y. Kim.* Department of Ophthalmology, Yonsei Univ**.** Medical Center, Seoul, Korea

2423 — *A0587* **Comparison of Corneal and Scleral Intraocular Pressure Measurements Obtained by Pneumatonometry, TonoPen, and iCare Tonometers.** *Rebecca Chen[1], C. He[1], R. Levy[2], E. Oltra[2].* [1]Weill Cornell Medical College; [2]Ophthalmology, Weill Cornell Medicine

2424 — *A0588* **Correlations between intraocular pressure (IOP) measurements taken by Goldmann aplanation tonometry (GAT) and Tono-Pen AVIA® during daily curve of IOP (DCPo) in keratoconic eyes.** *Rafael V. Merula, S. Cronemberger, A. A. Veloso, A. Diniz-Filho.* Ophthalmology, Federal Univ of Minas Gerais

2425 — *A0589* **Inter-optometrist and intra-optometrist agreement for Intraocular Pressure (IOP) measurement by Goldmann Applanation Tonometry (GAT).** *Rakhee Shah, D. Edgar, P. Campbell.* Optometry and Visual Science, City University ↗

2426 — *A0590* **Post repair behavior of the Goldmann applanation tonometer in clinics.** *Nikhil S. Choudhari[1], A. Richhariya[2], V. Wadke[3], S. P. Deshmukh[1], R. J. George[4], S. Senthil[1], G. Chandra Sekhar[1].* [1]Glaucoma, L**.** V**.** Prasad Eye Institute; [2]Ophthalmic Engineering Group - Srujana Center for Innovation, L**.** V**.** Prasad Eye Institute; [3]Jadhavbhai Nathamal Singhvi Department of Glaucoma, Sankara Nethralaya; [4]Jadhavbhai Nathamal Singhvi Department of Glaucoma, Sankara Nethralaya

2427 — *A0591* **Validation of the Icare® TONOVET Plus rebound tonometer in normal rabbit eyes.** *Julie A. Kiland[2], A. Rothering[1], S. Gloe[1], G. J. McLellan[1, 2].* [1]Ophthalmology and Visual Sciences, University of Wisconsin-Madison; [2]Surgical Sciences, School of Veterinary Medicine, University of Wisconsin-Madison **CR*

2428 — *A0592* **The advantage of transpalpebral scleral tonometry for individuals wearing contact lenses.** *Margarita Rozhdestvenskaya[1], J. Orlob[2], D. Rüttimann[2], D. Alexey[3], I. Digel[2], K. E. Kotliar[2].* [1]Tonom**.**Ltd, Muenster, Germany; [2]Medical Engineering and Technomathematics, FH Aachen University of Applied Sciences; [3]Dashevsky Eye Clinic **CR*

2429 — *A0593* **When is iCare High Care?** *Jade Price, A. V. Levin.* Pedatric Ophthalmology and Ocular Genetics, Wills Eye Hospital

2430 — *A0594* **Intraocular pressure assessment by finger palpation: is it worth practicing?** *Clément Gisquet, L. Lhuillier, Z. Mohamed, Z. HEKALO, S. Stoebener, V. Malleron, c. goetz, J. Perone.* CHR Metz-Thionville

2431 — *A0595* **A further look at the effects of intravitreal triamcinolone acetonide on intraocular pressure in treatment of macular edema.** *Isha Mehta[1], A. Rehmani[1], J. Freedman[2], R. Feig[3].* [1]Ophthalmology, St**.** Johns Episcopal Hospital; [2]Ophthalmology Emeritus Professor, SUNY Downstate; [3]Brooklyn Eye Center

2432 — *A0596* **Incidence and risk factors for steroid response after cataract surgery in patients with and without glaucoma.** *Karine D. Bojikian[1], P. Nobrega[2, 1], P. P. Chen[1].* [1]Ophthalmology, University of Washington; [2]Ophthalmology, University of Sao Paulo

2433 — *A0597* **Steroid-Induced Ocular Hypertension (SIOHT) Model using Human Organ-Cultured Anterior Segment (HOCAS).** *Haribalaganesh Ravinarayanan[1], M. T[1], C. Gowri Priya[2], S. R[3], K. S. R[3], K. Dharmalingam[4], M. VR[2], S. Senthilkumari[1].* [1]Department of Ocular Pharmacology, Aravind Medical Research Foundation; [2]Department of Immunology & Stem Cell Biology, Aravind Medical Research Foundation; [3]Glaucoma Clinic, Aravind Eye Hospital; [4]Department of Proteomics, Aravind Medical Research Foundation

2434 — *A0598* **High Contrast Grating Based Mechanical Sensor for Intraocular Applications.** *Jayer A. Fernandes[1], Y. H. Kwon[1], J. Kim[1], M. Croft[2], H. Liu[1], P. L. Kaufman[2], H. Jiang[1].* [1]Department of Electrical and Computer Engineering, University of Wisconsin Madison; [2]Department of Ophthalmology and Visual Sciences, University of Wisconsin Madison **CR*

2435 — *A0599* **Evaluation of continual 24h intraocular pressure fluctuations with a new prototype sensing contact lens device.** *Kaweh Mansouri.* Montchsoisi Clinic, Glaucoma Research Center **CR*, ↗

2436 — *A0600* **Biometric And Gonioscopic Evaluation In Retinitis Pigmentosa.** *Ganesh Venkataraman, S. Settu, P. Chandran, M. Vimalanathan.* Aravind Eye Hospital

2437 — *A0601* **Developing Models of Glaucoma Clinical Decision Making Using Machine Learning Algorithms.** *Isdin Oke, B. Eliassi-Rad, M. Desai.* Boston Medical Center

West Exhibition Hall A0602-A0654

Monday, April 29, 2019 4:00 PM-5:45 PM

Glaucoma

285 Visual Fields, Psychophysics, and Electrphysiology

Moderators: Chris A. Johnson and Christopher Bowd

2438 — *A0602* **A Novel Visual Field Prediction Using Deep Learning: A Recurrent Neural Network Architecture.** *Keunheung Park.* Pusan National University Hospital

2439 — *A0603* **Glaucoma monitoring using an artificial intelligence enabled map.** *Siamak Yousefi[1, 2], T. Elze[3], L. Pasquale[4], M. V. Boland[5].* [1]Ophthalmology, University of Tennessee Health Science Center; [2]Genetics, Genomics, and Informatics, University of Tennessee Health Science Center; [3]Ophthalmology, Harvard University; [4]Ophthalmology, Icahn School of Medicine at Mount Sinai; [5]Ophthalmology, Johns Hopkins University **CR*

2440 — *A0604* **The Relationship Between Machine Learning-Derived Binocular Patterns of Visual Field Loss and Patient-Reported Disability in Glaucoma.** *Nara Ogata, A. A. Jammal, E. B. Mariottoni, C. Urata, S. Wakil, F. A. Medeiros.* Duke University **CR*

2441 — *A0605* **Suitability of Virtual Reality for Vision Simulation – A Case Study using Glaucomatous Visual Fields.** *Simon C. Stock[1], C. Erler[1], W. Stork[1], G. Labuz[2], H. Son[2], R. Khoramnia[2], G. U. Auffarth[2].* [1]Institute for Information Processing Technologies, Karlsruhe Institute of Technology; [2]The David J Apple Center for Vision Research, Department of Ophthalmology, University of Heidelberg

2442 — *A0606* **Comparison of Photopic Negative Response Obtained under *Different Recording Conditions from Glaucomatous Eyes.*** *YUJI HARA, S. Machida, T. Nishimura, s. ebihara, i. masahiko, T. atushi.* Dokkyo saitama medical center

2443 — *A0607* **PhNR measurement independent of baseline (N-wave) for the clinical evaluation of glaucoma.** *Michael F. Marmor, B. Pham, J. L. Goldberg.* Byers Eye Institute at Stanford, Stanford University ↗

2444 — *A0608* **Applying the Pattern Electroretinogram (PERG), Uniform Field Electroretinogram (ERG) and Photopic Negative Response (PhNR) in Clinical Glaucoma Practice.** *Irfan N. Kherani, S. Bali, A. Kantungane, A. Hermas, G. Miller, S. G. Coupland.* Ophthalmology, University of Ottawa

2445 — *A0609* **Pattern Electroretinogram P50 to N95 Amplitude Compared with Spectral-Domain Optical Coherence Tomography Macular Parameters in Normal and Glaucoma Eyes.** *Fabio Lavinsky[1, 2], N. Castoldi[2], F. Fujihara[5], J. Lavinsky[2, 3], R. L. Lindenmeyer[2, 3], C. Z. Benfica[2], D. Lavinsky[3, 2], H. M. Pakter[3, 4], P. d. Mello[1].* [1]Department of Ophthalmology, São Paulo Hospital, Paulista School of Medicine; [2]Department of Ophthalmology, Hospital de Clinicas de Porto Alegre; [3]Department of Ophthalmology, Federal University of Rio Grande do Sul; [4]Department of Ophthalmology, Hospital Nossa Senhora da Conceição; [5]Department of Ophthalmology, Hospital Banco de Olhos

2446 — *A0610* **Pattern Electroretinogram parameters in untreated glaucoma suspects with signs of conversion.** *Andrew Tirsi[1], B. Wong[1], P. H. Derr[2], J. soria[3], V. Rohring[1], J. Lee[1], l. Schwartz[1], A. Gonzalez Garcia[2], S. Park[1], C. Tello[1].* [1]MEETH; [2]Diopsys; [3]CIVE **CR*

2447 — *A0611* **Combining L- and M-cone-isolating stimuli to measure parvo- and magnocellular function in normal subjects and glaucoma patients.** *Cord R. Huchzermeyer, C. Y. Mardin, R. Lämmer, J. J. Kremers.* Department of Ophthalmology, Friedrich-Alexander-University Erlangen-Nuremberg

2448 — *A0612* **Contrast decrement *vs* increment responsiveness in glaucoma.** *Anthony M. Norcia[1], A. Yakovleva[2], J. L. Goldberg[2].* [1]Psychology, Stanford University; [2]Beyers Eye Institute, Stanford University

2449 — *A0613* **How ganglion cell responses to IOP elevation are impacted by blood pressure and intracranial pressure.** *Bang V. Bui, A. van Koeverden, Z. He, A. J. Vingrys, C. T. Nguyen, D. Zhao.* Optometry and Vision Sciences, University of Melbourne

2450 — *A0614* **Retinal Ganglion cell Functional Recovery After IOP lowering treatment in Glaucoma Suspects.** *Peter H. Derr[1], A. Tirsi[2], B. Wong[2], V. Rohring[2], J. Lee[2], l. Schwartz[2], A. Gonzalez Garcia[1], S. Park[2], C. Tello[2].* [1]Diopsys; [2]MEETH **CR*

2451 — *A0615* **The effectiveness of continuous positive airway pressure therapy in glaucoma patients with obstructive sleep apnea syndrome.** *Noriko Himori[1], E. Yamada[1], H. Ogawa[2], M. Ichinose[2], T. Nakazawa[1].* [1]Ophthalmolgy, Tohoku University; [2]Respiratory Medicine, Tohoku University

2452 — *A0616* **Decreased macular vessel density measured by optical coherence tomography angiography is associated with a reduced photopic negative response in glaucoma patients.** *Carlo Alberto Cutolo[1], S. Saccà[2], D. Ferrari[2], C. Traverso[1].* [1]Clinica Oculistica, DiNOGMI, Ospedale Policlinico iRCCS San Martino, University of Genova; [2]Ophthalmic Unit, Ospedale Policlinico San Martino

2453 — *A0617* **Evaluation of HFA3 gaze monitoring feature using lens-based head tracking.** *Ashwini Tamhankar, G. C. Lee, T. Callan, C. Wu, M. K. Durbin.* Carl Zeiss Meditec, Inc**.** **CR*

2454 — *A0618* **Comparison of SITA Faster 24-2C test times to legacy SITA tests.** *Sophia Yu[1], G. C. Lee[1], T. Callan[1], A. Covita[1], T. Severin[2].* [1]Carl Zeiss Meditec, Inc.; [2]East Bay Eye Center **CR*

2455 — *A0619* **Diagnostic Efficacy of 24-2 and 24-2C SITA Faster Global Summary Indices.** *Gary C. Lee[1], S. Yu[1], T. Callan[1], M. K. Durbin[1], A. Covita[1], T. Severin[2].* [1]Carl Zeiss Meditec, Inc; [2]East Bay Eye Center **CR*

2456 — *A0620* **Influence of unilateral versus bilateral 10-2 and 24-2 glaucomatous visual field loss on vision-related quality of life.** *Denise Pensyl[1], S. Katiyar[1], N. B. Patel[2], M. Sullivan-Mee[1].* [1]Albuquerque VAMC; [2]University of Houston

2457 — *A0621* **Value of central 10-2 perimetry in patients with existing 24-2 visual field defects.** *Michael West[2], G. Sharpe[1, 2], D. Hutchison[1, 2], L. M. Shuba[1, 2], P. E. Rafuse[1, 2], M. T. Nicolela[1, 2], J. R. Vianna[1, 2], B. C. Chauhan[1, 2].* [1]Ophthalmology and Visual Sciences, Dalhousie University; [2]Nova Scotia Health Authority **CR*

2458 — *A0622* **Effect of additional testing locations on the evaluation of macular perimetric defects in glaucoma.** *Dario Romano[1], G. Montesano[2, 1], P. Fogagnolo[1], A. M. McKendrick[3], A. Turpin[4], F. Oddone[5], P. Lanzetta[6], P. Brusini[10], A. Perdicchi[7], C. A. Johnson[8], D. F. Garway-Heath[9], D. P. Crabb[2], L. M. Rossetti[1].* [1]Eye Clinic, University of Milan; [2]Optometry and Visual Sciences, City, University of London; [3]Optometry & Vision Sciences, University of Melbourne; [4]Computing and Information Systems, University of Melbourne; [5]Glaucoma unit, IRCCS GB Bietti Eye Foundation; [6]Department of Ophthalmology, University of Udine; [7]Azienda ospedaliera Sant'Andrea; [8]Ophthal & Visual Sciences, University of Iowa; [9]NIHR Biomedical Research Centre, Moorfields Eye Hospital; [10]Department of Ophthalmology, "Città di Udine" Health Center **CR*

2459 — *A0623* **Evaluation of fixation loss response to stimulation of physiologic scotoma by Heijl-Krakau method in eyes with the deterioration of sensitivity near the physiologic scotoma.** *Takuya Ishibashi[1], C. Matsumoto[1], H. Nomoto[1], K. Yoshikawa[2], M. Nanno[3], S. Okuyama[1], F. Tanabe[1], S. Yamao[1], S. Kimura[4], S. Kusaka[1].* [1]Kindai University Faculty of Medicine; [2]Yoshikawa Eye clinic; [3]Kagurazaka Minamino Eye clinic; [4]CREWT Medical, Inc **CR*

2460 — *A0624* **Baseline Visual Field (VF) Patterns are Predictive of Global and Central Loss in 24-2 Visual Fields.** *Dian Li[1], L. Q. Shen[2], L. R. Pasquale[3], M. V. Boland[4], S. R. Wellik[5], C. De Moraes[6], J. S. Myers[7], P. Bex[8], O. Saeedi[9], N. Baniasadi[1], H. Wang[1, 10], J. G. Tichelaar[1], T. Elze[1], M. Wang[1].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School; [2]Massachusetts Eye and Ear, Harvard Medical School; [3]Icahn School of Medicine at Mount Sinai, New York Eye and Eye Infirmary of Mount Sinai; [4]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [5]Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [6]Edward S**.** Harkness Eye Institute, Columbia University Medical Center; [7]Wills Eye Hospital, Thomas Jefferson University; [8]Department of Psychology, Northeastern University; [9]Department of Ophthalmology and Visual Sciences, University of Maryland Medical Center; [10]Institute for Psychology and Behavior, Jilin University of Finance and Economics **CR*

2461 — *A0625* **Humphrey visual field indices as predictors of subspecialty referral in high-risk versus low-risk glaucoma suspects.** *Giancarlo A. Garcia, S. S. Mannil.* Byers Eye Institute, Stanford University

2462 — *A0626* **Functional visual impairment at different depths revealed by depth dependent integrated visual field simulation in glaucomatous visual field archetypes.** *Ping Liu[1], A. M. McKendrick[1], A. Turpin[2].* [1]Department of Optometry & Vision Sciences, The University of Melbourne; [2]School of Computing and Information Systems, The University of Melbourne **CR*

2463 — *A0627* **No racial differences exist in visual field test-retest variability in healthy eyes.** *CYRIL N. NYANKERH[1], S. L. Abu[2], L. Racette[2].* [1]Optometry and Vision Science, University of Alabama at Birmingham; [2]Ophthalmology anf Visual Sciences, University of Alabama at Birmingham

2464 — *A0628* **Glaucoma Affects Contrast Sensitivity but Not Apparent Contrast of Visible Stimuli.** *Habiba A. Bham[1], S. D. Dewsbery[2], J. Denniss[1].* [1]School of Optometry & Vision Science, University of Bradford; [2]Leeds Centre for Ophthalmology, Leeds Teaching Hospitals NHS Trust

2465 — *A0629* **Detecting functional change using permutation tests on overlapping clusters of visual field locations.** *Stuart K. Gardiner, S. Demirel, S. L. Mansberger, C. Albert.* Legacy Research Institute, Devers Eye Institute

2466 — *A0630* **Scaled spots return fixed thresholds and reduced variability for better detection of peripheral visual field loss.** *Algis J. Vingrys[1], S. M. Prea[1], P. A. Bedggood[1], Y. Kong[2].* [1]Optometry & Vision Sciences, University of Melbourne; [2]The Royal Victorian Eye & Ear Hospital **CR*

2467 — *A0631* **Orientation of glaucomatous nasal step visual field defects measured with a high-density stimulus pattern with microperimetry.** *Glen Sharpe, D. Hutchison, P. E. Rafuse, M. T. Nicolela, J. Vianna, B. C. Chauhan.* Ophthalmology, Dalhousie University **CR*

2468 — *A0632* **Measuring visual field loss in glaucoma using involuntary eye movements.** *Steven C. Dakin[1, 3], S. Mohammadpour Doustkouhi[1], H. Kersten[1], P. R. Turnbull[1], J. Yoon[2], H. Danesh-Meyer[2].* [1]School of Optometry & Vision Science, The University of Auckland; [2]Department of Ophthalmology, The University of Auckland; [3]Institute of Ophthalmology, University College London

2469 — *A0633* **Association of repeated disc hemorrhages with faster progression in perimetric normal tension glaucoma.** *Yuki Ido, Y. Manabe, A. Sawada, T. Yamamoto.* Ophthalmology, Gifu University Graduate School of Medicine, Gifu, Japan

Monday Posters
4:00 pm – 5:45 pm

2470 — *A0634* **Factors Influencing Precision of Visual Field Progression Rates.** *Aakriti Garg[1], J. Wang[2], M. V. Boland[1], J. Yohannan[1], P. Y. Ramulu[1].* [1]Glaucoma, Johns Hopkins University/Wilmer Eye Institute; [2]Biostatistics, Johns Hopkins University Bloomberg School of Public Health **CR*

2471 — *A0635* **Pointwise Methods To Assess Long-Term Visual Field Progression In Glaucoma.** *Diana Salazar[1], E. Morales[1], A. Rabiolo[1, 3], V. Capistrano[1], M. Lin[1], F. Yu[1, 2], J. Caprioli[1].* [1]Glaucoma, UCLA Jules Stein Eye Institute; [2]Biostatistics, Jonathan and Karen Fielding School of Public Health at UCLA; [3]Ophthalmology, San Raffaele Scientific Institute

2472 — *A0636* **Identifying Patients at Risk for Experiencing Rapid Progression of Open Angle Glaucoma Using Supervised Machine Learning.** *Isaac Jones[2], M. P. Van Oyen[1], M. Lavieri[1], C. Andrews[3, 4], J. D. Stein[3, 4].* [1]Industrial and Operations Engineering, Univeristy of Michigan; [2]Industrial and Operations Engineering, University of Michigan; [3]Ophthalmology and Visual Sciences, University of Michigan; [4]Center for Eye Policy and Innovation, University of Michigan

2473 — *A0637* **More Evening Exercise Reduced the Risk of Visual Field Progression in Chinese Patients with Primary Open Angle Glaucoma.** *Yuanbo Liang[1], X. Pan[1], K. Xu[2], X. Wang[1], G. Cheng[1], H. Cheng[1], A. Liu[1], J. Chen[1].* [1]The Eye Hospital, School of Ophthalmology and Optometry, Wenzhou Medical University; [2]Nanjing Sport Institute

2474 — *A0638* **Progression to blindness in 20 years among patients with glaucomatous visual fields in a tertiary hospital in the Philippines.** *Cathleen Camille N. Cabrera, J. Tumbocon, J. de Leon.* Eye Institute, St**.** Luke's Medical Center

2475 — *A0639* **Detecting Visual Field Progression by Cluster MD vs Global MD Trend Analysis among Glaucoma Patients.** *Daryle Jason G. Yu, J. S. de Leon.* Ophthalmology, East Avenue Medical Center

2476 — *A0640* **Change in Humphrey Visual Field (HVF) and Optical coherence tomography (OCT) after the Tube shunt implantation with 3-Year Follow-up.** *Qian Liu[1, 2], L. Huang[1], M. Fu[1], J. Hsia[1], R. L. Stamper[1], Y. Han[1].* [1]University of California; [2]Henan Eye Institute

2477 — *A0641* **Evaluation of Sequentially Optimized Reconstruction Strategy in visual field testing in normal subjects and glaucoma patients.** *Rene Hoehn[1], S. Häckel[1], S. Kucur[2], M. E. Iliev[1], M. Abegg[1], R. Sznitman[2].* [1]Ophthalmology, Inselspital, University Hospital Bern, University of Bern; [2]ARTORG Center for Biomedical Engineering Research, University of Bern ↗

2478 — *A0642* **Agreement between Compass Fundus Automated Perimetry and Humphrey Field Analyzer measurements.** *Elham Ghahari, C. Bowd, L. M. Zangwill, J. Proudfoot, R. Penteado, H. Hou, R. N. Weinreb.* UCSD **CR*

2479 — *A0643* **Test-retest variability in anatomically defined visual field clusters with fundus perimetry.** *Antonio M. Modarelli[1], G. Montesano[2, 1], P. Fogagnolo[1], F. Oddone[4], P. Lanzetta[5], A. Perdicchi[6], C. A. Johnson[7], D. F. Garway-Heath[3], D. P. Crabb[2], L. M. Rossetti[1].* [1]Eye Clinic, University of Milan; [2]Optometry and Visual Sciences, City, University of London; [3]NIHR Biomedical Research Centre, Moorfields Eye Hospital; [4]Glaucoma unit, IRCCS GB Bietti Eye Foundation; [5]Department of Ophthalmology, University of Udine; [6]Azienda ospedaliera Sant'Andrea; [7]Ophthal & Visual Sciences, University of Iowa **CR*

2480 — *A0644* **Usefulness of a simplified self-checking tool (Quattro CHART) for visual field defects.** *Marika Yamashita, C. Matsumoto, S. Okuyama, S. Hashimoto, H. Nomoto, F. Tanabe, M. Eura, T. Kayazawa, S. Kusaka.* Ophthalmology, Kindai University Faculty of Medicine **CR*

2481 — *A0645* **Low-cost, smartphone based frequency doubling technology visual field testing using virtual reality.** *Karam A. Alawa[1], E. Han[3], M. Sayed[3], A. Arboleda[2], H. Durkee[2], M. Aguilar[2], R. Nolan[3], R. K. Lee[3].* [1]University of Iowa Hospitals and Clinics; [2]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL, United States, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Anne Bates Leach Eye Hospital, Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine ↗

2482 — *A0646* **Validation of a head mounted virtual reality visual field screening device.** *Lukas Mees[1], S. Upadhyaya[2], P. Kumar[2], S. Kotowala[3], S. Haran[4, 3], S. R[4, 3], D. S. Friedman[1], R. Venkatesh[2].* [1]Johns Hopkins; [2]Aravind Eye Hospital; [3]Alfaleus Technology Private Limited; [4]Vellore Institute of Technology **CR*

2483 — *A0647* **Automated remote visual field test results visualization.** *Brian Madow.* Ophthalmology, Unifersity of Florida

2484 — *A0648* **Testing ARREST: A new visual field algorithm to improve spatial resolution of moderate-advanced visual field damage through better use of test time.** *Allison M. McKendrick[1], V. Muthusamy[1], A. Turpin[2].* [1]Optometry & Vision Sciences, University of Melbourne; [2]School of Computing & Information Systems, The University of Melbourne **CR*

2485 — *A0649* **Adaptive kinetic perimetry of the peripheral visual field.** *Catherine Bain[1], I. Marin-Franch[2], R. Malik[3], A. I. McNaught[4, 1], L. Bunn[1], P. H. Artes[1].* [1]Eye & Vision Research Group, University of Plymouth; [2]Computational Optometry; [3]Glaucoma Division, King Khaled Eye Specialist Hospital; [4]Gloucestershire Hospital NHS Foundation Trust

2486 — *A0650* **Self Directed Home Monitoring of Visual Field with Tablet Perimeter in Glaucoma Patients.** *Yu Xiang George Kong[1, 2], M. He[1], S. M. Prea[3], A. J. Vingrys[3].* [1]Clinical Research Unit, Centre for Eye Research Australia; [2]Ophthalmology, Royal Victorian Eye and Ear Hospital; [3]Department of Optometry & Vision Sciences, The University of Melbourne **CR*

2487 — *A0651* **Can an LCD screen be a viable alternative to a projection bowl for clinical perimetry?** *Bledi Petriti[1], M. A. Miranda[1], H. Zhu[1, 2], P. J. Mulholland[1, 3], D. Crabb[2], C. Bronze[1], R. Anderson[3], D. F. Garway-Heath[1].* [1]National Institute for Health Research (NIHR) Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]Division of Optometry and Visual Sciences, City, University of London; [3]Optometry and Vision Science Research Group, Ulster University **CR*

2488 — *A0652* **Contrast sensitivity in glaucoma using simple disposable printed (CamBlobs) charts.** *John Robson[1, 2], R. Raman[4], R. Srinivasan[4], S. Pardhan[3].* [1]College of Optometry, University of Houston; [2]Gonville and Caius College; [3]Vision and Eye Research Unit (VERU), Anglia Ruskin University; [4]Sankara Nethralaya Eye Hospital **CR*

2489 — *A0653* **Evaluation of acquired color vision deficiency in patients with primary open angle glaucoma with Rabin Cone Contrast Test.** *Elsa C. Hernández Piñamora, E. Garcia, V. Tirado, Y. Lopez, J. Baca Moreno, L. García Azarte, S. Soberón, A. Gonzalez-H.Leon, J. J. Fromow-Guerra, V. Morales-Canton, L. A. Hernández, N. Ramos Betancourt, P. A. Juarez, M. Beltran, H. Quiroz-Mercado.* Retina, Asociación para Evitar la Ceguera

2490 — *A0654* **Effects of Optical Defocus on Decrement Perimetric Stimuli with Pattern Blur.** *Mitchell W. Dul[1], B. Backus[1, 2], C. Haimowitz[1], J. Blaha[3].* [1]Biological and Vision Science, State University of New York; [2]Vivid Vision, Inc; [3]Vivid Vision, Inc **CR*

West Exhibition Hall A0655-A0674

Monday, April 29, 2019 4:00 PM-5:45 PM

Visual Neuroscience

286 Advances in Human Electrophysiology

Moderator: Mirella T. Barboni

2491 — *A0655* **Effect of Diopsys NOVA LCD Display Luminance Changes on the Steady-State Pattern Electroretinogram (PERG).** *J Vernon Odom[1], H. Chan[2], R. Tzekov[3].* [1]Ophthalmology, West Virginia Univ Eye Inst; [2]Ophthalmology, University of California at San Francisco; [3]Ophthalmology, University of South Florida **CR*

2492 — *A0656* **Comparison of Diopsys NOVA Pattern Electroretinogram Parameters in Eyes with and without Diabetic Retinopathy.** *Laurence S. Lim, V. Phua.* Ophthalmology, Singapore National Eye Center

2493 — *A0657* **Normative values for pattern-onset visually evoked potentials in healthy volunteers.** *Jonas Toma, P. Y. Sacai, A. Berezovsky, S. R. Salomao.* Oftalmologia e Ciências Visuais, Universidade Federal de São Paulo

2494 — *A0658* **Detection of slight changes in the visual function using EvokeDx® system in healthy adults.** *Sakiko Minami[1, 3], N. Nagai[1], M. Suzuki[1, 2], T. Kurihara[1], M. Kamoshita[1], H. Sonobe[1], K. Watanabe[1], H. Shinoda[1], K. Tsubota[1], Y. Ozawa[1].* [1]Ophthalmology, Keio University School of Medicine; [2]Ophthalmology, Yokohama City University; [3]Ophthalmology, Inagi Municipal Hospital **CR*, ↗

2495 — *A0659* **Comparison of electroretinography measurements between tabletop and handheld stimulators in healthy subjects.** *BUMGI KIM, J. Kim, W. Oh, J. Park, M. Song, J. Hwang.* Sanggye Paik Hospital

2496 — *A0660* **Evaluation of Macular function in children under 3 years.** *Lotta Gränse, S. Andreasson.* The Eye clinic, University Hospital of Lund/SUS, Sweden

2497 — *A0661* **The incidence of negative electroretinograms in a healthy adult cohort.** *Talib Dar[1], I. Chow[1], X. Jiang[1], T. Bhatti[1], A. Tariq[1], K. Williams[1, 2], P. G. Hysi[1, 2], C. J. Hammond[1, 2], O. A. Mahroo[3, 1].* [1]Ophthalmology, King's College London, St Thomas' Hospital Campus; [2]Twin Research and Genetic Epidemiology, King's College London, St Thomas' Hospital Campus; [3]UCL Institute of Ophthalmology, Bath Street, University College London

2498 — *A0662* **Inter-test variability of the photopic negative response in Leber's Hereditary Optic Neuropathy.** *Alexander J. Lingley[1, 2], A. Berezovsky[3], M. N. de Moraes-Filho[3], S. R. Salomao[3], N. Nunes Ferraz[3], P. Y. Sacai[3], R. N. Belfort[3], V. Carelli[7, 8], S. G. Coupland[2, 4], A. A. Sadun[5, 6], R. Karanjia[4, 5].* [1]Faculty of Medicine, University of Ottawa; [2]Ottawa Hospital Research Institute; [3]Departamento de Oftalmologia e Ciências Visuais, Escola Paulista de Medicina, Universidade Federal de São Paulo; [4]Ottawa Eye Institute, University of Ottawa; [5]Department of Ophthalmology, David Geffen School of Medicine at UCLA; [6]Doheny Eye Institute; [7]IRCCS Institute of Neurological Sciences of Bologna, Bellaria hospital; [8]Department of Biomedical and NeuroMotor Sciences (DIBINEM), University of Bologna **CR*

2499 — *A0663* **Photopic Negative Response in Healthy Adults: Normative Values and Test-Retest Reliability.** *Adriana Berezovsky[1], T. N. Bueno[1], N. Nunes Ferraz[1], P. Y. Sacai[1], G. I. Botelho[1], A. Fernandes[1], S. Coupland[2, 3], R. Belfort Jr.[1], A. A. Sadun[4, 5], R. Karanjia[2, 3], S. R. Salomao[1].* [1]Departamento de Oftalmologia e Ciências Visuais, Universidade Federal de Sao Paulo; [2]Ottawa Eye Institute, University of Ottawa; [3]Ottawa Hospital Research Institute; [4]Ophthalmology, David Geffen School of Medicine at UCLA; [5]Doheny Eye Institute

2500 — *A0664* **The double trough a-wave response in the DA 3.0 electroretinogram: possible contributions from cone-driven pathways.** *Mohamed S. Rashad[1], M. Indusegaran[2], X. Jiang[2], I. Chow[2], Z. XU[2], M. Mohamed[3], C. J. Hammond[2, 4], O. A. Mahroo[2, 1].* [1]Moorfields Eye Hospital; [2]UCL, Institute of Ophthalmology,University College of London; [3]Ophthalmology, St Thomas' Hospital; [4]Twin Research and Genetic Epidemiology, King's College London, St Thomas' Hospital Campus, London

2501 — *A0665* **Light adaptation of the photopic electroretinogram in healthy subjects, and in patients with diseases affecting ganglion cells, the retinal pigment epithelium and the rod system.** *ZIHE XU[5], X. Jiang[5], I. Chow[5], M. Indusegaran[5], Z. Saleem[5], G. T. Plant[5, 2], A. Webster[3, 4], C. J. Hammond[5, 1], O. A. Mahroo[5].* [1]The Department of Twin Research & Genetic Epidemiology, King's College London St Thomas' Campus; [2]Neuro-ophthalmology Service, Moorfields Eye Hospital; [3]UCL Institute of Ophthalmology; [4]Retinal Service, Moorfields Eye Hospital; [5]Ophthalmology, King's College London, St Thomas' Hospital Campus

2502 — *A0666* **Dark adaptation in humans leads to reduced oxygen saturation in the nasal peripheral retinal veins, as measured by retinal oximetry.** *Henrik Lund-Andersen[1, 2], O. Klefter[2], A. Rasmussen[2], C. S. Hvidtfeldt[2], S. Ba-Ali[2], A. S. Christoffersen[2], B. Sander[2].* [1]Clinical Institute, University of Copenhagen; [2]Department of Ophthalmology, Rigshospitalet

2503 — *A0667* **Easing the dark adaption process for rod-dominated electroretinograms.** *Olga Kraszewska, C. Q. Davis.* LKC Technologies Inc **CR*

2504 — *A0668* **Amplitude changes in the electrophysiological response of retinal cells during simultaneous current stimulation.** *Maren-Christina Blum, A. Hunold, D. Link, S. Freitag, S. Klee.* Institute for Biomedical Engineering and Informatics, Technische Universität Ilmenau

2505 — *A0669* **Quantitative analysis of multifocal electroretinogram in eyes with silicone oil-filled vitreous cavity and changes following silicone oil removal.** *Devesh Kumawat, P. Sahay, P. Venkatesh.* Ophthalmology, All India Institute of Medical Sciences, New Delhi

2506 — *A0670* **Spatial Properties of Electroretinograms Elicited by High Temporal Frequency L- and M-cone Isolating Stimuli.** *Avinash J. Aher, M. M. Jacob, J. J. Kremers.* Department of Ophthalmology, University Hospital Erlangen

2507 — *A0671* **Simultaneous recording of local (sector) responses in peripheral pattern ERG (pPERG).** *John R. Hetling[1, 2], S. Patangay[1], O. Persidina[1].* [1]Bioengineering, Univ of Illinois at Chicago; [2]Ophthalmology and Visual Sciences, University of Illinois at Chicago **CR*

2508 — *A0672* **Red flash on blue background as a stimulus for photopic negative response in clinical settings.** *Abdullah Abou-Samra[1], G. Ortiz[1], R. T. Tzekov[1, 2].* [1]Department of Ophthalmology, University of South Florida; [2]Department of Medical Engineering, University of South Florida

2509 — *A0673* **Full-field ERG signal can uncover photic blink reflex signature.** *Huy Nguyen[1, 2], R. T. Tzekov[1, 3].* [1]Department of Ophthalmology, University of South Florida College of Medicine; [2]Brandon Regional Hospital; [3]Department of Medical Engineering, University of South Florida College of Medicine

2510 — *A0674* **Relationship between stimulus size and different components of the electroretinogram (ERG) elicited by flashed stimuli.** *Mathias Nittmann[1, 5], A. J. Aher[2], J. J. Kremers[2, 4], R. T. Tzekov[1, 3].* [1]Department of Ophthalmology, University of South Florida; [2]Department of Ophthalmology, University Hospital Erlangen; [3]Department of Medical Engineering, University of South Florida; [4]Department of Anatomy II, University of Erlangen; [5]Morsani College of Medicine

West Exhibition Hall B0001-B0018

Monday, April 29, 2019 4:00 PM-5:45 PM

Clinical/Epidemiologic Research

287 Ocular Trauma

Moderator: Belinda K. Ford

2511 — *B0001* **Orbital Fractures and Final Visual Acuity in Operation Iraqi Freedom and Operation Enduring Freedom: 2001-2011.** *Grant Justin[1], B. Davies[1], D. Brooks[2], D. Ryan[2], E. Weichel[3], M. Colyer[2].* [1]Ophthalmology, Brooke Army Medical Center; [2]Walter Reed National Military Medical Center; [3]Retina Group of Washington

2512 — *B0002* **Ophthalmic Manifestations of Neurotrauma in Suspected Shaken Baby Syndrome.** *Sabine S. Khan, T. Truong, S. Inker, A. Parsikia, J. MBEKEANI.* Ophthalmology, Albert Einstein College of Medicine

2513 — *B0003* **Patterns of Ocular Trauma Secondary to Violence Against Children.** *Timothy Truong[1], S. S. Khan[1], A. Parsikia[2], J. MBEKEANI[1, 3].* [1]Montefiore Medical Center/ Albert Einstein College of Medicine; [2]Department of Surgery (Trauma), Jacobi Medical Center; [3]Department of Surgery (Ophthalmology), Jacobi Medical Center

2514 — *B0004* **Epidemiology of Pediatric Eye Injuries Related to Nonpowder and Toy Guns Treated in US Emergency Departments (2013-2017).** *Elizabeth A. Cretara.* Ophthalmology, Brown University

2515 — *B0005* **Ocular trauma in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF): 2001-2011.** *Morgan M. Harvey[7], G. Justin[1, 2], D. Brooks[3], D. Ryan[4], E. Weichel[5], M. Colyer[6, 2].* [1]Ophthalmology, Brooke Army Medical Center; [2]Surgery, Uniformed Services University; [3]Statistics, Walter Reed National Military Medical Center; [4]Warfighter Refractive Eye Surgery Program and Research Center; [5]Retina Group of Washington D.C.; [6]Ophthalmology, Walter Reed National Military Medical Center; [7]Internal Medicine, Walter Reed National Military Medical Center

2516 — *B0006* **HazMat Emergency Readiness in Ophthalmology (HERO).** *Conor P. Malone, S. Chetty.* Ophthalmology, Sligo University Hospital

2517 — *B0007* **Presenting characteristics: The spectrum and prevalence of self-reported pain in ocular emergencies in a tertiary center of Southeast Africa.** *Friederike C. Kortuem[1], C. I. Kortuem[1], E. Misango[2], P. Kayange[2], J. Benrath[3], F. Ziemssen[1].* [1]Eye Clinic, University Tübingen; [2]Eye Clinic, Lions Sight First; [3]Pain Department Mannheim, University Heidelberg ***CR***

2518 — *B0008* **Profile and consultation patterns of the ophthalmology service at a level I trauma center.** *Yasaira Rodriguez, J. Choi, m. mihlstin, M. Juzych, A. Mas-Ramirez.* Ophthalmology, Kresge Eye Institute

2519 — *B0009* **Prevalence of pediatric eye trauma and ER usage rates: pediatric ophthalmic trauma presenting to a an ophthalmic-only ER from 2012-2013.** *Christopher Ramsay[1], A. Murchison[2, 1], J. Bilyk[3, 1].* [1]Sidney Kimmel Medical College; [2]Emergency Department, Wills Eye Hospital; [3]Wills Eye Hospital

2520 — *B0010* **International Globe and Adnexal Trauma Epidemiology Study (IGATES) – Report 1.** *John T. Kan[1], R. Low[2], A. Hoskin[4], P. Sen[3], G. Sundar[5], S. L. Watson[6], F. A. Woreta[7], A. Rousselot[8], R. V. Agrawal[1].* [1]Department of Ophthalmology, Tan Tock Seng Hospital; [2]Yong Loo Lin School of Medicine, National University of Singapore; [3]Sankara Nethralaya; [4]Lions Eye Institute, University of Western Australia; [5]National University Hospital; [6]Save Sight Institute, University of Sydney; [7]Johns Hopkins Wilmer Eye Institute; [8]Benisek-Ascarza

2521 — *B0011* **Risk Factors for Urgent Ophthalmologic Intervention in Orbital Fractures at a Level I Trauma Center.** *Matthew Kondoff, G. Nassrallah, M. Ross, J. Deschenes.* McGill University

2522 — *B0012* **Comparing the Severity of Chronic Ocular Complications in Lamictal vs. Trimethoprim/Sulfamethoxazole Induced Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis.** *Ramy Rashad[2, 1], S. S. Shanbhag[2], J. Chodosh[2], H. N. Saeed[2].* [1]Tufts University School of Medicine; [2]Cornea Service, Massachusetts Eye and Ear Infirmary

2523 — *B0013* **Evisceration and enucleation cases in an ophthalmological emergency room sector of a tertiary brazilian hospital: a 7-year analysis.** *Camila Kase, L. F. Nakayama, V. Bergamo, N. S. Moraes.* Federal University of Sao Paulo

2524 — *B0014* **Open Globe Injuries in a Pediatric Population - 6 Year Review.** *Dylan Stevens, T. Xia, N. Bhagat, A. S. Khouri.* Rutgers New Jersey Medical School

2525 — *B0015* **Enucleations in a large cohort with traumatic open globe injuries.** *Effy Ojuok, L. Thangmathesvaran, N. Bhagat, M. A. Zarbin.* Ophthalmology, Rutgers New Jersey Medical School

2526 — *B0016* ***Retrobulbar Hemorrhage: Refining the Indications for Intervention, an 11-Year Review.*** *Jessica N. Thayer, A. Lam, J. H. Hill, R. Velasquez, A. Ramirez, C. Fry.* Ophthalmology, UT Health San Antonio

2527 — *B0017* **Eye Trauma in Falls presenting to the Emergency Department from 2009 through 2014.** *Syed Mahmood A. Shah[1], B. Usmani[1], M. Iftikhar[2], J. A. Fliss[1], C. Parker[1], A. Latif[3].* [1]Department of Ophthalmology, University of Pittsburgh; [2]Wilmer Eye Institute, Johns Hopkins University; [3]Armstrong Institute for Patient Safety and Quality, Johns Hopkins University

2528 — *B0018* **Ocular and Head Injuries Associated with Orbital Fractures.** *Catherine He[1], M. Wieder[1, 2], M. Hamade[3], A. Parsikia[4], J. MBEKEANI[2, 5].* [1]Albert Einstein College of Medicine; [2]Department of Ophthalmology & Visual Sciences, Montefiore Medical Center/ AECOM; [3]Plastics Dept/LIPSG Clinical Research Department, New York University Winthrop; [4]Department of Surgery (Trauma), Jacobi Medical Center; [5]Department of Surgery (Ophthalmology), Jacobi Medical Center

West Exhibition Hall B0060-B0084

Monday, April 29, 2019 4:00 PM-5:45 PM

Immunology/Microbiology

288 Fundamentals of ocular infection 1

Moderators: Angela H. Benton and Rupesh V. Agrawal

2529 — *B0060* **Bacterial adhesion to various hydrophilic and hydrophobic intraocular lens (IOL) models.** *Patrick R. Merz[1], L. Zhao[2], D. Nurjadi[3], G. U. Auffarth[2].* [1]Lions Eyebank Heidelberg, University Eyeclinic Heidelberg; [2]DJ Apple Lab, University Eyeclinic Heidelberg; [3]Medical microbiology and hygiene, University Hospital Heidelberg

2530 — *B0061* **Long-term anti-adhesive organic-inorganic hybrid biofilm loaded with antibiotics.** *Kaihui Nan, Q. Xu, Z. Ye.* Wenzhou Medical University

2531 — *B0062* **Longitudinal study of Rose Bengal Photodynamic Antimicrobial Therapy (RB-PDAT) effects on rabbit corneas.** *Andrea Naranjo[1, 6], E. Arrieta[1], D. Pelaez[2], J. D. Tothova[3], C. Rowaan[1], A. Gonzalez[1], K. Mintz[4], J. D. Martinez[1, 6], G. Amescua[1, 6], J. Parel[1, 5].* [1]Ophthalmic Biophysics Center, University of Miami Miller School of Medicine; [2]Dr Nasser Ibrahim Al Rashid Orbital Vision Research Center, University of Miami Miller School of Medicine; [3]Achilife Srl; [4]Chemistry department, University of miami; [5]Vision Cooperative Research Center; [6]Anne Bates Leach Eye Clinics, Bascom Palmer Eye Institute

2532 — *B0063* **The use of UV light on prevention of biofilm formation in contact lenses.** *Larissa R. Rosa[1, 2], M. Trindade[2], A. S. Mello[2], V. Santos[1], J. P. Gomes[1], P. C. Cristovam[1].* [1]Ophthalmology and visual sciences, Federal University of São Paulo; [2]Infectious and Parasitic Diseases, Federal University of São Paulo

Monday Posters
4:00 pm – 5:45 pm

2533 — *B0064* **UVA photochemical therapies using oxygenized riboflavin versus conventional pharmacological treatments for severe infectious keratitis.** *Andreina Tarff[1], R. Yee[2], Y. Zhang[2], A. Behrens[1].* [1]The Wilmer Ophthalmological Institute, JHU; [2]Molecular Microbiology & Immunology, Johns Hopkins University

2534 — *B0065* **The Use of Corneal Cross-Linking for the Treatment of Bacterial Keratitis. Development of a Human *Ex-Vivo* Model.** *Rida Shahzad[1], H. Radhakrishnan[1, 2], S. Shawcross[3], W. Alshemmri[1], V. Rimmer[1], C. Hillarby[1, 2].* [1]School of Health Science, Faculty of Biology, Medicine and Health, University of Manchester; [2]Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester, Manchester Academic Health Science Centre; [3]School of Biological Science, Faculty of Biology, Medicine and Health, University of Manchester

2535 — *B0066* **The Effect of Blue Light Emission on Patient-originated Filamentous Fungi Spores.** *Minshu Wang, Y. Li, P. Zhang, C. Huang, Z. Liu, W. Wang.* Ophthalmology, Peking University Third Hospital

2536 — *B0067* **Antimicrobial activity of Poly-ε-lysine peptide hydrogels against *Pseudomonas aeruginosa*.** *Stephnie Kennedy[1], P. Deshpande[1], A. Gallagher[2], M. Horsburgh[3], H. Allison[3], S. Kaye[4, 1], D. Wellings[2], R. Williams[1].* [1]Department of Eye and Vision Science, Institute of Ageing and Chronic Disease, University of Liverpool; [2]The Heath Business and Technical Park, SpheriTech Ltd.; [3]Department of Functional and Comparative Genomics, Institute of Intergrative Biology, University of Liverpool; [4]St. Pauls Eye Unit, Royal Liverpool University Hospital **CR*

2537 — *B0068* **Addition of poly-ε-lysine or Mel4 peptides to contact lenses provides antimicrobial activity.** *Rebecca Lace[1], K. G. Doherty[1], D. Dutta[2], M. Willcox[2], R. Williams[1].* [1]Eye and Vision Science, University of Liverpool; [2]School of Optometry and Vision Science, University of New South Wales **CR*

2538 — *B0069* **Development of an antimicrobial peptide for the treatment of bacterial keratitis.** *Heloise A. Pereira, C. Land, C. King, S. Rabii, A. Kasus-Jacobi.* Pharmaceutical Sciences, Univ of Oklahoma Hlth Sci Ctr **CR*

2539 — *B0070* **Therapeutic effects of intravitreous bacteriophage on *Enterococcus faecalis* endophthalmitis in mice.** *Ken Fukuda[1], T. Kishimoto[1], W. Ishida[1], T. Suzuki[4], J. Uchiyama[2], S. Matsuzaki[3], M. Daibata[3], A. Fukushima[1].* [1]Ophthalmology, Kochi Medical School; [2]Azabu University; [3]Department of Microbiology and Infection, Kochi Medical School; [4]Toho University **CR*

2540 — *B0071* **The tale of two cationic polymers in a rabbit model of microbial keratitis.** *Rajamani Lakshminarayanan[1, 2], V. Mayandi[1], R. W. Beuerman[1, 2], N. Kumar Verma[3].* [1]The Academia, 20 College Road, Singapore Eye Research Inst; [2]Academic Clinical Program in Ophthalmology & Visual Sciences, Duke-NUS Graduate Medical School; [3]Dermatology and Skin Biology, Lee Kong Chian School of Medicine, Nanyang Technological University

2541 — *B0072* **Gene targets in ocular pathogenic *Escherichica coli* for mitigation of biofilm formation to overcome antibiotic resistance.** *Shivaji Sisinthy[1], R. Konduri[1, 2], A. Anakala[1], J. Ramchiary[3], S. Jogadhenu[3], S. Sharma[1].* [1]Microbiology, L V Prasad Eye Institute; [2]Research scholar, ManipalUniversity, Manipal, India; [3]Dept of Biotechnology and Bioinformatics, School of Life Sciences, University of Hyderabad

2542 — *B0073* ***HWP1* gene is required for biofilm formation in ocular *Candida albicans*.** *Ranjith Konduri[1, 2], S. Sharma[1], I. Mariappan[3], S. Sisinthy[1].* [1]Jhaveri Microbiology Centre, LV Prasad Eye Institute; [2]Research Scholar, Manipal Academy of Higher Education; [3]Sudhakar and Sreekanth Ravi Stem Cell Biology Laboratory, LV Prasad Eye Institute

2543 — *B0074* **IL-36γ regulates the innate immunity as the major pro-inflammatory factor in *Candida*. *A* cornea infection.** *Chenyang Dai[1, 2], X. Wu[1], F. YU[2].* [1]Shandong University Qilu Hospital; [2]Kresge eye institute

2544 — *B0075* **Pathogenesis of Aspergillus Endophthalmitis in Immunocompetent and Neutropenic Mice.** *Neha Gupta[1], P. Singh[1], S. G. Revankar[2], P. H. Chandrasekar[2], A. Kumar[1].* [1]Ophthalmology Visual and Anatomical Sciences, Wayne State University School of Medicine; [2]Division of Infectious Disease, Wayne State University School of Medicine

2545 — *B0076* **Phagocytosis of *Aspergillus flavus* spores from corneal isolates by Human Corneal Epithelial Cells *in vitro*.** *Divya Arunachalam[1], J. Jayapal[1], V. Prajna[2], L. Prajna[3], K. Dharmalingam[1].* [1]Proteomics, Aravind Medical Research Foundation; [2]Cornea clinic, Aravind Eye Hospital; [3]Ocular Microbiology, Aravind Eye Hospital

2546 — *B0077* **Dendritic cells induce Th17 inflammation in Aspergillus fumigatus keratitis.** *Xinyi Wu.* Ophthal QiLu Hosp/Ophthal, Shandong University

2547 — *B0078* **Thymic stromal lymphopoietin with interleukin-4 forms an inflammation loop in *Aspergillus fumigatus* keratitis.** *chen chen.* Shandong University Qilu hospital

2548 — *B0079* **MicroRNA modulates the pathogenic process of fungal keratitis via regulating Treg and Th17 cells.** *lulu peng.* zhongshan ophthalmic center, zhongshan university

2549 — *B0080* **Development of a three dimensional (3D) corneal model to understand the fungal-corneal interaction.** *Marina E. Brown, D. Karamichos, K. K. Fuller.* Department: Ophthalmology, University of Oklahoma Health Sciences Center

2550 — *B0081* **Transcriptomic and functional regulatory network identify key elements in *Fusarium sp.*-associated keratitis.** *Chen Huang, Z. Liu, P. Zhang, Y. Li, M. Wang, W. Wang.* Peking University Third Hospital

2551 — *B0082* **The growth characteristics of clinical corneal isolated A. fumigatus under different glucose and peptone concentrations.** *Yujie Cen, Y. Li, W. Wang.* Ophthalmology Department, Peking University Third Hospital

2552 — *B0083* **Inhibition of Autophagy Aggravates Fungal Keratitis Caused by *Aspergillus Fumigatus*.** *Guiqiu Zhao, J. Lin, C. Li, X. Peng, Q. Wang.* Ophthalmology, The Affiliated Hospital of Qingdao University

2553 — *B0084* **Expression and Role of CGRP in mouse *Aspergillus fumigatus* keratitis.** *Cui Li, J. Lin, X. Peng, Q. Xu.* Department of Ophthalmology, The Affiliated Hospital of Qingdao University

West Exhibition Hall B0085-B0127

Monday, April 29, 2019 4:00 PM-5:45 PM

Retina

289 Retinal Vascular Diseases II

Moderators: Ramin Tadayoni and Barbara A. Blodi

2554 — *B0085* **Effect of aflibercept on branch retinal vein occlusion.** *Shigehiro Iwabuchi, Y. Asano, R. Nishizaki, A. Hirano, K. Yoshida.* Ophthalmology, Showa University Kototoyosu Hospital

2555 — *B0086* **Dexamethasone intravitreal implant for the treatment of macular edema secondary to branch retinal vein occlusion.** *Anastasios Sepetis, A. Theodorakis, T. Koutresi, B. Clarke, G. Farantzos, G. De Salvo.* University Hospital Southampton NHS FT

2556 — *B0087* **Correlation of the changes of macular capillary network and recurrence of macular edema in branch retinal vein occlusion analyzed with optical coherence tomography angiography.** *Ji-Hye Jang, K. Kim.* Ophthalmology, Keimyung University School of Medicine, Dongsan Medical Center

2557 — *B0088* **Clinical outcomes in primary and secondary Ozurdex therapy for macular oedema in Retinal Vein Occlusion.** *Nishal Patel, S. Stirrup.* Kent and Canterbury Hospital, East Kent Hosp Univ Fdtn NHS Trust

2558 — *B0089* **CD8+ T Lymphocytes Contribute to the Development of Neovascularization in Ischemic Retinopathy.** *Devy Deliyanti[1], W. Figgett[2], D. M. Talia[3], J. L. Wilkinson-Berka[1].* [1]Diabetes, Monash University; [2]Department of Microbiology and Immunology, The University of Melbourne; [3]Immunology, Monash University

2559 — *B0090* **Novel retina findings in paraproteinemias in a Veteran population.** *Lauren Wright[1, 2], S. Ness[1, 2], V. Poulaki[1, 2].* [1]Ophthalmology, VA Boston Healthcare System; [2]Ophthalmology, Boston University School of Medicine

2560 — *B0091* **Optical Coherence Tomography Macular Thickness in Sickle Cell Retinopathy.** *Ivy Zhu, J. I. Lim.* Ophthalmology, University of Illinois at Chicago

2561 — *B0092* **Visual and anatomical outcomes following cataract surgery in patients with retinal vein occlusions treated with intravitreal anti-vascular endothelial growth factor injections.** *Matthew Starr, M. Mahr, A. Barkmeier, R. Iezzi, S. Bakri.* Mayo Clinic

2562 — *B0093* **The retrobulbar spot sign as a prognostic factor for central retinal artery occlusion.** *Charlotte Fischer[1], M. Schnieder[2], S. Bemme[1], J. Liman[2], N. Feltgen[1].* [1]Ophthalmology, University Medicine Goettingen; [2]Neurology, University Medicine Goettingen ↗

2563 — *B0094* **LASER rescue in macular telangiectasia (MacTel).** *Henrique A. Arruda, A. Campos, M. J. Vieira, J. Pereira, M. Santos, J. Sousa.* Ophthalmology, Centro Hospitalar Leiria

2564 — *B0095* ***Association of Comorbid Disease and Severity of Retinopathy in Sickle Cell disease.*** *Sina Rashidi Kikanloo[1], R. Muhtadi[1], H. Muqri[1], C. Minniti[3], U. Mian[2].* [1]Department of Ophthalmology, Albert Einstein College of Medicine; [2]Ophthalmology, Montefiore Medical Center; [3]Hematology, Montefiore Medical Center

2565 — *B0096* **Collateral vessels in patients with pro-re-nata treatment for BRVO may help in CME resoluton.** *Anibal Francone, M. Scorsetti, M. Rodriguez, T. Zompa, M. Charles.* Retina, Centro Oftalmologico Dr**.** Charles

2566 — *B0097* **Changes in Aqueous and Vitreous Inflammatory Cytokine Levels in Retinal Vein Occlusion.** *Samuel Minaker[1], R. Mason[1], M. Bamakrid[1], Y. Lee[1, 2], R. H. Muni[1].* [1]University of Toronto, University of Toronto; [2]McMaster University

2567 — *B0098* **Twelve-month result of anti-VEGF therapy for macular edema secondary to branch retinal vein occlusion.** *Akira Ojima, Y. Kato, K. Tanaka, T. Sekiryu.* Ophthalmology, Fukushima Medical University ***CR**, ↗

2568 — *B0099* **Chronic Model of Retinal Neovascularization (RNV) in New Zealand Red Rabbits.** *M. Grazia Spiga[1], B. C. Gilger[2], D. Culp[1].* [1]Powered Research; [2]Clinical Sciences, NC State University ***CR**

2569 — *B0100* **Association of severity of sickle cell retinopathy with laboratory values and clinical complications.** *Rakin Muhtadi[1], H. Muqri[1], C. Minniti[2, 1], J. Tang[1], S. Kikanloo[1], U. Mian[3].* [1]Albert Einstein College of Medicine; [2]Hematology, Montefiore Medical Group; [3]Ophthalmology and Visual Sciences, Montefiore Medical Group

2570 — *B0101* **Progressive Neurodegeneration in Macular Telangiectasia Type 2 (MacTel).** *Alec L. Amram[2], S. S. whitmore[2], C. Clavell[2], L. Lyons[1], A. M. Rusakevich[3], I. Han[2], J. C. Folk[2], H. C. Boldt[2], K. Gehrs[2], E. M. Stone[2], S. R. Russell[2], K. Lee[2], M. D. Abramoff[2], C. C. Wykoff[3], E. H. Sohn[2].* [1]University of Texas Medical Branch; [2]University of Iowa; [3]Retina Consultants of Houston ***CR**

2571 — *B0102* **Visual Outcomes in Patients Undergoing Carotid Revascularization for Ocular Ischemic Syndrome.** *Michael Ryan[1], A. Naseri[1, 2], S. Keyhani[3].* [1]Ophthalmology, UCSF; [2]Ophthalmology, San Francisco VAMC; [3]Medicine, San Francisco VAMC

2572 — *B0103* **An overview of branch retinal vein occlusion managment in a district London Hospital, a three years retrospective study.** *Mohammed Elatfy, E. Bahaaedin, J. Thakar, G. Palexas.* North Middlesex University Hospital

2573 — *B0104* **Withdrawal_Absence of Surfactant Protein A Leads to a Decrease in Retinal Vascularization in Neonatal Mice.** *Faizah N. Bhatti[1], J. Kung[1], C. Georgescu[2], J. Wren[1, 2].* [1]Univ of Oklahoma Hlth Sci Ctr; [2]Oklahoma Medical Research Foundation

2574 — *B0105* **Intra-arterial hyaluronidase with tirofiban through ophthalmic artery as treatment for retinal artery hyaluronic acid embolism in rat.** *Xue-Song Mi[1], K. So[2], K. Wang[2].* [1]Anatomy, The First Affiliated Hospital of Jinan University; [2]Guangdong-Hong Kong-Macau Institute of CNS Regeneration, Jinan University

2575 — *B0106* **Treat-and-extend Aflibercept in the treatment of macular edema due to CRVO: 18 months results of real life data.** *Theodora Gkika, E. Preston, R. Hamilton, P. Addison, B. Pal.* Moorfields Eye Hospital

2576 — *B0107* **Quantitative microcirculatory analysis of optical coherence tomography angiography in obstructive sleep apnea syndrome patients.** *Xuan Shi[1, 2], C. Yi[1], G. Sun[1], J. Qu[1, 2], M. Zhao[1, 2].* [1]Ophthalmology, Peking University People's Hospital; [2]Key Laboratory of Vision Loss and Restoration, Ministry of Education

2577 — *B0108* **Early perturbation in retinal blood vessels in mouse models of retinitis pigmentosa.** *Adlet Yesmambetov, A. Palfi, G. Farrar.* Genetics, Trinity College Dublin

2578 — *B0109* **Visual Acuity Outcomes of Intravitreal Anti-Vascular Endothelial Growth Factor Therapy for Retinal Vein Occlusion in Routine Clinical Practice.** *LEDIANA GODUNI[1], Y. Modi[1], G. Lucas[2], N. Boucher[2], H. Moini[4], A. Gibson[4], D. S. Dhoot[3].* [1]ophthalmology, 1New York University Langone Health; [2]Vestrum Health; [3]California Retina Consultants; [4]Regeneron Pharmaceuticals, Inc ***CR**

2579 — *B0110* **Active Learning of the Contrast Sensitivity Function as a New Clinical Endpoint for Retina Vein Occlusion.** *Raviv Katz[1], R. Silverman[2], M. Kasetty[1, 2], J. Cho[3], L. A. Lesmes[4], L. A. Kim[1], J. B. Miller[1].* [1]Retina Service, Massachusetts Eye and Ear Infirmary, Department of Ophtahlmology, Harvard Medical School; [2]Tufts Medical School; [3]Northeastern University; [4]Adaptive Sensory Technology INC**.** ***CR**

2580 — *B0111* **Quantitive Analysis of Patients With Sickle Cell Disease Compared to Healthy Individuals Using Swept Source OCT AND OCT-A.** *Carlos A. Abdala, D. A. Bueso Ponce, J. E. Unigarro, S. H. Vidal, C. Salgado.* Retina & Vitreous, Unidad Laser Clinica Oftalmologica

2581 — *B0112* **Optical Coherence Tomography Predictors Of Short-Term Visual Acuity In Eyes With Macular Edema Secondary To Retinal Vein Occlusion Treated With Intravitreal Conbercept.** *Xiang Ma, F. Tang, X. Qin, J. Lu, P. Song, M. Li.* Ophthalmology, First Affiliated Hospital of Dalian Medical University

2582 — *B0113* **Peripheral Retinal Vascular Leakage as an Inflammatory Marker in Psoriasis.** *Kapil G. Kapoor[1, 2], C. Enos[2], A. Van Voorhees[2], A. Wagner[1, 2].* [1]Department of Research, Wagner Macula & Retina Center; [2]Ophthalmology, Eastern Virginia Medical School

2583 — *B0114* **Effects of Eplerenone as a Treatment Option for Patients with Chronic Central Serous Chorioretinopathy.** *Robert Luda, C. Frank, N. Feucht, C. Lohmann, M. Maier.* Augenklinik, Klinikum Rechts der Isar (MRI), Technische Universität München (TUM)

2584 — *B0115* **Real–life evidence for using a treat-and-extend injection regime for patients with central retinal vein occlusion.** *Maria Eleftheriadou, L. Nicholson, G. D'Alonzo, P. Addison.* Medical Retina, Moorfields Eye Hospital

2585 — *B0116* **Intravenous thrombolysis with low dose plasminogen for treatment of central retinal artery occlusion (CRAO).** *Katarzyna I. Palka, S. Aisenbrey.* Ophthalmology, Vivantes Klinikum Neukölln

2586 — *B0117* **Intravitreal aflibercept injection for naïve macular oedema due to retinal vein occlusion: real world results.** *Fadi Alfaqawi, N. Kenawy.* Aintree University Hospital

2587 — *B0118* **Spectral-domain optical coherence tomography (SD-OCT) findings in retinal vein occlusion – Can retinal ischemia be detected in OCT findings?.** *Egbert Matthe[1], P. Eulitz[1], O. Furashova[2].* [1]Dept of Ophthalmology, University of Dresden; [2]Ophthalmology, Städtisches Klinikum Chemnitz

2588 — *B0119* **Association between retinal vessel analysis and cardiovascular risk profile in Ankylosing Spondylitis patients. Interim analysis of the -An eye for a heart- study.** *Buket Kinaci-Tas[1], R. van Bentum[3], M. Baniaamam[3], A. van de Kreeke[1], M. Koçyiğit[3], E. Serné[2], M. Nurmohamed[3], I. van der Horst- Bruinsma[3], F. D. Verbraak[1].* [1]Opthalmology, Amsterdam UMC location VUmc; [2]Internal Medicine, Amsterdam UMC location VUmc; [3]Rheumatology, Amsterdam UMC location VUmc

2589 — *B0120* **Light damage leads to vessels abnormalities in the neuroretina.** *Giulia Parete, A. Tisi, V. Flati, R. Maccarone.* University of L'Aquila

2590 — *B0121* **Ellipsoid Zone Status and its Association with Visual Acuity in Eyes with Macular Edema in the *S*tudy of *CO*mparative Treatments for *RE*tinal Vein Occlusion *2* (SCORE 2).** *Chandana Papudesu[1], A. Domalpally[1], N. Oden[2], P. VanVeldhuisen[2], I. U. Scott[3], M. S. Ip[4], B. A. Blodi[1].* [1]Ophthalmology and Visual Sciences, UW-Madison; [2]The EMMES Corporation; [3]Ophthalmology and Visual Sciences, Penn State; [4]UCLA ↗

2591 — *B0122* **Aqueous humor cytokines in eyes with rebound macular edema after intravitreal conbercept for macular edema secondary to central retinal vein occlusion.** *Han Zhang, Z. Liu.* the First Hospital of China Medical University

2592 — *B0123* **Long-term visual and anatomic outcomes of cosmetic facial filler-related retinal artery occlusion.** *Yun Jeong Lee[1], Y. Park[2, 1], K. Park[2, 1], S. Woo[2, 1].* [1]Department of Ophthalmology, Seoul National University College of Medicine; [2]Department of Ophthalmology, Seoul National University Bundang Hospital

2593 — *B0124* **Comparison of clinical features and outcomes according to the seroprevalence of *toxocara spp.* in central serous chorioretinopathy.** *An Seoung Hyun, Y. Kwon.* Dong-A University Hospital

2594 — *B0125* **The temporal relationship of anti-VEGF injections and the development of neovascularisation in central retinal vein occlusion.** *Jeffry Hogg[1, 2], S. Di Simplicio[2], J. S. Talks[2].* [1]Institute of Genetic Medicine, University of Newcastle upon Tyne; [2]Newcastle Eye Centre, Newcastle upon Tyne Hospitals NHS Foundation Trust **CR*

2595 — *B0126* **Choroidal Thickness Changes as a Predictor of Visual Acuity Improvement in Retinal Vein Occlusion Patients.** *Gwang Myeong Noh.* Department of Ophthalmology, College of Medicine Kosin University, Busan, Korea

2596 — *B0127* **Novel oral plasma kallikrein (PKa) inhibitors KV998052 and KV998054 ameliorate VEGF-induced retinal thickening in a murine model of retinal edema.** *Nivetha Murugesan[1], A. C. Clermont[2], S. J. Pethen[1], L. Li[1], E. J. Duckworth[1], S. L. Hampton[1], E. Feener[1].* [1]KalVista Pharmaceuticals; [2]Beetham Eye Institute, Joslin Diabetes Center **CR*

West Exhibition Hall B0128-B0179

Monday, April 29, 2019 4:00 PM-5:45 PM

Retina

290 Diabetic Macular Edema Clinical Research

Moderators: Konstantina Sampani and Allen C. Clermont

2597 — *B0128* **Effectiveness of subthreshold laser therapy for non-center-involving diabetic macular edema.** *Ernest Junwei Lim, M. Stahl, S. Fatum, C. Andrews, V. Chong, C. A. Kiire.* Oxford Eye Hospital, Oxford University **CR*

2598 — *B0129* **Intravitreal Dexamethasone Implants as Second Line Treatment for Diabetic Macular Edema – A Retrospective Analysis on 119 Eyes.** *Christoph Mitsch, S. Karst, C. Scholda, K. Kriechbaum, S. Sacu, U. Schmidt-Erfurth.* Department of Ophthalmology, Medical University of Vienna

2599 — *B0130* **OCT and OCT angiography parameters after intravitreal dexamethasone in untreated diabetic macular edema.** *Silvia Bini[1], L. Frizziero[1, 2], T. Torresin[1], G. De Mojà[1], E. Pilotto[1], E. Midena[1, 2].* [1]Department of Ophthalmology, University of Padova; [2]IRCSS - Fondazione Bietti

2600 — *B0131* **Observation versus Treatment in Diabetic Macular Edema with Very Good Visual Acuity – The OBTAIN study.** *Catharina Busch[1], M. Iglicki[16], S. Fraser-Bell[2], D. Zur[3, 8], P. Rodríguez-Valdés[4], Z. Cebeci[5], M. Lupidi[6], A. T. Fung[2, 7], P. Gabrielle[9, 10], E. Giancipoli[11], V. Chaikitmongkol[12], M. Okada[13], J. Chhablani[14], A. Loewenstein[3, 15], M. Rehak[1].* [1]University Hospital Leipzig; [2]Department of Ophthalmology, Sydney University; [3]Division of Ophthalmology, Tel Aviv Sourasky Medical Center; [4]Instituto de Oftalmología y Ciencias Visuales, Escuela de Medicina, Tecnológico de Monterrey; [5]Department of Ophthalmology, Istanbul University, Istanbul Faculty of Medicine; [6]Department of Biomedical and Surgical Sciences, Section of Ophthalmology, University of Perugia; [7]Department of Ophthalmology, Westmead Hospital; [8]Sackler Faculty of Medicine, Tel Aviv University; [9]Department of Ophthalmology, Dijon University Hospital; [10]Center for Taste and Feeding Behaviour; [11]Department of Surgical, Microsurgical and Medical Sciences, Eye Clinic, University of Sassari; [12]Retina Division, Department of Ophthalmology, Faculty of Medicine, Chiang Mai University; [13]Royal Victorian Eye and Ear Hospital; [14]L.V. Prasad Eye Institute, Banjara Hills; [15]Incumbent, Sydney A. Fox chair in Ophthalmology, Tel Aviv University; [16]Private Retina Service, University of Buenos Aires

2601 — *B0132* **"Are Perioperative NSAIDs Really Necessary in Preventing Cystoid Macular Edema If IOP Is Adjusted Immediately after MICS or FLACS?".** *John S. Jarstad, C. Wittgrove.* University of Missouri

2602 — *B0133* **Changes in real world treatment patterns for diabetic macular edema and five year treatment outcomes: data from the Fight Retinal Blindness! Project.** *SANJEEB BHANDARI[1], A. C. Biechl[2], J. J. Arnold[4], S. Young[5], S. Fraser-Bell[1], H. Mehta[1, 3], M. C. Gillies[1], D. Barthelmes[1, 2], V. Nguyen[1].* [1]Save Sight Institute\The University of Sydney; [2]University of Zurich; [3]Royal Free London NHS Foundation Trust; [4]Marsden Eye Specialists; [5]Gladesville Eye Specialists **CR*

2603 — *B0134* **Real world management of treatment-naïve diabetic macular edema: visual outcome based on the starting year of intervention.** *Ryosuke Motohashi[1], M. Shimura[1], S. Kitano[2], T. Sakamoto[3].* [1]Tokyo Medical University Hachioji Medical Center; [2]Tokyo Women's Medical University Diabetes Center; [3]Kagoshima University

2604 — *B0135* **Pretreatment factors in managing protocol with aflibercept in patients with diabetic macular edema.** *Saori Tanaka[1, 2], N. Miyamoto[1, 2], S. Kusuhara[3], H. Iwami[4], S. Yamamoto[1, 2], S. Yoshitake[1, 2], Y. Hirota[3], M. Nakamura[3], M. Ikeda[3], F. Gomi[4], Y. Kurimoto[1, 2].* [1]Kobe City Eye Hospital; [2]Kobe City Medical Center General Hospital; [3]Kobe University Graduate School of Medicine; [4]Hyogo College of Medicine

2605 — *B0136* **Retinal Thickness Results Prior And Following Treatment With 0.19 Mg Fluocinolone Acetonide Intravitreal Implant For Diabetic Macular Edema.** *Angela M. Carneiro[1], A. Meireles[2], J. Sousa[3], C. Teixeira[4].* [1]Ophthalmology, Hospital S Joao/Faculty of Medicine; [2]Ophthalmology, Hospital Santo Antonio; [3]Ophthalmology, Hospital Leiria; [4]Ophthalmology, Hospital Matosinhos **CR*

2606 — *B0137* **Long-term outcomes of macular laser photocoagulation in the treatment of clinically significant diabetic macular edema (CSDME) – real world experience.** *Jessica Best[1, 2], S. B. Gowda[3], E. Pritchard[1], F. Quhill[1].* [1]Ophthalmology Department, Sheffield Teaching Hospitals NHS Foundation Trust; [2]Academic Unit of Ophthalmology and Orthoptics, University of Sheffield; [3]University College London Hospital

2607 — *B0138* **Diabetic macular edema with subfoveal neuroretinal detachment: OCT and OCT-angiography changes after intravitreal steroids and anti-VEGF treatment.** *Stela Vujosevic[1], C. Toma[1], M. Brambilla[2], A. Muraca[1], E. Torti[3], G. Florimbi[3], S. De Cillà[1].* [1]Ophthalmology, University Hospital Maggiore della Carita'; [2]Medical Physics, Univerisity Hospital Maggiore della Caritá; [3]Electrical, computer and biomedical Engineering, University of Pavia

2608 — *B0139* **One-year Outcomes of Conbercept Therapy for Diabetic Macular Edema.** *Tong Qian.* Ophthalmology Department of Peking University People's Hospital

2609 — *B0140* **Treat-and-extend regimen with aflibercept in treating diabetic macular edema: the JADE study.** *Shih Jen Chen[1], S. Sheu[2], C. Yang[3], C. Lai[4], P. Wu[5].* [1]Department of Ophthalmology, Taipei Veterans General Hospital; [2]Department of Ophthalmology, Kaohsiung Veterans General Hospital; [3]Department of Ophthalmology, National Taiwan University Hospital; [4]Department of Ophthalmology, Linkou Chang Gung Memorial Hospital; [5]Department of Ophthalmology, Kaohsiung Chang Gung Memorial Hospital **CR*

2610 — *B0141* **Dexamethasone Intravitreal Implant versus Intravitreal Anti-VEGF for the Treatment of Persistent Diabetic Macular Edema, Twelve Month Study Analysis (DIME Study).** *Kate M. McKee, G. Hong, G. M. Gordon, D. J. Pieramici.* Clinical Research, California Retina Consultants **CR*, ↗

2611 — *B0142* **Biomarkers on optical coherence tomography angiography associated with macular edema or ellipsoid zone defect in diabetic retinopathy.** *Jianqin Lei[1], H. Lu[2], X. Xu[3].* [1]1st affiliated hospital of Xi'an Jiaotong Universi; [2]Xi'an No. 1 hospital; [3]Life Science and Technology school of Xi'an Jiaotong University

2612 — *B0143* **Visual acuity with habitual correction on an ETDRS chart vs protocol refraction on an electronic ETDRS chart in diabetic macular edema.** *Brittany Tsou, J. Kong, S. B. Bressler, C. J. Brady, C. Meyerle, M. Sachdeva, A. Scott, A. Wenick, N. Zebardast, N. M. Bressler.* Wilmer Eye Institute, Johns Hopkins University School of Medicine **CR*

2613 — *B0144* **Title: Evaluation of retinal ganglionar cell using optical coherence tomography in patients with DME treated with the 0.19 mg fluocinolone acetonide implant.** *Bernardete Pessoa[1, 4], J. Coelho[3], A. Marta[2], D. José[7], S. Pires[8], J. Beirão[5, 6], A. Silva[9, 10].* [1]Ophthalmology, Centro Hospitalar e Universitário do Porto; [2]Ophthalmology, Centro Hospitalar e Universitário do Porto; [3]Ophthalmology, Centro Hospitalar e Universitário do Porto; [4]Instituto de Ciências Biomédicas Abel Salazar; [5]Ophthalmology, Centro Hospitalar e Universitário do Porto; [6]Instituto de Ciências Biomédicas Abel Salazar; [7]Ophthalmology, Centro Hospitalar e Universitário do Porto; [8]Ophthalmology, Centro Hospitalar e Universitário do Porto; [9]Ophthalmology, Centro Hospitalar e Universitário do Porto; [10]Instituto de Ciências Biomédicas Abel Salazar

2614 — *B0145* **Discontinuous to Continuous Therapy with 0.2 µg/day Fluocinolone Acetonide implant (FAc) Leads to Reduction in Treatment Frequency for Diabetic Macular Edema (DME).** *Olufemi E. Adams, S. Schechet, S. Hariprasad.* Ophthalmology, University of Chicago **CR*

2615 — *B0146* **Measuring central macular thickness in diabetes using swept-source OCT.** *Ross T. Aitchison[1], G. J. Kennedy[1], X. Shu[1], D. C. Mansfield[2], U. Shahani[1].* [1]Department of Vision Sciences, Glasgow Caledonian University; [2]Department of Ophthalmology, Inverclyde Royal Hospital

2616 — *B0147* **Variation In Retinal Thickness In Relation To Corresponding Changes In Visual Acuity In Patients Receiving The Fluocinolone Acetonide Intravitreal Implant For Diabetic Macular Edema.** *Maged S. Habib[1], S. Holden[2], C. Currie[2, 3].* [1]Ophthalmology, Sunderland Eye Infirmary; [2]Pharmatelligence; [3]The Institute of Population Medicine, Cardiff University **CR*

2617 — *B0148* **Indocyanine Green Angiography Features Of Diabetic Macular Edema: Characterization Of Telangiectatic Capillaries.** *Daniela Castro Farías[1, 3], R. Matsui[1], J. I. Bianchi[1], U. de Dios Cuadras[1], F. Graue[1], B. Dupas[2], M. Paques[3].* [1]Retina, Instituto Conde de Valenciana; [2]Hopital Lariboisière; [3]Ophthalmology, Clinical Investigation Center 1423, Hopital des XV-XX (CHNO)

2618 — *B0149* **Area-under-the-curve analysis of visual acuity following DME treatment with the fluocinolone acetonide implant: Results from the Retro-IDEAL study.** *Albert J. Augustin.* Ophthalmology, Staedtisches Klinikum Karlsruhe **CR*

2619 — *B0150* **Interim results from the prospective IDEAL registry study – treatment outcomes achieved with the intravitreal 0.19 mg fluocinolone acetonide implant in German clinical practices.** *Ramin Khoramnia[1], F. Koch[2], G. U. Auffarth[1].* [1]University Eye Clinic Heidelberg, David J Apple International Laboratory; [2]University Eye Clinic Frankfurt **CR*, ↗

2620 — *B0151* **Evaluating the effect of intravitreal Triamcinolone-Moxifloxacin on the presence of macular edema after cataract surgery in patients with preexisting diabetic macular edema.** *Joshua N. Chu[2, 1], M. Rauser[1], J. Angkadjaja[1], D. Sierpina[1].* [1]Loma Linda University Eye Institute; [2]Loma Linda University School of Medicine

2621 — *B0152* **Diabetic Macular Edema Treated with Intravitreal Aflibercept Injection After Treatment with Other Anti-VEGF Agents (SWAP-TWO Study) – 12-month interim analysis.** *Cyrus Golshani[1], T. Conti[1, 2], F. Conti[1, 2], F. Q. Silva[1], A. Rachitskaya[1], A. Yuan[1], A. Schachat[1], P. K. Kaiser[1], R. P. Singh[1], A. Babiuch[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Center for Ophthalmic Bioinformatics, Cole Eye Institute, Cleveland Clinic **CR*, ↗

2622 — *B0153* **Real-world outcomes from the 3-year European ILUVIEN (0.19 mg fluocinolone acetonide implant) RegIstry Safety Study (IRISS).** *Frank H. Koch[1], U. Chakravarthy[2], R. Khoramnia[3], S. Taylor[4], C. Bailey[5], J. Sousa[6].* [1]Retina and Vitreous, University Eye Clinic Frankfurt / M.; [2]Queen's University; [3]IVCRC, university Eye Clinic Heidelberg; [4]Department: Ophthalmology, Royal Surrey County Hospital; [5]Bristol Eye Hospital; [6]Oftalmologia pelo Hospital da Universidade de Coimbra **CR*, ↗

2623 — *B0154* **Effect of vitreomacular interface abnormality on patient response to Intravitreal Anti-VEGF for treatment of Diabetic Macular Oedema in the clinical setting.** *Matthew J. Maguire, A. Laidlaw.* Ophthalmology, St Thomas' Hospital London

2624 — *B0155* **Efficacy of the 0.19 mg Fluocinolone Acetonide (FA_c) Implant (ILUVIEN®) in a Multiphysician, Single-practice Setting – The Cleveland Experience.** *Daniel C. Daroszewski[1, 2], J. M. Coney[1], J. P. Schartman[1], D. G. Miller[1], L. J. Rao[1], H. Zegarra[1].* [1]Retina Associates of Cleveland; [2]University Hospitals Eye Institute **CR*

2625 — *B0156* **Is The Diabetic Macular Edema Chronicity A Prognostic Factor For Functional And Anatomic Outcomes In Patients Treated With 0.19 mg Fluocinolone Acetonide Implant?.** *Angelina Meireles[2, 3], J. Coelho[4], N. Silva[4], A. Marta[1], J. Beirão[1, 5], B. Pessoa[1, 5].* [1]Centro Hospitalar Universitário do Porto; [2]Ophthalmology, Centro Hospitalar e Universitário do Porto; [3]Instituto de Ciências Biomédicas Abel Salazar; [4]Ophthalmology, Centro Hospitalar e Universitário do Porto; [5]Instituto de Ciências Biomédicas Abel Salazar

2626 — *B0157* **Aflibercept in the real world – an EPR based clinical audit of patients with diabetic macular edema from 21 UK hospitals.** *Sajjad Mahmood[1, 2], I. M. Stratton[3], R. Mukherjee[4], J. S. Talks[5], C. Bailey[6], A. Lotery[10], S. Kashani[7], F. Ghanchi[11, 12], S. Natha[13], P. H. Scanlon[8, 9].* [1]Manchester Royal Eye Hospital; [2]University of Manchester; [3]Cheltenham General Hospital; [4]Leeds Teaching Hospital NHS Trust; [5]Newcastle upon Tyne NHS Foundation Trust; [6]Bristol Eye Hospital; [7]East Sussex Healthcare NHS Trust; [8]Gloucestershire Hospital NHS Foundation Trust; [9]Oxford Eye Hospital; [10]Faculty of Medicine, University Of Southampton; [11]Bradford Ophthalmology Research Network; [12]Bradford Teaching Hospitals NHS Foundation Trust.; [13]Wrightington, Wigan and Leigh NHS Foundation Trust **CR*

2627 — *B0158* **Aflibercept and navigated versus conventional laser in diabetic macular edema: a 12-month prospective, randomized clinical trial.** *Søren L. Blindbæk[1, 2], T. Peto[3, 2], J. Grauslund[1, 2].* [1]Ophthalmology, Odense University Hospital; [2]Clinical Research, University of Southern Denmark; [3]Centre for public Health, Queen's University Belfast **CR*, ↗

2628 — *B0159* **Usefulness of liquid biopsy of aqueous humor biomarkers in predicting anti-VEGF response in Diabetic Macular Edema. Results of a pilot study.** *Patricia Udaondo[1], M. Mesquida[2], E. Nogoceke[2], C. Hernandez[3], S. Rafael[3].* [1]Opthalmology, Hospital Universitario y Politécnico La Fe; [2]2Roche Pharma Research and Early Development, Roche Innovation Center Basel,; [3]3Diabetes and Metabolism Research Unit. Vall d'Hebron Research Institute **CR*

2629 — *B0160* **Clinically Significant Macular Edema Among Patients With Diabetes In Southern China.** *Wenyong Huang, L. Wang, W. Li, X. Gong, K. Xiong, M. Jie.* Zhongshan Opthalmic Center,Sun-Yat Sen University

2630 — *B0161* **Earlier intervention is associated with improved visual outcomes in patients with persistent or recurrent diabetic edema - Clinical insights from the ILUVIEN (fluocinolone acetonide) Registry Safety Study (IRISS).** *Panos Vouzounis[1], S. Taylor[1], U. Chakravarthy[2], C. Bailey[3], F. H. Koch[4], J. Sousa[5].* [1]Ophthalmology, Royal Surrey County Hospital; [2]Centre for Public Health, Queen's University Belfast; [3]Bristol Eye Hospital; [4]Retina and Vitreous, University Eye Clinic Frankfurt; [5]Oftalmologia pelo Hospital da Universidade de Coimbra **CR*, ↗

2631 — *B0162* **Identification of Novel Biomarkers in Diabetic Macular Edema (DME) and How They Change in a Streptozotocin-Induced Rat Model of Diabetic Retinal Edema.** *Gianna C. Teague[1], T. Turunen[1], A. Hua[1], N. Nandakumar[1], F. López[3], M. Baldwin[2], K. Lashkari[1].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear; [2]Opthea Limited; [3]Clinical Development Ophthalmology Retina, Allergan plc **CR*

2632 — *B0163* **Long-term outcomes in chronic diabetic macular oedema (DMO) for patients treated with the Fluocinolone Acetonide intravitreal implant: Real world UK results.** *Bushra Mushtaq, S. Perara, P. Lip, A. Mitra, B. Mohammed, R. Chavan.* Birmingham and Midland Eye Centre **CR*

2633 — *B0164* **Consistent Improvements in Retinal Thickness Amplitude Achieved with the 0.19 mg Fluocinolone Acetonide Implant in Patients with DME: Results from FAME, PALADIN and USER studies.** *Christopher D. Riemann.* Cincinnati Eye Institute / University of Cincinnati **CR*

2634 — *B0165* **Understanding the relationship between ellipsoid zone inner border variation and its effect on visual acuity in Diabetic Retinopathy patients.** *jae kim, G. W. Abrams.* Ophthalmology, Kresge Eye Institute

2635 — *B0166* **Effect of 3-Hour Normobaric Hyperoxia on Diabetic Macular Edema.** *Robert Minturn, B. Seto, K. Yamada, K. Zeng, J. G. Arroyo.* Surgery- Ophthalmology, Beth Israel Deaconess Medical Center

2636 — *B0167* **First real world analysis of safety in 0.19 mg fluocinolone acetonide (FAc, ILUVIEN) implant treated eyes receiving supplemental ocular steroid injection for diabetic macular edema (DME).** *Victor H. Gonzalez.* Valley Retina Institute PA **CR*

2637 — *B0168* **Aflibercept in the real world – are the visual outcomes worse in patients with diabetic macular edema who have had a cataract operation?** *Irene M. Stratton[1], P. H. Scanlon[1], J. S. Talks[6], U. Chakravarthy[3], R. Mukherjee[4], F. Ghanchi[5], S. Mahmood[7], A. Lotery[2].* [1]Gloucestershire Retinal Research Group, Gloucestershire Hospitals NHS FT; [2]Faculty of Medicine, University of Southampton; [3]Queen's University Belfast; [4]St James's University Hospital; [5]Ophthalmology, Bradford Teaching Hospitals NHS FT; [6]Royal Victoria Hospital; [7]Manchester University NHS FT **CR*

2638 — *B0169* **Dexamethasone Intravitreal Implant In Diabetic Macular Edema: real-life data in one year of treatment.** *Mariella Scalfati, I. Marchesoni, E. Zampedri, M. Toscani, F. Romanelli.* Ophthalmology Unit Rovereto

2639 — *B0170* **Efficacy and Safety of Fluocinolone acetonide (FA_c) implant (ILUVIEN) for treating Diabetic Macular Edema (DME) - A 3-year U.S. Retrospective, multi-center Audit.** *Robert Wang[1, 2].* [1]Retina/Uveitis, Texas Retina Associates; [2]Ophthalmology, UT Southwestern **CR*

2640 — *B0171* **Visual Outcomes Of Patients With Center-Involving Diabetic Macular Edema And Good Vision.** *Roomasa Channa[1, 2], S. ZAFAR[2], C. Y. Weng[1], M. V. Boland[2].* [1]Ophthalmology, Baylor College of Medicine; [2]Wilmer Eye Institute **CR*

2641 — *B0172* **Real world data of management of treatment-naïve diabetic macular edema in JAPAN: Two years visual outcome with and without anti-VEGF therapy.** *Daisuke Muramatsu[1, 5], M. Shimura[4], S. Kitano[3], T. Sakamoto[2].* [1]Ophthalmology, Tokyo Medical University; [2]Kagoshima University; [3]Diabetes Center, Tokyo Women's Medical University; [4]Tokyo Medical University, Hachioji Medical Center; [5]Musashisakai Eye Clinic **CR*

2642 — *B0173* **One-year results of modified Treat-and-Extend regimen using aflibercept for diabetic macular edema; VIBIM study.** *Min Sagong[1], J. Shin[2], Y. Kim[6], H. Kim[5], S. Lee[4], I. Chung[3], S. Park[7], K. Pak[5], P. Donggeun[1], J. E. Lee[7].* [1]Department of Ophthalmology, Yeungnam University College of Medicine; [2]Department of Ophthalmology, School of Medicine, Kyungpook National University ; [3]Department of Ophthalmology, Gyeongsang National University College of Medicine; [4]Department of Ophthalmology, Kosin University College of Medicine; [5]Department of Ophthalmology, Haeundae Paik Hospital, Inje University College of Medicine; [6]Department of Ophthalmology, Dongsan Medical Center, Keimyung University School of Medicine; [7]Department of Ophthalmology, Pusan National University School of Medicine ↗

2643 — *B0174* **Diabetic Macular Edema and Uveitic Macular Edema Analysis of Peripheral Blood Cytokine and Growth Factor Levels.** *Marc Figueras-Roca[1, 2], A. Sala-Puigdollers[1, 2], J. Matas[1, 2], V. Llorens[1, 2], M. Morato[1], J. Zarranz-Ventura[1, 2], A. Adan[1, 2], B. Molins[2].* [1]Ophthalmology, Hospital Clinic of Barcelona; [2]IDIBAPS **CR*

2644 — *B0175* **Foveal central bouquet abnormalities in early cystoid macular edema from Central Retinal Vein Occlusion, Irvine-Gass syndrome, and Uveitis.** *Tamara L. Lenis, A. Au, K. K. Hou, D. Sarraf.* Ophthalmology, UCLA **CR*

2645 — *B0176* **Ocular hypertension following intravitreal injection of 0.7mg dexamethasone implant versus 2mg triamcinolone.** *Brandon Kuley[1], P. Storey[2], M. Pancholy[1], A. Obeid[2], J. Murphy[1], J. Goodman[1], T. D. Wibbelsman[2], C. Regillo[2], A. Chiang[2].* [1]Sidney Kimmel Medical College at Thomas Jefferson University; [2]Retina, Wills Eye Hospital

2646 — *B0177* **Evaluation of the efficacy of the intravitreal 0.7 mg dexamethasone implant in patients with Diabetic Macular Oedema (DMO) in a Tertiary Referral Center in United Kingdom.** *Anastasia Tasiopoulou[1], C. Kern[1, 3], D. Fu[1, 2], K. Balaskas[1], P. A. Keane[1, 2], D. A. Sim[1, 2].* [1]Moorfields Eye Hospital; [2]National Institute for Health and Research (NIHR) Biomedical Center, Moorfields Eye Hospital; [3]Department of Ophthalmology, University Hospital LMU, Munich **CR*

Monday Posters
4:00 pm – 5:45 pm

2647 — *B0178* **Evaluation Of Cone Function In Diabetic Retinopathy With And Without Macular Edema Using The Rabin Cone Contrast Test.** *Maria L. Urani, I. Sánchez Santos, V. Tirado, J. Baca Moreno, S. Soberón, R. Gonzalez-Salinas, V. Morales-Canton, H. Quiroz-Mercado.* Retina, Asociacion para evitar la ceguera en Mexico I.A.P.

2648 — *B0179* **Nocturnal Normobaric Hyperoxia in patients with Diabetic Macular Edema: A Case Series.** *Brendan Seto[1], K. Yamada[1], A. Balasundaram[1], G. Dingillo[1], R. Tandias[1, 2], J. G. Arroyo[1, 2].* [1]Surgery, Beth Israel Deaconess Medical Center; [2]Harvard Medical School

West Exhibition Hall B0180-B0212

Monday, April 29, 2019 4:00 PM-5:45 PM

Biochemistry/Molecular Biology

291 Biochemistry and molecular mechanisms of diabetic retinopathy

Monday Posters
4:00 pm – 5:45 pm

Moderators: Pamela M. Martin and Andrew T. Tsin

2649 — *B0180* **Bioinformatics Analysis of Weighted Genes in Diabetic Retinopathy.** *Ke Shi, Z. You.* Department of Ophthalmology, Nanchang University

2650 — *B0181* **Transcriptional suppression of galectin-1/*LGALS1* by glucocorticoids in Müller glial cells and diabetic retinopathy.** *Atsuhiro Kanda, I. Hirose, K. Noda, S. Ishida.* Ophthalmology, Hokkaido University ***CR***

2651 — *B0182* **Endomucin, an endothelial marker, benefits streptozotocin-induced diabetic rat retina by restoring glycocalyx.** *Niu Tian, K. Liu, M. Zhao.* Shanghai General Hospital

2652 — *B0183* **Epigenetics and mitochondrial integrity in the metabolic memory associated with continued progression of diabetic retinopathy.** *Arul Joseph Duraisamy, R. A. Kowluru.* Kresge Eye Institute, Wayne State University

2653 — *B0184* **Ranibizumab prevents Müller cell edema in diabetic retinopathy.** *Jingfa Zhang[1], T. Wang[1], C. Zhang[2], H. xie[2], Q. Yi[1], D. Liu[2], Q. Peng[2], W. Li[2, 3], G. Xu[2], L. Liu[1].* [1]Department of Ophthalmology, Renji Hospital; [2]Department of Ophthalmology of Shanghai Tenth People's Hospital, and Tongji Eye Institute, Tongji University School of Medicine; [3]Department of Ophthalmology, Drexel University College of Medicine

2654 — *B0185* **Accelerated structural and functional loss of retinal ganglion cells in a transgenic mouse model of retinopathy.** *J. Mark Petrash[1], B. Shieh[1], M. Pedler[1], K. Chang[1, 2], P. Lenhart[1], D. Orlicky[4], D. A. Ammar[1, 3].* [1]Ophthalmology, Department of Ophthalmology, Univ of Colorado; [2]Ophthalmology, Stanford University; [3]Lions Eye Institute for Transplant & Research; [4]Pathology, UC Denver | Anschutz Medical Campus

2655 — *B0186* **MicroRNA-29b-3p alleviates hyperglycemia induced endothelial cell apoptosis via inhibition of DAB2IP/ASK1/JNK signaling pathway.** *Yong Zeng[1], Z. Cui[2], J. Chen[1, 2], S. Tang[1, 2].* [1]Aier school of ophthalmology, Central south university; [2]Aier eye institute

2656 — *B0187* **SIGIRR deficiency accelerates diabetes-induced retinal neurodegeneration.** *Mei Chen, S. Pavlou, J. Augustine, H. Xu.* Centre for Experimental Medicine, Queens University Belfast

2657 — *B0188* **Novel Long non-coding RNA mediated EndMT pathway in the retina in diabetes.** *Subrata Chakrabarti[1, 2], A. Thomas[1], S. Biswas[1], B. Feng[1], S. Chen[1], J. Gonder[3].* [1]Pathology and Lab Medicine, Western University; [2]Pathology and Lab Medicine, London Health Sc Ctr; [3]Ophthalmology, Western University

2658 — *B0189* **Effect of DR microRNA biomarkers on angiogenesis assay activity *in vitro*.** *Zeljka Smit-McBride[1], Y. Chen[2], M. C. Bui[2], H. R. Schmitz[2], Z. Liu[2], J. M. Camilleri[2], L. S. Morse[1, 2].* [1]Vitreo-Retinal Research Lab, Univ of California, Davis Sch of Med; [2]University of California, Davis ***CR***

2659 — *B0190* **Treatment of diabetic mice with chromophore improves visual function and decreases oxidative stress and apoptosis in the retina.** *Gennadiy P. Moiseyev, V. Malechka, R. Cheng, J. Chen, J. Ma.* University of Oklahoma Health Sciences Center

2660 — *B0191* **The Role of Pyruvate Kinase Regulation in Diabetic Retinopathy.** *Yuhong Wang.* Ophthalmology, DMEI

2661 — *B0192* **The vitreous humor from proliferative diabetic retinopathy patients: translational implications.** *Sara Rezzola[1], M. I. Nawaz[1], A. Cancarini[2], F. Semeraro[2], M. Presta[1].* [1]Department of molecular and translational medicine, University of Brescia; [2]Department of Ophthalmology, University of Brescia

2662 — *B0193* **Expression of Integrin and TGFBI in Human Retinal Pericytes.** *Andrew T. Tsin, B. Su, L. Valdez, E. Serrato.* Molecular Science, UTRGV/SOM; Molecular Science, UTRGV/SOM; Molecular Science, UTRGV/SOM

2663 — *B0194* **Factors of Susceptibility in the Development of Diabetic Retinopathy.** *Ebrahim Abdul Shukkur, S. Alluri, L. Young, E. Strand, D. Kracht, T. W. Carion, E. A. Berger.* Ophthalmology, Visual & Anatomical Sciences, Wayne State University SOM

2664 — *B0195* **Ligand Specificities of Wnt Co-receptors in Wnt Signaling Regulation.** *Yusuke Takahashi[1, 2], H. Singh[3], J. Ma[3, 2].* [1]Medicine-Endocrinology, Univ of Oklahoma Hlth Sci Ctr; [2]Harold Hamm Diabetes Center; [3]Physiology, Univ of Oklahoma Hlth Sci Ctr

2665 — *B0196* **Supplementation with n3 Fatty Acids to Improve VLC-PUFA Levels in Diabetic Animal Models.** *Aruna Gorusupudi, F. Chang, K. Nelson, G. S. Hageman, P. S. Bernstein.* Dept of Ophthalmology and Visual Sci, Moran Eye Center

2666 — *B0197* **Effects of insulin on vascular endothelial growth factor secretion and cell viability in human Muller glial cells.** *Cristian Mercado, A. T. Tsin.* Molecular Science, UTRGV/SOM

2667 — *B0198* **Proteomic Analysis of Mitochondria-associated ER Membranes Identified Novel Proteins of Retinal Degeneration in Diabetes.** *Joshua J. Wang[1, 4], N. Dhimal[1], S. Shen[5], X. Tang[1, 3], A. Verhoski[5], J. Qu[2, 5], S. X. Zhang[1, 5].* [1]Ophthalmology and Ross Eye Institute, The State University of New York at Buffalo; [2]Pharmaceutical Sciences, The State University of New York at Buffalo; [3]The Third Affiliated Hospital, Sun Yat-sen University; [4]SUNY Eye Institute, State University of New York; [5]Biochemistry, State University of New York at Buffalo

2668 — *B0199* **Involvement of Complement Activation and its Regulation in the Pathogenesis of Diabetic Retinopathy.** *Inderjeet Kaur[1], S. Shahulhameed[1], S. Vishwakarma[1], J. K. Chhablani[2], M. Tyagi[2], R. Pappuru[2], S. Chakrabarti[1].* [1]Prof Brien Holden Eye Research Centre, L V Prasad Eye Institute, Road# 2, Banjara Hills, L V Prasad Eye Institute; [2]Smt. Kannuri Santhamma Centre for Vitreo Retinal Diseases, L V Prasad Eye Institute

2669 — *B0200* **VEGFA Isoform Switching in Diabetic Retinopathy and ROP is a Significant Factor in the Activation of Human Retinal Endothelial Cells.** *Kenneth P. Mitton[1], W. A. Dailey[1], M. Moore[1], A. E. Guzman[1], J. Felisky[1], K. Moyer[1], N. Putris[1, 2], P. Chen[1, 2], A. Knapp[1, 2], A. Thomas[1], R. Miller[1], B. Metcalf[1, 2].* [1]Eye Research Institute, Oakland University; [2]OUWB School of Medicine

2670 — *B0201* **The dysregulation of interphotoreceptor retinoid binding protein (IRBP) under hyperglycemic conditions in Akita mice and human retinal explant culture.** *Shaoxue Zeng[1, 2], T. Zhang[2], L. Zhu[2], W. Shen[2], J. Zhang[1], M. Gilles[2].* [1]Department of opthalmology, Sichuan University; [2]Save Sight Institute, Sydney University

2671 — *B0202* **Genetic and Epigenetic Modifications in the Pathogenesis of Diabetic Microvascular Complications.** *Xinyuan Zhang, L. Zhao.* Beijing Tongren Hospital

2672 — *B0203* **Altered Circadian Metabolites in Type 2 Diabetic Mice with Diabetic Retinopathy.** *Samantha Prabakaran[1], E. Beli[2], Y. Duan[2], S. Li Calzi[3], M. B. Grant[3].* [1]University of Central Florida College of Medicine; [2]Department of Pediatrics, Indiana University School of Medicine; [3]Department of Ophthalmology, Alabama University

2673 — *B0204* **Sp1 O-GlcNAcylation on zinc finger 3 mediates glucose-driven VEGF-A upregulation in RPE and Müller glia.** *Kelly Donovan[1], O. Alekseev[2, 1], M. Swift[1], J. Azizkhan-Clifford[1].* [1]Biochemistry and Molecular Biology, Drexel University College of Medicine; [2]University of North Carolina

2674 — *B0205* **Inhibition of IL-6 trans-signaling prevents oxidative stress and lipid peroxidation in early diabetic retinopathy.** *Shruti Sharma[1, 2], M. Prathivadibhaya[2], A. Shanmugam[2], R. Robinson[2], S. Kodeboyina[2], A. Ward[2], A. Sharma[2, 3].* [1]Department of Ophthalmology, Augusta University; [2]Center for Biotechnology and Genomic Medicine, Augusta University; [3]Department of Population Health Sciences, Augusta University

2675 — *B0206* **Increased vitreous VEGF: Correlation with insulin and other plasma metabolites in patients with proliferative diabetic retinopathy.** *Nikhil S. Sahajpal[1], S. Jain[1], V. VIg[2], P. Singh[2], R. Singh[2], k. Singh[3], D. Wright[4], R. Kumar[5], A. Chaubey[6].* [1]Department of Pharmaceutical Sciences, Guru Nanak Dev University; [2]Sardar Bahadur Sohan Singh Eye Hospital; [3]Department of Microbiology, Government Medical College; [4]Thermo Fisher Scientific; [5]Department of Pharmaceutical Sciences and Drug Research, Punjabi University; [6]Perkin Elmer Genomics **CR*

2676 — *B0207* **Effect of axial length on intraocular VEGF levels in eyes with Diabetic Retinopathy.** *ASHISH KULSHRESTHA, A. Agarwal, B. Tigari, a. singh, B. Moharana, V. Gupta, M. R. Dogra, J. Ram, R. Singh.* Ophthalmology, Post Graduate Institute Of Medical Education and Research

2677 — *B0208* **Recurrent hypoglycemia markedly decreases local insulin biosynthesis in the diabetic retina.** *Folami L. Powell[1], M. Jones[1], R. Jadeja[1], O. Flandrin[2], A. Abdelrahman[1], M. Thounaojam[3], D. Gutsaeva[3], M. Bartoli[3], P. M. Martin[1, 3].* [1]Biochemistry and Molecular Biology, Medical College of Georgia at Augusta University; [2]Claflin University; [3]Ophthalmology, Medical College of Georgia

2678 — *B0209* **Effects of diabetes on retinal protein lysine malonylation.** *Steven F. Abcouwer[1], S. Shanmugam[1], H. Hager[1], C. Lin[1], T. W. Gardner[1], P. E. Fort[1], K. M. Sas[2], S. Pennathur[2].* [1]Ophthalmology & Visual Science, Univ of Michigan Kellog Eye Ctr; [2]Internal Medicine, University of Michigan

2679 — *B0210* **Role of DAMPs in the Initiation of Diabetic Retinopathy in a Novel Ossabaw Pig model of Prediabetes.** *Rayne Lim[1, 2], R. R. Mohan[4, 3], D. P. Hainsworth[5], S. S. Chaurasia[1, 3].* [1]Veterinary Medicine & Surgery, University of Missouri; [2]Biomedical Sciences, University of Missouri; [3]Harry S Truman Memorial Veteran Hospital; [4]Veterinary Medicine & Surgery and Mason Eye Institute, University of Missouri; [5]Ophthalmology-Mason Eye Institute, University of Missouri

2680 — *B0211* **Transducin1, phototransduction and the development of early diabetic retinopathy.** *Timothy S. Kern[1, 5], H. Liu[3], J. Tang[4], Y. Du[1], A. Saadane[1], I. S. Samuels[5, 6], K. Palczewski[1, 2].* [1]Department of Pharmacology, Case Western Reserve Univ; [2]Ophthalmology, University of California-Irvine; [3]Biology, Case Western Reserve Univ; [4]Pharmacology, Case Western Reserve Univ; [5]Research, Veterans Administration Med Center; [6]Ophthalmology, Cleveland Clinic

2681 — *B0212* **Modulation of Sphingolipid metabolites in Type 2 Diabetic Retinopathy.** *Koushik Mondal[1], T. Lydic[2], R. Gangaraju[1], J. V. Busik[3], N. A. Mandal[4].* [1]Ophthalmology, Hamilton Eye Institute, UTHSC; [2]Department of Physiology, Michigan State University; [3]Department of Physiology, Michigan State University; [4]Ophthalmology, Hamilton Eye Institute, UTHSC **CR*

West Exhibition Hall B0213-B0249

Monday, April 29, 2019 4:00 PM-5:45 PM

Retinal Cell Biology

292 Diabetic Retinopathy: Pathogenic Mechanisms

Moderators: Julia V. Busik and Nader Sheibani

2682 — *B0213* **Local Proliferation of CD206+ CX3CR1+ Macrophages at the Vitreoretinal Interface in Diabetic Retinopathy.** *Shintaro Nakao[1], M. Yamaguchi[1], I. Wada[1], Y. Kaizu[1], M. Arima[1], K. Ishikawa[1], T. Nakama[1], W. Shiraishi[2], R. Yamasaki[2], J. Kira[2], T. Ishibashi[1], K. Sonoda[1].* [1]Ophthalmology, Kyushu University; [2]Neurology, Kyushu University **CR*, ↗

2683 — *B0214* **Infiltrating immune cells and pathophysiology in Diabetic Retinopathy (DR).** *Imran A. Bhutto[1], T. Vaidya[2], S. Ghosh[1], A. Padmanabhan[2], M. Yazdankhah[1], P. Shang[1], N. A. Stepicheva[1], S. L. Hose[1], J. S. Zigler, Jr[4], S. GopiKrishna[3], T. MB[3], G. A. Lutty[4], A. Ghosh[2], S. Sethu[2], D. Sinha[1, 4].* [1]Ophthalmology, University of Pittsburgh; [2]GROW Research Laboratory, Narayana Nethralaya Foundation; [3]Retina Department, Narayana Nethralaya; [4]Ophthalmology, Wilmer Eye Institute

2684 — *B0215* **Cytokine-induced ECM alterations in DR pathogenesis.** *Meredith Giblin[1], J. S. Penn[2, 1].* [1]Cell and Developmental Biology, Vanderbilt University School of Medicine; [2]Ophthalmology and Visual Sciences, Vanderbilt University Medical Center

2685 — *B0216* **Anti-inflammatory effects of transgelin-2 in murine diabetic retinopathy.** *Zongming Song, P. Shi, M. Li, Y. Wei, H. Tang.* Henan Eye Hospital/Henan Eye Institute, Henan Provincial People's Hospital

2686 — *B0217* **CXCL6 Contributes to Vascular Inflammation and Disruption of Tight-Junctions Associated with Diabetic Retinopathy.** *Andrea P. Cabrera[1], F. Monickaraj[1, 2], P. Mcguire[1, 3], A. Das[1, 2].* [1]Surgery/Ophthalmology, University of New Mexico; [2]NMVA Health Care System; [3]Cell Biology and Physiology, University of New Mexico

2687 — *B0218* ***In vitro* analysis of RUNX1 and VEGF pathway interactions.** *Hannah Whitmore, D. Amarnani, S. Delgado-Tirado, J. Arboleda-Velasquez, L. A. Kim.* Schepens Eye Research Institute - MEEI

2688 — *B0219* **In Vivo Retinal Structural Lesions, Functional Deficits and Peripheral Blood Cell phenotype in Mice with High-Fat Diet-Induced Retinopathy.** *Bright Asare-Bediako[1], S. Nooti[2], S. Li Calzi[1], B. Athmanathan[2], C. Pedrozo Vieira[1], A. F. Longhini[1], M. Dupont[1], D. CHAKRABORTY[1], P. R. Nagareddy[1], M. B. Grant[1].* [1]Opthalmology and Visual Sciences, University of Alabama at Birmingham; [2]Nutrition Sciences, University of Alabama at Birmingham

2689 — *B0220* **A novel zebrafish model of insulin-induced blood-retinal barrier breakdown.** *Lana Pollock[1], J. Xie[1], B. A. Bell[1], B. Anand-Apte[1, 2].* [1]Cole Eye Institute - Ophthalmic Research, Cleveland Clinic Foundation; [2]Department of Cell Biology, Cleveland Clinic Lerner College of Medicine at CWRU

2690 — *B0221* **Secretogranin III is a diabetes-selective retinal vascular leakage factor.** *Xin Rong[1, 2], H. Tian[3], L. Yang[1], W. Li[2].* [1]Department of Ophthalmology, Peking University First Hospital; [2]Department of Ophthalmology, Bascom Palmer Eye Institute; [3]Everglades Biopharma, LLC **CR*

2691 — *B0222* **The Effects of Interleukin-6 Trans-Signaling on Human Retinal Endothelial Cells Under Hyperglycemic Conditions.** *Brandon Coughlin, S. Mohr.* Physiology, Michigan State University

2692 — *B0223* **Endothelial expression of permeability-resistant occludin mutant preserves visual function in diabetes.** *Cheng-mao Lin[1], A. Goncalves[1], J. M. Keil[2], S. Sheskey[1], D. A. Antonetti[1].* [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Molecular and Behavioral Neuroscience Institute, University of Michigan

2693 — *B0224* **Inhibition of Insulin Receptor Substrate-1 Alters Retinal Circadian Clock.** *Maaz Arif, D. Mathew, A. D. Bhatwadekar.* Department of Ophthalmology, Indiana University School of Medicine

2694 — *B0225* **Like in human, the onset of retinal neurons alteration precedes the vasculopathy in *Psammomys obesus* diabetic retinopathy: Determining the early stage of disease.** *Ahmed Dellaa[1], I. Hammoum[1], M. Kahloun[2], M. Khairallah[2], M. Dogui[4], P. Lachapelle[3], R. Ben Chaouacha Chekir[1].* [1]Physiopathology, Food and Biomolecules, Higher Institute of Biotechnology Sidi Thabet; [2]Departmement of Ophtalmology, Fattouma Bourguiba Hospital; [3]Department of Ophtalmology, Research Institute of the McGill University Health Centre; [4]Department of Neurophysiology, Sahloul Hospital

2695 — *B0226* **Loss of NAMPT and decreased NAD+ levels contributes to stress-associated premature senescence (SAPS) in the diabetic retinal microvasculature.** *Manuela Bartoli[1], R. Jadeja[2], M. Thounaojam[1], D. Gutsaeva[1], F. L. Powell[2], P. M. Martin[2].* [1]Ophthalmology, Augusta University; [2]Biochemistry and Molecular Biology, Augusta University

2696 — *B0227* **Hypoxia inducible factor-1 regulates spermine oxidase leading to acrolein generation in Müller Glial cells.** *Di Wu[1, 2], K. Noda[1, 2], M. Murata[1, 2], Y. Liu[1, 2], A. Kanda[1, 2], S. Ishida[1, 2].* [1]Laboratory of Ocular Cell Biology & Visual Science, Department of Ophthalmology; [2]Faculty of Medicine and Graduate School of Medicine, Hokkaido University

2697 — *B0228* **Consequence of deep vascular complex nonperfusion to retinal neurons in the inner nuclear layer.** *Qian Yang[1], M. V. Yasvoina[1], M. Zhu[2], M. Fruttiger[1].* [1]UCL Institute of Ophthalmology; [2]Lions New South Wales Eye Bank

2698 — *B0229* **Role of post-translational modification in the regulation of cellular oxidative stress in diabetic retinopathy.** *Ghulam Mohammad[1], A. Duraisamy[1], A. Kowluru[2], R. A. Kowluru[1].* [1]Ophthalmology Visual and Anatomical Science, Wayne State University; [2]Pharmaceutical Sciences, John D Dingell VA Medical Center

2699 — *B0230* **High Glucose Increases Binding of Lysyl Oxidase with Extracellular Matrix Proteins in Retinal Endothelial Cells: Implications for Diabetic Retinopathy.** *Ngan Ha Nguyen[1], D. Kim[1], P. Trackman[2], S. Roy[1].* [1]Departments of Medicine and Ophthalmology, Boston University School of Medicine; [2]Department of Molecular and Cell Biology, Boston University Henry M**.** Goldman School of Dental Medicine

2700 — *B0231* **Tauroursodeoxycholic acid blocks endoplasmic reticulum stress mediated visual deficits in diabetic tie2 TNF transgenic mice.** *RAJI RAJESH LENIN[1], k. Abhiram Jha[1], J. Gentry[1], R. Gangaraju[1, 2].* [1]Ophthalmology, University of Tennessee Health Science centre; [2]Anatomy and neurobiology, university of Tennessee Health Science Center **CR*

2701 — *B0232* **Differential modulation of photoreceptors and Müller glial cell function between acute hyperglycemia and long-term diabetes.** *Silke Becker[1], B. A. Berkowitz[2], F. Vinberg[1].* [1]Department of Ophthalmology, University of Utah; [2]Department of Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine

2702 — *B0233* **Effect of Serum Starvation on the SIRT1-LXR Signaling Pathway in Retinal Endothelial Cells.** *Maximilian Sandler, S. S. Hammer, D. M. McFarland, E. Crockett-Torabi, J. V. Busik.* Physiology, Michigan State University

2703 — *B0234* **Dual protective action of αA-crystallin on retinal glial and neuronal cells during metabolic stress.** *Madhu Nath, Y. Shan, P. E. Fort.* Kellogg Eye Centre, University of Michigan

2704 — *B0235* **Control of retinal cholesterol levels by fasting-induced activation of SIRT1-LXR pathway in diabetic retinopathy.** *Delaney McFarland[1], S. S. Hammer[1], M. B. Grant[2], J. V. Busik[1].* [1]Michigan State University; [2]Ophthalmology, University of Alabama at Birmingham

2705 — *B0236* **Metabolic plasticity in retinal microvascular endothelial cells exposed to diabetes-related conditions in vitro.** *David Hughes, P. Bertelli, S. McKeown, P. Canning, E. Peixoto, T. M. Curtis, R. J. Medina, A. W. Stitt.* School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast

2706 — *B0237* **Sphingolipid Metabolism Contributes To Mitochondrial Dysfuncton Induced By Diabetogenic Condition In Retinal Epithelial Cells.** *Kiera Fisher[1], Y. Levitsky[4, 5], S. S. Hammer[1], T. Lydic[3], D. Pegouske[4], D. Proshlyakov[2], J. V. Busik[1].* [1]Physiology, Michigan State University; [2]Chemistry, Michigan State University; [3]Molecular Metabolism and Disease - Mass Spectrometry Core, Michigan State University; [4]Physiology/Chemistry, Michigan State University; [5]DO/PhD - Physician Scientist Training Program, Michigan State University

2707 — *B0238* **Ceramide-Induced Mitochondrial Changes in Retinal Endothelial Cells.** *Yan Levitsky[1, 2], S. S. Hammer[3], T. Lydic[4, 3], D. Pegouske[5], K. Fisher[3], D. Proshlyakov[5], J. V. Busik[3].* [1]Chemistry, Physiology, Michigan State University; [2]DO/PhD Physician Scientist Training Program, Michigan State University; [3]Physiology, Michigan State University; [4]Molecular Metabolism and Disease - Mass Spectrometry Core, Michigan State University; [5]Chemistry, Michigan State University

2708 — *B0239* **Hyperglycemia disrupts homeostatic Sp1-VHL interaction in RPE and Müller glia.** *Oleg Alekseev[1, 2], K. Donovan[2], J. Azizkhan-Clifford[2].* [1]Ophthalmology, University of North Carolina at Chapel Hill; [2]Biochemistry and Molecular Biology, Drexel University College of Medicine

2709 — *B0240* **Transcriptomics analysis of pericytes reveals candidate genes and pathways that may contribute to retinal microvascular alteration in diabetic retinopathy.** *Finny Monickaraj[1, 3], S. Rangasamy[2], I. Piras[2], A. P. Cabrera[1], P. Mcguire[1, 4], A. Das[1, 3].* [1]University of New Mexico; [2]Neurogenomics Division, Translational Genomics Research Institute; [3]NMVA Health Care System; [4]Cell Biology and Physiology, University of New Mexico

2710 — *B0241* **Human iPS-derived retinal Müller glia cells to model diabetic retinopathy.** *Aude Couturier[2, 1], G. Blot[2], l. vignaud[2], C. Nanteau[2], A. Slembrouck-Brec[2], V. Fradot[2], J. Sahel[2, 3], R. Tadayoni[1, 2], J. roger[2], F. Sennlaub[2], O. Goureau[2], S. Reichman[2], X. Guillonneau[2].* [1]Ophthalmology, Hopital Lariboisiere; [2]Institut de la Vision, Sorbonne Université, INSERM, CNRS; [3]CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DHOS CIC

2711 — *B0242* **In-vitro model of hyperglycemia: what is the appropriate concentration of D-glucose?** *Kaiwen He, X. Zhang, K. Wang.* Beijing Institute of Ophthalmology, Beijing Tongren Hospital

2712 — *B0243* **Transcriptional Landscape of Retinal Endothelial cells reveals novel molecular signatures in Diabetic Retinopathy.** *Sampathkumar Rangasamy[1], F. Monickaraj[2, 4], I. Piras[1], A. P. Cabrera[2], P. Mcguire[2, 3], A. Das[2, 4].* [1]Neurogenomics, Translational Genomics Research Institute (TGen); [2]Surgery/Ophthalmology, University of New Mexico; [3]Cell Biology and Physiology, University of New Mexico; [4]NMVA Health Care System

2713 — *B0244* **IFN-gdeficient Ins2$^{+/-}$(Akita) mouse is a new model of diabetic retinopathy.** *Masaru Takeuchi[1], M. Taguchi[1], Y. Nishio[1], M. Inada[1], K. Takayama[1], K. Harimoto[1], Y. Karasawa[1], M. Ito[2].* [1]Ophthalmology, National Defense Medical College; [2]Developmental Anatomy and Regenerative Biology, National Defense Medical College

2714 — *B0245* **Pathological features of diabetic retinopathy in unilaterally nephrectomized Spontaneously Diabetic Torii fatty rats given 0.3% salt water.** *YOSHIAKI TANAKA[1], R. Takagi[1], M. Shimmura-Tomita[1], F. Yamaguchi[2], Y. Katayama[2], T. Suzuki[2], M. Shinohara[3], T. Ohta[4], T. Sasase[4], A. Kakehashi[1].* [1]Jichi Medical University, Saitama Medical Center; [2]Research Division Biology Laboratory, SCOHIA PHARMA, Inc.; [3]CLEA Japan, Inc.; [4]Central Pharmaceutical Research Institute, Japan Tobacco Inc**.** **CR*

2715 — *B0246* **Aflibercept ameliorates retinal pericyte loss and improves nonperfusion in streptozotocin-induced diabetic mice.** *Eoijong Seo[1], J. Choi[2], J. Koh[3], Y. Yoon[3].* [1]Ophthalmology, Yonsei Plus Eye Center; [2]Asan Institute for Life Sciences; [3]Asan Medical Center ***CR***

2716 — *B0247* ***Pharmacokinetics of the Anti-angiogenic Glycoprotein Opticin in Preclinical Studies.*** *Eva M. del Amo Páez[1], J. R. Griffiths[2], I. P. Klaska[3], A. White[4], L. Aarons[1], J. W. Bainbridge[3], R. J. Unwin[2], P. N. Bishop[4].* [1]School of Health Sciences, University of Manchester; [2]School of Medical Sciences, University of Manchester; [3]Institute of Opthalmology, University College London; [4]School of Biological Sciences, University of Manchester

2717 — *B0248* **Elucidating sexual dimorphism in the retina of mice with type 1 diabetes.** *Shiming Luo[1, 2], J. S. Crabb[1, 3], M. Ali[1, 3], A. Wolk[1, 4], G. Jang[1, 3], B. Willard[3], J. W. Crabb[1, 3], B. Anand-Apte[1, 3].* [1]Ophthalmic Research, Cole Eye Institute; [2]Cleveland Clinic Lerner College of Medicine; [3]Lerner Research Institute, Cleveland Clinic; [4]Molecular Medicine, Cleveland Clinic

2718 — *B0249* **The Role of Galactosemia and Caspase-1 Activation in Retinal Pathology.** *Brett T. Trombley, B. Coughlin, D. Feenstra, S. Mohr.* Physiology, Michigan State University

West Exhibition Hall B0250-B0264

Monday, April 29, 2019 4:00 PM-5:45 PM

Retinal Cell Biology

293 New Therapeutic Avenues in Diabetic Retinopathy

Moderator: Manuela Bartoli

2719 — *B0250* **Human induced pluripotent stem cell (hiPSC)-derived mesoderm promotes retinal function in a type 2 diabetes (db/db) model.** *DIBYENDU CHAKRABORTY, C. Pedrozo Vieira, S. L. Calzi, A. F. Longhini, M. E. Boulton, M. B. Grant.* Ophthalmology, University of Alabama at Birmingham (UAB)

2720 — *B0251* **ARA290 (cibinetide) treatment confers neuroprotective effects in diabetic retinopathy, through modulation of inflammatory mediators.** *Paul Canning[1], O. O'Leary[1, 2], L. Allen[1], M. Brines[3], A. Cerami[3], A. W. Stitt[1].* [1]Wellcome Wolfson Institute of Experimental Medicine, Queen's University Belfast; [2]Roche; [3]Araim Pharmaceuticals Inc**.** ***CR***

2721 — *B0252* **Chemokine modulation as a potential therapy for retinal angiogenesis.** *Dolly A. Padovani-Claudio, S. A. Palmer, N. J. Beatty, J. S. Penn.* Vanderbilt Eye Institute

2722 — *B0253* **Endothelial colony forming cell repair in an *in vitro* co-culture model of the diabetic human retinal microvasculature.** *Hannah J. Levis, R. Williams, J. J. Eyre.* Eye and Vision Science, University of Liverpool

2723 — *B0254* **Metformin Corrects Abnormal Circadian Rhythm and Kir4.1 Channels in db/db mice.** *Ashay D. Bhatwadekar, A. Alex, R. Di, D. Mathew, Q. Luo.* Ophthalmology, Eugene and Marilyn Glick Eye Institute

2724 — *B0255* **Systemic Delivery Of Endothelial Colony Forming Cells Enables Vascular Integration Into Diabetic Mouse retinas, But Not Diabetic Mouse Retinas Treated With AAV2.COMP-Ang1.** *Lara Carroll[1], X. Zhang[1], Y. Huang[2], Y. Wu[1], A. W. Stitt[3], T. M. Curtis[3], R. J. Medina[3], B. K. Ambati[1].* [1]Department of Opthalmology, Moran Eye Center; [2]School of Medicine, University of Utah; [3]Centre for Experimental Medicine, Queens University Belfast

2725 — *B0256* **VE-4840, an oral plasma kallikrein inhibitor, decreases human plasma kallikrein and VEGF-induced retinal thickening and vascular permeability.** *Melissa A. Calton, J. A. Ma, L. Igoudin, S. Sizikov, E. Chang, M. Rienzo, S. Chang, E. E. To, P. J. Zalicki, S. Keutzer, M. A. Estiarte, T. P. Shiau, M. Sivaraja, A. Datta, D. B. Kita.* Verseon Co**.** ***CR***

2726 — *B0257* **MFAP4 – a novel potential target for treatment of vascular leakage in diabetic retinopathy.** *Jing Hua[2], A. Schlosser[1], B. Pilecki[1], U. Holmskov[1], A. Benest[2], D. O. Bates[2], C. Allen[2], G. L. Sorensen[2].* [1]Department of Molecular Medicine, University of Southern Denmark; [2]Cancer Biology, Division of Cancer Stem Cells, School of Medicine, University of Nottingham

2727 — *B0258* **Stimulation of retinal glia cells by palmitic acid.** *Carla Jhoana J. Ramos.* Ophthalmology, Vanderbilt University

2728 — *B0259* **The Role Of The Sirt1/Lxr Signaling Axis In Retinal Endothelial Cell Inflammation And Metabolism.** *Sandra S. Hammer[1], J. V. Busik[1], M. B. Grant[2].* [1]Physiology, Michigan State University; [2]Ophthalmology and Visual Sciences, University of Alabama at Birmingham

2729 — *B0260* **Intravitreal bromfenac with liposomes. A toxicology study in rabbit eyes.** *Idaira Sánchez Santos[1], G. Adolfo García[3], M. Anayatzin Alba[3], R. García Santisteban[3], L. García Azarte[1], R. González Salinas[2], M. Urani[1], V. Morales-Canton[1], H. Quiroz-Mercado[1].* [1]Retina, Asociación para Evitar la Ceguera ; [2]Asociación para Evitar la Ceguera; [3]Ophthalmology, SANGART

2730 — *B0261* **A xeno-free culture system for efficient derivation and amplification of human endothelial colony-forming cells from umbilical cord blood.** *valentina marchetti[1], K. Lee[1], R. Wagey[1], C. Peters[1], S. Sakimoto[2], E. Aguilar[2], M. Friedlander[2], T. Thomas[1], A. Eaves[3], S. Szilvassy[1], S. Louis[1].* [1]RND, STEMCELL Technologies; [2]The Scripps Research Institute; [3]STEMCELL Technologies ***CR***

2731 — *B0262* **Endothelial Nox4 Deletion Mitigates Retinal Vascular Abnormalities in Diabetes.** *Sarah X. Zhang[1], X. Tang[1, 3], H. E. Abboud[4], Y. Chen[5], J. J. Wang[1, 2].* [1]Department of Ophthalmology and Ross Eye Institute, University at Buffalo, State University of New York; [2]SUNY Eye Institute, State University of New York; [3]VIP Center, The Third Affiliated Hospital, Sun Yat-sen University; [4]Department of Medicine, South Texas Veterans Healthcare System and the University of Texas Health Science Center; [5]Division of Endocrinology, The Third Affiliated Hospital, Sun Yat-sen University

2732 — *B0263* **Homocysteine, a new 'troublemaker' in diabetic retinopathy.** *Renu A. Kowluru, A. Duraisamy.* Wayne State Univ/Kresge Eye Inst

2733 — *B0264* **Loss of endothelial TACE-ADAM17 reduces retinal vascular hyperpermeability and improves retinal morphology in diabetic mice.** *Diana Gutsaeva[1], M. Thounaojam[1], A. M. Tawfik[2], R. Jadeja[3], P. M. Martin[3], W. Jahng[4], M. Bartoli[1].* [1]Ophthalmology, Augusta University; [2]Oral Biology, Augusta University; [3]Biochemistry and Molecular Biology, Augusta University; [4]Petroleum Chemistry, American University of Nigeria

West Exhibition Hall B0484-B0525

Monday, April 29, 2019 4:00 PM-5:45 PM

Cornea

294 Corneal Dry Eye Clinical II Epidemiology

Moderators: Jelle Vehof and Allister Gibbons

2734 — *B0484* **Association between sleep and dry eye in Singapore Malays and Indians – a population-based study.** *Elizabeth Wen Ling Lim[1], M. Chee[3], C. Sabanayagam[3], S. Majithia[3], Y. Tao[3], T. Y. Wong[4, 3], C. Cheng[4, 3], L. Tong[2, 3].* [1]Yong Loo Lin School of Medicine, National University of Singapore; [2]Coneal and External Eye Disease, Singapore National Eye Centre; [3]Singapore Eye Research Institute; [4]Singapore National Eye Centre

2735 — *B0485* **The prevalence of ocular Graft Versus Host Disease on a Facebook forum.** *Barbara Caffery[1, 3], J. Liao[2, 3], J. Kwan[6], V. Thakrar[5], S. Day[4], K. DeLoss[4].* [1]Toronto Eye Care; [2]Vision Institute of Canada; [3]Kensington Vision and Research Centre; [4]Ophthalmology and Vision Science, University of Michigan; [5]Vaughan Family Vision Care; [6]Professional Eye Center

2736 — *B0486* **Prevalence of Meibomian Gland dysfunction – a systematic review and analysis of published evidence.** *Caroline A. Blackie[1], E. Folly[2], J. Ruppenkamp[2], C. Holy[2].* [1]Johnson and Johnson Vision; [2]Johnson and Johnson **CR*

2737 — *B0487* **Clinical presentation, comorbidities and healthcare utilization of patients with dry eye and Meibomian gland dysfunction – a United States database analysis.** *Jill Ruppenkamp[1], E. Folly[1], C. Holy[1], C. A. Blackie[2].* [1]Johnson and Johnson; [2]Johnson and Johnson Vision **CR*

2738 — *B0488* **Dry Eyes In Guatemala And India.** *J Peter Gierow, A. Garcia, I. Eliasson.* Department of Medicine and Optometry, Linnaeus University

2739 — *B0489* **Prevalence of and Risk Factors for Meibomian Gland Dysfunction, Posterior Blepharitis, and Dry Eye Revealed by a Population-Based Study in Japan.** *Reiko Arita[1, 2], T. Mizoguchi[3, 2], M. Kawashima[4, 2], S. Fukuoka[5, 2], S. Koh[6, 2], R. Shirakawa[7, 2], T. Suzuki[8, 2], N. Morishige[9, 2].* [1]Itoh Clinic; [2]Lid and Meibomian Gland Working Group; [3]Mizoguchi Eye Clinic; [4]Department of Ophthalmology, Keio University; [5]Omiya Hamada Eye Clinic; [6]Department of Ophthalmology, Osaka University; [7]Department of Ophthalmology, The University of Tokyo; [8]Department of Ophthalmology, Toho University Ohmori Hospital; [9]Ohshima Eye Hospital **CR*, ↗

2740 — *B0490* **Dry eye prevalence and main risk factors among brazilian medical students.** *Isabela Yang, I. B. Sacho, G. A. Lopes, M. P. Vizotto, B. D. Gregorio, P. A. Rebello, P. R. Costa, N. O. Choueri, M. Alves.* Ophthalmology, University of Campinas

2741 — *B0491* **Prevalence of dry eye disease among glaucoma patients in Ghana.** *Emmanuel Kobia-Acquah[1], G. Gyekye Atta-Penkra[1], E. K. Antwi-Adjei[1], S. Odotei[1], E. Alabi[2], P. Akowuah[3, 1].* [1]Department of Optometry and Visual Science, Kwame Nkrumah University of Science and Technology; [2]Center for Visual Science, University of Rochester; [3]College of Optometry, University of Houston

2742 — *B0492* **Impact of the personal microenvironment on dry eye metrics.** *Julia Janecki[1], A. Galor[2, 3], A. Hackam[2], B. H. Jeng[4], N. Kumar[1].* [1]Department of Public Health Sciences, University of Miami Miller School of Medicine; [2]Bascom Palmer Eye Institute, University of Miami; [3]Opthalmology, Miami Veterans Affairs (VA) Medical; [4]Opthalmology, University of Maryland School of Medicine

2743 — *B0493* **Correlation of ocular surface parameters, retinopathy and autonomic and peripheral neuropathy in type 2 diabetic patients.** *Delma Regina Gomes Huarachi, B. Martins, M. T. Ferrer, G. A. Lopes, Y. B. Atala, M. Viturino, E. Barbosa, M. Parisi, M. Alves.* Ophthalmology, University of Campinas

2744 — *B0494* **Association between temperature and blood flow in the ocular anterior segment.** *Takashi Itokawa, S. Gotoda, Y. Tei, H. Iwashita, K. Kakisu, y. Okajima, T. Suzuki, Y. Hori.* Ophthalmology, Toho University Omori Medical Center **CR*

2745 — *B0495* **Assessment of dry eye parameters after corneal refractive surgery in Mexican patients.** *Denise Loya, J. C. Hernandez, P. Lopez, G. Garcia-delaRosa, J. E. Valdez.* Ophthalmology and Visual Sciences Institute, Tecnologico de Monterrey

2746 — *B0496* **Factors predisposing the Asian eye to dry eye disease.** *Jennifer P. Craig, M. T. Wang.* Ophthalmology, University of Auckland

2747 — *B0497* **Incidence, Demographics, Types and Risk Factors of Dry Eye Disease in India: Electronic Medical Records Driven Big Data Analytics.** *Pragnya Donthineni, S. Basu, S. Shanbhag.* Cornea and anterior segment services, LV Prasad eye institute

2748 — *B0498* **Human microbiome of eyelid skin, conjunctival sac, and meibum of the meibomian gland.** *Tomo Suzuki[1, 2], T. Sutani[3], H. Nakai[1, 2], K. Shirahige[3], S. Kinoshita[4].* [1]Ophthalmology, Kyoto Prefectural University of Medicine; [2]Ophthalmology, Kyoto City Hospital Organization; [3]Laboratory of Genome Structure and Function Institute for Quantitative Biosciences, The University of Tokyo; [4]Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine

2749 — *B0499* **Epidemiology, laboratory and image profile of Sjögren's syndrome.** *Eduardo M. Rocha[1], C. M. Modulo[1], A. C. Fragoso Motta[2], A. P. Barbosa[1], A. F. Pelinson[1], A. Ribeiro-Silva[3], D. M. Garcia[1], V. F. Muglia[4], P. Louzada Junior[4], F. Reis Oliveira[4].* [1]Ophthalmology, FMRP-USP; [2]FORP-USP; [3]Pathology, FMRP-USP; [4]Clinical Medicine, FMRP-USP

2750 — *B0500* **AIs and dry eyes: the effects of aromatase inhibitors on signs and symptoms of dry eye.** *Emma Gibson[1], F. Stapleton[1], R. Dear[2], B. Golebiowski[1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]The Kinghorn Cancer Centre

2751 — *B0501* **Impacts of air pollution on dry eye disease among residents in Hangzhou, China: A case-crossover study.** *Danni Lyu, Q. FU, K. Yao.* 2nd Affiliated Hospital of Zhejiang University

2752 — *B0502* **"Dry Eye Disease and Visual Quality of Life among Adult Patients seen in a Norwegian Optometric Practice".** *Åsmund A. Erøy.* Department of Optometry, Radiography and Lighting Design, University of South-Eastern Norway, Norway

2753 — *B0503* **Clinical Characteristics in Dry Eye Disease according to Changes of Ground-level Air Pollution.** *Ki Woong Lee[1], Y. Choi[2], D. Kim[1].* [1]Department of Ophthalmology, Gachon University College of Medicine, Gil Medical Center; [2]Preventive Medicine, Gachon University College of Medicine

2754 — *B0504* **Dry Eye Symptom Severity in Patients Presenting with Migraine and Tension Headache.** *Scott Hauswirth[1], S. Schwartz[4], J. S. Harthan[2], T. Doll[3], M. M. Hom[4].* [1]Ophthalmology, University of Colorado; [2]Illinois College of Optometry; [3]Pacific University College of Optometry; [4]Private Practice **CR*

2755 — *B0505* **Hyper-response to the CAE Challenge Model for Patient Enrichment in Dry Eye Clinical Trials.** *George W. Ousler[1], M. Watson[1], G. Wallstrom[2].* [1]Ora, Inc.; [2]SDC Clinical **CR*, ↗

2756 — *B0506* **Correlation of personality profile with dry eve severity in rheumatic patients.** *César Alejandro Fernández de Luna[3], F. Morales-Wong[3], C. López-Acevo[1], J. Riega-Torres[2], M. Garza-Elizondo[2], M. L. Fernandez[3], A. Rodriguez-Martinez[3], B. Velasco-Sepúlveda[3], C. González-Arocha[3], J. Mohamed-Hamsho[3], K. Mohamed-Noriega[3].* [1]Psychiatric department, Universidad Autónoma de Nuevo León, Hospital Universitario, Facultad de medicina; [2]Rheumatology department, Universidad Autónoma de Nuevo León, Hospital Universitario, Facultad de medicina; [3]Ophthalomology department, Universidad Autónoma de Nuevo León, Hospital Universitario, Facultad de medicina

2757 — *B0507* ***Clinical and immunologic characteristics of European patients randomized for NORTHERN LIGHTS phase 2b study*** **that assessed MC2-03 (ciclosporin 0.03% and 0.06%) for the treatment of moderate-to-severe dry eye disease.** *Frederic Gomez[1], J. Selmer[1], M. Prastegaard[1], S. Heegaard[2].* [1]MC2 Therapeutics; [2]Rigshospitalet **CR*, ↗

2758 — *B0508* ***Demodex folliculorum*** **mite density is associated with reduced cornea subbasal nerve density in patients with Dry Eye Disease.** *Nicholas Pondelis[1, 2], M. M. Hom[3], L. O'Dell[4], A. Jamali[2], R. Mueller[5, 6], C. Chirapapaisan[7], B. Cavalcanti[5, 6], A. Kheirkhah[5, 6], F. Abedi[5, 6], P. Hamrah[1, 2].* [1]Cornea Service, New England Eye Center; [2]Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine; [3]Private Practice; [4]Dry Eye Center of PA; [5]Ocular Surface Imaging Center, Department of Ophthalmology, Harvard Medical School; [6]Cornea and Refractive Surgery Service, Department of Ophthalmology, Massachusetts Eye and Ear Infirmary; [7]Department of Ophthalmology, Faculty of Medicine Siriraj Hostpital, Mahidol University **CR*

2759 — *B0509* **Influence of somatosensory function and the menstrual cycle on dry eye symptoms.** *Katie Edwards, W. Cho, A. Hua, C. Lam, J. Le, Y. Ma, J. Tran, N. Park, L. H. Colorado.* School of Optometry and Vision Science, Queensland University of Technology

2760 — *B0510* **Dry Eye Disease Associated with Lower Gut Microbiome Diversity.** *Abiya F. Baqai[1], H. Fishman[2].* [1]Notre Dame High School; [2]FishmanVision **CR*

2761 — *B0511* **The Impact of Ocular Surface Disease Treatment in Patients with Glaucoma.** *Ana Luiza Mylla Boso, L. Fernandes, E. Barbosa, R. Abe, V. P. Costa, M. Alves.* State University of Campinas - UNICAMP

2762 — *B0512* **Association Between Early Sjogren Markers And Symptoms And Signs Of Dry Eye.** *Lindsay Rothfield[1], S. Hubschman[1], M. Rojas[1], R. Goldhardt[1, 2], A. Galor[1, 2].* [1]Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Department of Ophthalmology, Miami Veterans Administration Medical Center

2763 — *B0513* **Decrease in blink rate during video display viewing is lost in certain types of tear dysfunction.** *Travis Mitchell[1], M. Murri[2], S. C. Pflugfelder[1].* [1]Baylor College of Medicine; [2]University of Utah Moran Eye Center SLC

2764 — *B0514* **The Influences of Dry Eye Disease on Optical Quality.** *Yufei Gao, H. Qi.* Ophthalmology, Peking University Third Hospital

2765 — *B0515* **Investigation of the mechanism of the association between filamentary keratitis and severe aqueous tear-deficient dry eye.** *Hiroaki Kato[1], N. Yokoi[1], R. Sakai[1], A. Komuro[1], Y. Sonomura[1], A. Watanabe[1], C. Sotozono[1], S. Kinoshita[2].* [1]Ophthalmology, Kyoto Prefectural Univ of Medcine; [2]Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine **CR*

2766 — *B0516* **Meibum Lipid Mediators in Isotretinoin Exposed vs. Unexposed Individuals.** *Thao N. Yeh[2, 1], M. C. Lin[1], K. Gronert[2].* [1]Clinical Research Center, School of Optometry, University of California, Berkeley; [2]Vision Science Group, School of Optometry, University of California, Berkeley

2767 — *B0517* **Real Life Ophthalmologist-Based Survey of Clinical Characteristics and Preferred Practice Pattern of Dry Eye Disease in Mexico.** *Arturo J. Ramirez-Miranda[1], D. Loya[4], J. Quevedo-Martinez[2], E. Hernandez-Quintela[3], M. Rozycka[2].* [1]Cornea and Refractive Surgery, Instituto de Oftalmologia "Conde de Valenciana"; [2]Ophthalmic ER, Conde de Valenciana; [3]Cornea and Refractive Surgery, APEC, Asociacion para Evitar la Ceguera en Mexico; [4]Cornea and Refractive Surgery, Tecnologico de Monterrey **CR*

2768 — *B0518* **Ocular Surface Pathology in Patients Suffering from Acute Intoxication with Occupational Mercury.** *Margarita Calonge[1, 2], Y. Lantigua[1], P. Canadas[1], A. Enriquez-De-Salamanca[1, 2], I. Fernandez[2, 1], S. Pastor[1, 3], C. García-Vázquez[1], J. Pérez-Castrillon[4, 1], A. Dueñas-Laita[4, 1], J. Pastor[1, 3].* [1]IOBA (Institute of Applied Ophthalmobiology), University of Valladolid; [2]CIBER-BBN; [3]OftaRed; [4]Department of Medicine and Toxicology, University of Valladolid

2769 — *B0519* **Can Participation in Virtual Patient Simulation Improve Dry Eye Diagnosis and Management?** *Siggi Trier[1], D. Blevins[1], P. Schoonheim[1], S. Barabino[2], P. A. Asbell[3].* [1]Medscape Education, Medscape LLC; [2]Ocular Surface and Dry Eye Center, Ospedale Sacco, University of Milan; [3]Hamilton Eye Institute, University of Tennessee **CR*

2770 — *B0520* **Relationships between tear-film characteristics and maximum inter-blink period in eyes with and without ocular surface cooling.** *Jennifer Ding[1], Y. Kim[2, 1], A. D. Graham[1], S. M. Yi[1], M. C. Lin[1, 2].* [1]Clinical Research Center, School of Optometry, University of California, Berkeley; [2]Vision Science Graduate Group, University of California, Berkeley

2771 — *B0521* **Are Adverse Environmental Conditions during Allogeneic Hematopoietic Stem Cell Transplantation a Risk Factor for Ocular Graft-versus-Host Disease?** *Uta Gehlsen[1, 2], C. Faust[1, 2], D. Heß[1, 2], S. E. Siebelmann[1], M. E. Stern[1, 3], U. Holtick[4], C. Scheid[4], P. Steven[1, 2].* [1]Ophthalmology, University of Cologne; [2]Division of Dry Eye and ocular GvHD, University of Cologne; [3]ImmunEyez LLC; [4]Department I of Internal Medicine, University of Cologne

2772 — *B0522* **Inflammatory markers, objective and subjective assessment of dry eye in young adults.** *Balamurali Vasudevan, B. Yee, J. Coleman, K. Helmuth.* Midwestern University

2773 — *B0523* **Impact of bioaerosols and particulate matter on dry eye symptoms and signs.** *Amy Huang[1], D. M. Menendez[2], A. Galor[3, 4], N. Kumar[5].* [1]College of Medicine, University of Central Florida; [2]Miller School of Medicine, University of Miami; [3]Ophthalmology, Miami Veterans Affairs (VA) Medical Center; [4]Bascom Palmer Eye Institute, University of Miami; [5]Environmental Health Division, University of Miami

2774 — *B0524* **Superior limbic keratoconjunctivitis: An analysis of clinical and pathophysiological features and therapeutic outcomes.** *Morgan Buwick[1], L. Kanu[1], B. Surenkhuu[1], C. Mun[1], N. Atassi[1], S. Shukla[1], H. Shah[1, 2], J. Mun[1], S. Jain[1].* [1]University of Illinois at Chicago; [2]Midwestern University Chicago College of Osteopathic Medicine **CR*

2775 — *B0525* **Characterization of Dry Eye and Meibominan Gland Dysfunciton in distinct related conditions.** *Eduardo Barbosa[1], A. Mylla Boso[1], C. Atihe[1], D. Huarachi[1], M. Ribeiro[1], M. T. Ferrer[1], P. Dalgalarrondo[2], M. Parisi[3], A. Eloy[4], M. Alves[1].* [1]Department of Ophthalmology, University of Campinas; [2]Department of Psychiatry, University of Campinas; [3]Department of Endocrinology, University of Campinas; [4]Department of Dermatology, University of Campinas

West Exhibition Hall

Monday, April 29, 2019 6:00 PM-7:00 PM

294a All Posters and Networking

West 211

Monday, April 29, 2019 7:30 PM-9:00 PM

295 Diabetic Retinopathy Treatments: Clinically Relevant Results From the Diabetic Retinopathy Clinical Research Network

This session will review clinically relevant results from the Diabetic Retinopathy Clinical Research Network (DRCRnet) clinical studies. The session will includes the first presentation of results from a randomized trial comparing aflibercept, observation, or laser for eyes with center-involved DME and good visual acuity.

Moderators: Jennifer K. Sun and Daniel F. Martin

— *7:30* **DRCR Network Overview - Jennifer Sun, Joslin Diabetes Center**

— *7:37* **Diabetic Macular Edema: Protocol V - Adam Glassman, Jaeb Center for Health Research and Carl Baker, Paducah Retinal Center**

— *7:52* **DME Q&A**

— *7:58* **Proliferative Diabetic Retinopathy: S Summary of 5 year results - Lee Jampol, Northwestern University**

— *8:05* **Proliferative Diabetic Retinopathy: S - Visual Field Outcomes - Tom Gardner, Kellogg Eye Center, University of Michigan**

— *8:12* **Proliferative Diabetic Retinopathy : S – Cost Effectiveness - Josh Stein, Kellogg Eye Center, University of Michigan**

— *8:19* **Proliferative Diabetic Retinopathy: TRD after anti-VEGF Injections - Chirag Jhaveri, Retina Consultants of Austin**

— *8:26* **PDR Q&A**

— *8:31* **Imaging: Protocol T Relationship of VA and OCT changes after anti-VEGF - Dante Pieramici, California Retina Consultants**

— *8:38* **Imaging: Quality of OCT Angiography from Multicenter Clinical Studies - Brandon Lujan, Casey Eye Institute**

— *8:45* **Imaging: AA – Comparison of nonprofusion and UWF DR Severity - Paolo Silva, Joslin Diabetes Center**

— *8:52* **Imaging Q&A**

— *8:57* **Wrap Up Session**

West 212-214

Monday, April 29, 2019 7:30 PM-9:00 PM

296 New Clinical Trial Results in Retinal Vein Occlusion: SCORE2 and LEAVO Trials

Findings from the SCORE2 and LEAVO clinical trials in patients with retinal vein occlusion will be presented, including the first report of the 2-year primary and secondary outcomes in SCORE2 and LEAVO. The SCORE2 trial, funded by the National Eye Institute, is the first phase III randomized clinical trial (RCT) to compare the safety and efficacy of aflibercept vs bevacizumab for the treatment of macular edema due to CRVO or HRVO. Two-year results from SCORE2 will be presented for the first time. The LEAVO trial is the first RCT to compare the clinical and cost effectiveness of the three widely used anti-VEGF agents—ranibizumab, aflibercept and bevacizumab—for visual impairment caused by macular edema due to CRVO over a 2-year period. There has been no interim analysis of LEAVO data, and the primary and secondary outcome results and health economic analyses from the LEAVO trial will be presented for the first time.

Moderators: Ingrid U. Scott and Philip G. Hykin

— *7:30* **Welcome and Introduction - Ingrid U. Scott, M.D., M.P.H., SCORE2 Study Chair, Jack and Nancy Turner Professor of Ophthalmology, Professor of Public Health Sciences, Penn State College of Medicine and Philip Hykin, Consultant Ophthalmologist, Moorfields Eye Hospital**

— *7:32* **Study of COmparative Treatments for REtinal Vein Occlusion 2 (SCORE2) Design and Baseline Characteristics - Michael S. Ip, M.D., SCORE2 Co-Study Chair, Professor, Department of Ophthalmology at the David Geffen School of Medicine at the University of California - Los Angeles**

— *7:42* **SCORE2 Primary and Key Secondary Outcomes: Results from 6 Months Through 2 Years - Ingrid U. Scott, M.D., M.P.H., SCORE2 Study Chair, Jack and Nancy Turner Professor of Ophthalmology, Professor of Public Health Sciences, Penn State College of Medicine**

— *7:52* **SCORE2 Interesting Cases - Barbara A. Blodi, M.D., Principal Investigator, University of Wisconsin Fundus Photograph Reading Center**

— *8:02* **The LEAVO Study: A Multicenter Phase III Double-masked Randomized Controlled Non-inferiority Trial Comparing the Clinical and Cost Effectiveness of Intravitreal Therapy with Ranibizumab (Lucentis) vs Aflibercept (Eylea) vs Bevacizumab (Avastin) for Macular Edema due to Central Retinal Vein Occlusion: Study Design and Rationale for the Non-inferiority Analysis and Linear Mixed Effects Model - Toby Prevost, Professor of Statistics, Imperial College**

— *8:12* **The LEAVO Study Primary Outcome: Change in ETDRS Best-corrected Visual Acuity Letter Score in All Study Participants from Baseline to 100 Weeks and Key Secondary Visual Acuity Outcomes - Philip Hykin, Consultant Ophthalmologist, Moorfields Eye Hospital**

— *8:22* **The LEAVO Study Secondary Outcomes: Optical Coherence Tomography, Quality of Life (VFQ25 and EQ-5D), Baseline Stratification Outcomes and Safety Data at 100 Weeks - Sobha Sivaprasad, Professor of Clinical Studies, Moorfields Eye Hospital**

— *8:32* **The LEAVO Study: Wide Angle Retinal Color and Fluorescein Angiography Non-perfusion Grading (NetwORC UK) at Baseline and Week 100 - Yit Yang, Professor of Ophthalmology, Wolverhampton Eye Hospital**

— *8:42* **Comparisons of the SCORE2 and LEAVO Designs, Study Populations, and Research Findings - Paul C. VanVeldhuisen, PhD, Principal Investigator, SCORE2 Data Coordinating Center, The Emmes Corporation**

— *8:52* **Discussion - Ingrid U. Scott, M.D., M.P.H., SCORE2 Study Chair, Jack and Nancy Turner Professor of Ophthalmology, Professor of Public Health Sciences, Penn State College of Medicine and Philip Hykin, Consultant Ophthalmologist, Moorfields Eye Hospital**

West 217-219

Monday, April 29, 2019 7:30 PM-9:00 PM

297 Changing What It Means To Be Blind: We're All in This Together

This session will ignite enthusiasm and discussion regarding the critical impact each professional has on a blind person's journey and formulate next steps to promote more positive outcomes for blind and visually impaired individuals. The panelists for this session are blind adults that are succeeding without sight, leaders of organizations dedicated to vision research as well as resources for the blind, and parents of blind children. Panelists and participants will engage in a discussion to outline the current needs in the ophthalmology field to support blind patients from diagnosis to potential treatment.

Moderator: Kristin Smedley

Monday – Special Sessions

— *7:30* **Welcome/Session Overview - Kristin Smedley, Curing Retinal Blindness Foundation**

— *7:40* **Screening of TEDx Talk "How I Learned To See Through The Eyes of My Sons"**

— *7:58* **Perspective from A Blind Individual and CEO of American Foundation for the Blind - Kirk Adams**

— *8:13* **Perspective from A Blind Individual and CEO of Retina International - Avril Daly**

— *8:28* **Perspective from A Blind Individual and President of Choroideremia Research Foundation - Chris Moen**

— *8:43* **Discussion with Speakers and Audience to Address Current Issues in Blindness Research and Resources**

West 223/224

Monday, April 29, 2019 7:30 PM-9:00 PM

298 New tools and techniques for functional and anatomical retinal circuit dissection

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The last decade has seen a dramatic rise in the tools available to dissect neural circuits at the level of single synapses between identified cell types**.** Work in the mouse retina has been at the frontier of this effort**.** We will discuss the use of a wide variety of techniques that have recently been developed for circuit analysis**.**

Moderators: Greg Schwartz and Gautam B. Awatramani

— Studying a light sensor with light - Thomas Euler, University of Tübingen

— Optical approaches for studies at the level of identified retinal cell types - Bart Borghuis, University of Louisville

— Probing the assembly of retinal circuits - Arjun Krishnaswamy, McGill University

— Ultrastructural and functional analyses of retinal circuits - Joshua Singer, University of Maryland

— Cell-type-specific silencing of retinal neurons -Daniel Kerschensteiner, Washington University School of Medicine

— Dissecting retinal motion circuitry using genetic manipulations - Wei Wei, University of Chicago

— Retinal coding of natural visual inputs - Fred Rieke, University of Washington

Tuesday

April 30, 2019

ARVO Annual Meeting
Registration
Main Lobby
7am – 6pm

Exhibit hours
8:30am – 5pm

MIT Poster Award
Competition
Exhibit Hall
4:15 – 5:45pm

All Posters
4:45 – 5:45pm

ARVO/Champalimaud
Lecture
ARVO Ballroom
5:45 – 6:45pm

ARVO 2019
APRIL 28 – MAY 2
VANCOUVER, B.C.

Tuesday, April 30 – Minisymposia, papers, workshops/SIGs and lectures

Time	Session	Title	Location
7 – 8:30am	301	Diabetes and its Ocular Complications — SIG [RE, CL, CO, GL, GEN, MOI]	East 1
	302	Cutting funding requirements of third world researchers by 3D-printers, drone slit-lamps and AIRBNB-style equipment sharing — SIG [RE]	East 8&15
	303	OCT Guided and Robotically Enabled Ophthalmic Surgery — SIG [MOI, CO, GL, RE]	East 11/12
	304	The New face of (presumed) Intraocular Tuberculosis — SIG [IM]	West 212-214
	305	Selective autophagy: a new therapeutic target for retinal diseases —SIG [RC, BI, PH, RE, GEN]	West 217-219
	306	Patient Engagement in Ophthalmology Research— SIG [CL, AP, BI, CO, EY, GL, IM, LE, PH, RE, RC, VI, VN, GEN, LV, MOI]	West 220
	307	Metamorphopsia – an update on diagnostic methods, treatment, and evaluation of novel instruments and questionnaires — SIG [LV, RE, VI, VN]	West 221/222
	308	Hyperreflective intraretinal spots (foci) in macular diseases: from bench to bedside — SIG [RE, RC, GEN, MOI]	West 223/224
	309	Breakfast with the experts	Harbour Ballroom
8:45 – 10:30am	310	Non-Melanoma Tumors: Genetics and Therapeutics [AP, RC]	East 1
	311	Diabetic retinapathy [PH]	East 2/3
	312	Macular edema and neuroprotection-translational studies [RE]	East 8&15
	313	Microglia and Innate Immunity [RC]	East 11/12
	314	Diabetic Retinopathy: Clinical Imaging [RE]	East Ballroom B
	315	Gene variants in major ocular diseases [BI]	East Ballroom C
	316	Dry Eye II [CO]	West 211
	317	Laser Therapy [GL, LE]	West 212-214
	318	Glaucoma Genetics Development with advanced technology & large datasets [GEN]	West 217-219
	319	**Aging with Vision Loss: Understanding the aging consequences of visual impairment** — Minisymposium [CL]	West 220
	320	**Clinical outcomes and visual quality with retinal prosthetic vision restoration** — Minisymposium [VI, EY, VN, LV]	West 223/224
	321	Neurodegeneration [GL]	ARVO Ballroom
	322	Visual Fields, Psychophysics, and Electrophysiology [GL]	Harbour Ballroom
10:45 – 11:30am	339	General Business Meeting	West 211
11:45am – 1:30pm	340	Retina/RPE New drugs, Mechnisms of action, and Toxicility [PH]	East 2/3
	341	Update on endophthalmitis [RE]	East 8&15
	342	Retinal Angiogenesis and Related Mechanisms in Vascular Biology [RC]	East 11/12
	343	**Innate immune memory and the eye** — Minisymposium [IM, AP, CO, RE]	East Ballroom A
	344	AMD Translational studies [RE]	East Ballroom B
	345	Highlights of OCT angiography [MOI]	East Ballroom C
	346	**Lacrimal gland biology in homeostasis, disease, and repair** — Minisymposium [CO]	West 211
	347	**Unresolved issues in myopia** — Minisymposium [AP, BI, CL, PH, RE, VI, VN]	West 212-214

Symposia, minisymposia and basic clinical lecture highlighted in **boldface**

Tuesday, April 30 – Minisymposia, papers, workshops/SIGs and lectures

Time	Session	Title	Location
11:45am – 1:30pm (continued)	348	Lens Development [LE]	West 217-219
	349	Visual Training and Rehabilitation [LV]	West 221/222
1:45 – 2:30pm	367	Weisenfeld Award and Lecture	ARVO Ballroom
2:45 – 4:30pm	368	Retinal Development [RC]	East 8&15
	369	RPE Biology in Health and Disease [RC]	East 11/12
	370	Uveitis clinical epidemiology and therapeutics [IM]	East Ballroom A
	371	DME Therapies and Outcomes [RE]	East Ballroom B
	372	Retinal degeneration: molecular disease mechanisms [BI]	East Ballroom C
	373	Corneal endothelium and Fuchs corneal dystrophy [CO]	West 211
	374	Ganglion cells and beyond [VN]	West 212-214
	375	Contact lens [CO]	West 217-219
	376	Myopia: Behavior and interventions [CL]	West 220
	377	**Mechanisms and biomechanics of traumatic retinal hemorrhage in children** — Minisymposium [EY, RE]	West 221/222
	378	Vision assessment and modeling in health, and with impairment [VI]	West 223/224
	379	Clinical Studies [GL]	ARVO Ballroom
	380	Structure-Function Relationships [GL]	Harbour Ballroom
4:15 – 5:45pm	390	MIT Outstanding Poster Award Competition	West Exhibition Hall
5:45 – 6:45pm	392	ARVO/Champalimaud Award Lecture	ARVO Ballroom

Tuesday, April 30 – Posters

Time	Session	Title	Board No.
8:45 - 10:30am	323	Stem Cells and Retinal Organoids: Disease modeling [RC]	A0033 - A0049
	324	Stem Cell based Approaches for Transplantation and Therapies [RC]	A0050 - A0066
	325	Gene Therapy and Delivery [PH]	A0083 - A0113
	326	Retina genetics [GEN, CL]	A0210 - A0236
	327	AMD [GEN, LV]	A0237 - A0254
	328	AMD Translational Studies [RE, LE]	A0255 - A0281
	329	OCTA in AMD/DR/Glaucoma/Ischemia [MOI]	A0342 - A0393
	330	OCTA in Healthy/Aging Eyes [MOI]	A0394 - A0410
	331	OCTA - Experimental Applications and Technical Improvements [MOI]	A0411 - A0441
	332	Animal Models for Visual Disease and Restoration [VN]	A0490 - A0514
	333	Pediatric eye disease [CL]	B0041 - B0059
	334	Genetics and Light dependent mechanisms in myopia [AP]	B0190 - B0210
	335	Lens Physiology and Accommodation [LE, MOI]	B0211 - B0228
	336	Aqueous humor Dynamics and IOP [PH]	B0355 - B0376
	337	Corneal Epithelium Wound Repair and Healing [CO]	B0377 - B0407
	338	Corneal neuropathy: Diabetic and other [CO]	B0476 - B0486
11:45 - 1:30pm	350	Stem Cells and Retinal Organoids: Development [RC, CL, GL]	A0001 - A0032
	351	Drug delivery, drug and gene delivery system, implant delivery [PH]	A0114 - A0154
	352	Gene therapy for ocular disorders [BI]	A0156 - A0197
	353	Genome, chromatin structure and functional genomics [BI]	A0198 - A0209
	354	AMD Imaging [RE, VN]	A0282 - A0341
	355	Uveitis and scleritis - clinical therapeutics and checkpoint inhibitors [IM]	A0540 - A0576
	356	Non-Melanoma, Non-Retinoblastoma Intraocular Pathology & Retinopathy [AP, CL, CO, LV, RE, VN]	A0577 - A0594
	357	Tumors: Eyelids, Orbit, Ocular Surface, Conjunctiva, and Ocular Adnexa [AP, CO, EY]	A0595 - A0627
	358	Neuro-ophthalmology: Genetics and Investigational modalities [EY]	B0001 - B0019
	359	Pediatric Ophthalmology [EY]	B0020 - B0041
	360	Consequences of vision impairment [CL]	B0060 - B0071
	361	DME anti-VEGF I [RE]	B0148 - B0178
	362	Retinal Laser Therapeutic Applications and Innovations [RE]	B0179 - B0189
	363	IOLs: Calculations, Vision, Implantation, Multifocals [VI]	B0229 - B0274
	364	Surgery and Wound Healing I [GL]	B0275 - B0314
	365	Pharmacologic Interventions and Cellular Mechanisms [GL, RE]	B0315 - B0354
	366	Corneal Endothelium II [CO]	B0487 - B0517
2:45 - 4:30pm	381	Retina/RPE transplantation and Stem Cell [RE, LV]	A0067 - A0082
	382	Retinal disease epidemiology [CL]	A0442- A0475
	383	Retinal Degenerations - Cilia and Ciliopathies [RC]	A0476 - A0489
	384	Retinal Microglia and Neuroinflammation [RC, GL]	A0515 - A0539
	385	Visual Impairment - Assistive Devices and Rehabilitation [LV]	B0072 - B0103
	386	Retinal Vascular Diseases I [RE]	B0104 - B0147
	387	Corneal Tissue Engineering and Regenerative Medicine [CO]	B0408 - B0465
	388	Corneal Development and Cell Differentiation [CO]	B0466 - B0475
	389	Tear film, Lacrimal and Meibomian Glands [CO, EY]	B0518 - B0557

Poster board numbers correspond to poster location in Exhibit Hall; A = Poster Area A , B = Poster Area B

East 1

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Retina / Clinical/Epidemiologic Research / Cornea / Genetics / Glaucoma / Multidisciplinary Ophthalmic Imaging / Retina

301 Diabetes and its Ocular Complications - SIG

Diabetic mellitus (DM) is a major cause of morbidity and mortality, which caused by its various complications. The ocular complications are the main cause of blindness in diabetes, which has negative impacts on patients' quality of life and carry high economic burden. Diabetic retinopathy, the leading cause of visual loss in working-aged adults in the developing and developed countries, is the most common and specific ocular complication of DM. Other major ocular complications affecting vision caused by DM are ocular surface diseases (dry eye syndrome, diabetic keratopathy), open angle glaucoma, angle closure glaucoma, ischemic optic neuropathy and cataract. In this SIG session, we will invite experts in the fields of retina, glaucoma, cornea, cataract, ocular electrophysiology and gene therapy to address the pathogenesis, the promising predictive and prognostic biomarkers, and the potential new treatment strategies (e.g., gene therapy) of diabetic ocular complications.

Moderators: Xinyuan Zhang and William F. Mieler

Moderator. *Xinyuan Zhang.* Beijing Institute of Ophthalmology, Beijng Tongren Hospital, Beijing, China

Will focus on early intervention of diabetic retinopathy. *Jennifer J. Kang-Mieler.* Biomedical Engineering, Illinois Institute of Technology, IL

Diabetes and Glaucoma. *Ningli Wang.* Beijing Institute of Ophthalmology, Beijng Tongren Hospital, Beijing, China

Role of nitric oxide in the early stage of diabetic retinopathy. *Jennifer J. Kang-Mieler.* Biomedical Engineering, Illinois Institute of Technology, IL

Gene therapy for ocular diseases. *Catherine Tsilfidis.* Gene therapy and Regeneration Group, Ottawa Eye Institute, Ontario, Canada

panelist: management of proliferative diabetic retinopathy. *Paisan Ruamviboonsuk.* Ophthalmology, Rajavithi Hospital, Thailand

Diabetic Keratopathy. *Jing Hong.* Ophthalmology, Peking University Third Hospital, China

panelist-discussion. *Yi-Ting Hsieh.* Ophthalmology, National Taiwan University Hospital, Taiwan

Diabetic microvascular complications. *Xinyuan Zhang.* Beijing Institute of Ophthalmology, Beijng Tongren Hospital, Beijing, China

East 8&15

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Retina

302 Cutting funding requirements of third world researchers by 3D-printers, drone slit-lamps and AIRBNB-style equipment sharing - SIG

Recent technological advances – particularly in the open hardware movement – may significantly lower financial barriers to modern medicine and science for researchers in remote locations and developing nations. What are these technologies? How are they already being used? What are their strengths and limitations?

The main goal of this session is to explore novel technologies to help research and medical communities with limited resources."
Low-cost 3D printers have become available in recent years. Along with open-source blueprint files, microcontrollers and a few key components, these printers can be used to create research, diagnostic and imaging equipment at an affordable cost. Smartphones have turbo-charged miniaturized computing and app development. These technologies can be used in surprising ways both to access remote communities (via drones) and to administer surprisingly sophisticated healthcare on site.

In addition to formal presentations on these topics, the session will facilitate networking for an AirBnB-style online booking system to share clinical and laboratory resources in regions with limited finances.

Moderators: Ashik Mohamed and Muhammad Abdulrazik

Global Members Committee Chair. *Daniel L. Rathbun.* [1]Institute for Ophthalmic Research, University of Tuebingen, Tuebingen, Germany; [2]Ophthalmology Department, Eye Research Center, Henry Ford Hospital, Detroit, MI

TReND (Teaching and Research in Natural sciences for Development) in Africa. *Faborode O. Samuel.* Bingham University, Nigeria

3D-printing for ophthalmology. *Cristos Ifantides.* Department of Ophthalmology, University of Colorado/Denver Health, Denver, CO

Drone slit-lamp to reach isolated communities. *Mukesh Taneja.* Tej Kohli Cornea Institute, L V Prasad Eye Institute, Hyderabad, Telangana, India

East 11/12

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Multidisciplinary Ophthalmic Imaging Group / Cornea / Glaucoma / Retina

303 OCT Guided and Robotically Enabled Ophthalmic Surgery - SIG

Microscale visualization with OCT and microscale manipulation with robots both represent recent revolutionary changes to "traditional" ophthalmic surgery with manual manipulation and a stereo microscope. In this SIG, we will discuss the impact and future of intraoperative OCT and robotic assistance in ophthalmic surgery. A panel of leading OCT and robotic technologists and clinicians will discuss current research in intraoperative OCT, robotic surgery, and the future of ophthalmic surgery.

Moderator: Joseph A. Izatt

(Organizer). *Anthony N. Kuo.* [1]Ophthalmology, Duke University Eye Center, Durham, NC; [2]Biomedical Engineering, Duke University, NC **CR*
Innovations in Intraoperative OCT. *Cynthia A. Toth.* [1]Ophthalmology, Duke University Eye Center, Durham, NC; [2]Biomedical Engineering, Duke University, NC **CR*

Robotic Eye Surgery: From the lab to the operating theatre. *Thomas Edwards.* [1]Nuffield Laboratory of Ophthalmology, University of Oxford, United Kingdom; [2]Royal Victorian Eye and Ear Hospital, Victoria, Australia

Towards OCT-guided Robot-assisted Retinal Surgery. *Karen M. Joos.* [1]Vanderbilt Eye Institute, TN; [2]Vanderbilt Institute for Surgery and Engineering, TN **CR*

Real-time intra-operative OCT guided robot-assisted surgical operation. *Jin Kang.* [1]Electrical and Computer Engineering, Johns Hopkins University, MD; [2]Dermatology, Johns Hopkins University, MD **CR*

West 212-214

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Immunology/Microbiology

304 The New face of (presumed) Intraocular Tuberculosis - SIG

Objective: To disseminate expert consensus based guidelines for diagnosis and management of presumed intraocular tuberculosis based on collaborative ocular tuberculosis study (COTS). Description: Several unresolved limitations have enabled the re-emergence of both pulmonary and extrapulmonary TB in neglected populations of developed and developing countries alike. Despite progress in coordinated efforts to address pulmonary TB, the approach to presumed intraocular TB remains controversial due to a lack of robust data and limited consensus. The Index TB guidelines for extrapulmonary TB in India, for instance, have not included presumed intraocular TB due to a lack of adequate evidence. This omission has resulted in barriers for ophthalmologists to initiate ATT in these patients. The difficulty in the management of intraocular TB is contributed by its ability to affect any tissue in the eye and the need for cautious interpretation of investigations. The proposed SIG will discuss the current controversies and attempts to address these challenges.

Moderators: Quan D. Nguyen and Vishali Gupta

Collaborative Ocular Tuberculosis Study Consensus (COTS CON) guidelines for initiating antitubercular therapy (8 min). *Rupesh V. Agrawal.* Ophthalmology, Tan Tock Seng Hospital, Singapore, Singapore

What we know (and don't know) about the epidemiology of ocular tuberculosis (8 min). *John Kempen.* Department of Ophthalmology, Massachusetts Eye and Ear/Harvard Medical School, Boston, MA

Different faces and names of tubercular uveitis - A clinical confrontation (8 min). *Peter J. McCluskey.* Faculty of Medicine and Health, The University of Sydney, Sydney, New South Wales, Australia

Diagnosis of presumed intraocular tuberculosis - A pandora's box (8 min). *Aniruddha Agarwal.* Post Graduate Institute of Medical Education and Research, India

West 217-219

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Retinal Cell Biology / Biochemistry/Molecular Biology / Genetics / Physiology/Pharmacology / Retina

305 Selective autophagy: a new therapeutic target for retinal diseases - SIG

Autophagy is a degradative pathway that cells use to recycle and eliminate intracellular components. Autophagy malfunctioning underlies the basis of numerous human pathologies including neurodegenerative diseases. The role of autophagy in eye diseases is currently being investigated along with the possibility of modulating it as a new therapeutic strategy for retinal and other eye diseases. This SIG will discuss recent conceptual advances about selective autophagy pathways in the eye, how they can be modulated and their implications for cell survival in the context of AMD and other retinal diseases.

Moderator: Patricia Boya

RPE proteostasis involves crosstalk between the proteasome and autophagy. *Deb A. Ferrington.* Department of Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN

Selective Autophagy in aging-related degenerative diseases. *Ana M. Cuervo.* [1]Department of Developmental and Molecular Biology, Albert Einstein College of Medicine, New York, NY; [2]Institute for Aging Studies, Albert Einstein College of Medicine, Bronx, NY **CR*

Chaperone Mediated Autophagy in retinal photoreceptors. *Raquel Gomez Sintes.* [1]Department of Developmental and Molecular Biology, Albert Einstein College of Medicine, New York, NY; [2]Centro Investigaciones Biologicas, CIB-CSIC, Madrid, Madrid, Spain

West 220

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Clinical/Epidemiologic Research / Anatomy and Pathology/Oncology / Biochemistry/Molecular Biology / Cornea / Eye Movements/Strabismus/ Amblyopia/Neuro-Ophthalmology / Genetics / Glaucoma / Immunology/Microbiology / Lens / Low Vision / Multidisciplinary Ophthalmic Imaging / Physiology/Pharmacology / Retina / Retinal Cell Biology / Visual Neuroscience / Visual Psychophysics/Physiological Optics

306 Patient Engagement in Ophthalmology Research - SIG

The role of patients in health research is shifting from study subjects to authentic research partners. Referred to as patient engagement in research, this partnership occurs when patients meaningfully and actively collaborate in the governance, priority setting and conduct of research, as well as in summarizing, distributing, sharing and applying its resulting knowledge. In this context, 'patient' refers to individuals with personal experience of a health issue and their informal caregivers. Patient engagement has shown to increase democratization of the research process and improve study enrolment and retention rates. In addition, when research engages patients as partners, results are more credible and acceptable to all stakeholders, and increase the likelihood that the knowledge is translated into real-world settings.

This Special Interest Group will explore novel models and highlight best practices for patient engagement in ophthalmic research. International examples of patient engagement strategies, priority setting partnerships, and methods to uncover optimal patient reported outcome measures will be discussed, covering a range of pediatric and adult ophthalmic conditions.

Moderator: Helen Dimaras

The Canadian Retinoblastoma Patient Engagement Strategy. *Helen Dimaras.* The Hospital for Sick Children, Toronto, Ontario, Canada

Overcoming barriers to the involvement of deafblind people in conversations about research. *Andi Skilton.* UCL Institute of Ophthalmology, United Kingdom

Organizer. *Helen Dimaras.* The Hospital for Sick Children, Toronto, Ontario, Canada

Discovering the patient voice in ophthalmology. *Alastair K. Denniston.* University of Birmingham, United Kingdom

West 221/222

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Low Vision Group / Retina / Visual Neuroscience / Visual Psychophysics/Physiological Optics

307 Metamorphopsia – an update on diagnostic methods, treatment, and evaluation of novel instruments and questionnaires - SIG

While Best Corrected Visual Acuity (BCVA) may capture resolution of high-contrast letters, patients with metamorphopsia have visual distortions not captured in the traditional acuity charts that use optotypes (Snellen and EDTRS). The difference between what is measured and what is seen may impact the patients' quality of life even in the presence of good visual acuity.

In future clinical trials for treatments of vitreoretinal interface disorders it would be helpful to develop qualitative measures and a quantitative system to evaluate metamorphopsia beyond those currently available (e.g., M charts and Amsler Grids). The special interest group proposed will focus on our current understanding of the pathophysiology of metamorphopsia and discuss current and future methods to assess it. The goal will be to develop validated endpoints and outcome measures (incl. patient-reported outcome measurements (PROMs)) that can be incorporated into the design of clinical trials. Ultimately new information about assessing and quantitating metamorphopsia may find a place in the regulatory review process.

Moderator: Clara Song

N/A. *Clara Song.* Medical Affairs, Oxurion, Lake Elsinore, CA **CR*

Pathophysiology and retinal loci of metamorphopsia. *Srinivas R. Sadda.* [1]Doheny Eye Institute, Los Angeles, CA; [2]Dept. of Ophthalmology, Geffen School of Medicine, UCLA, Los Angeles, CA **CR*

Overview of metamorphopsia: causes, prevalence, current diagnostic instruments, questionnaires, and their correlations with quality of life. *Emily Wiecek.* Boston Children's Hospital, Boston, MA

Burden of metamorphopsia: an observational study on prevalence and impact of metamorphopsia on vision-and health-related quality of life: The MeMo study. *Praveen Patel.* [1]NIHR Biomedical Research Centre, Moorsfield Eye Hospital, London, United Kingdom; [2]UCL Institute of Ophthalmology, London, United Kingdom **CR*

Work-up of metamorphopsia for clinical decision making: flow chart and case studies. *Jean-Pierre Hubschman.* Dept. of Ophthalmology, Jules Stein Eye Institute, UCLA, Los Angeles, CA **CR*

West 223/224

Tuesday, April 30, 2019 7:00 AM-8:30 AM

Retina / Genetics / Multidisciplinary Ophthalmic Imaging / Retinal Cell Biology

308 Hyperreflective intraretinal spots (foci) in macular diseases: from bench to bedside - SIG

Hyperreflective intraretinal spots/foci (HRS) are a new OCT biomarker of both inflammatory and degenerative retinal (mainly macular) disorders. HRS are detectable by means of structural OCT in different retinal layers: at the level of the outer retina in age-related macular degeneration, and in the inner retina in so-called vascular diseases. There is still no consensus about the pathogenesis of HRS. The most common hypotheses include: retinal inflammation markers (activated and aggregated microglial cells), precursors of hard exudates, degenerated photoreceptor cells, anteriorly migrated retinal pigment epithelium cells and retinal vessels. Therefore, different pathophysiologic processes, located into the retina but also into the choroid may be responsible for this new OCT sign. More recently, clinicopathologic correlations of HRS have been reported, using ex vivo imaging and histologic analysis. The possible pathogenesis and the clinical features of HRS will be discussed using different perspectives in most common macular diseases (age-related macular degeneration and diabetic retinopathy).

Moderator: David Sarraf

Organizer. *Elisabetta Pilotto.* Department of Ophthalmology, University of Padova, Padova, Italy

Hyperreflective foci in AMD: histologic evidence for two cell populations. *Christine Curcio.* Department of Ophthalmology and Visual Sciences, The University of Alabama at Birmingham, Birmingham, AL **CR*

Hyperreflective OCT spots: a clinical biomarker of age-related macular degeneration. *Ursula Schmidt-Erfurth.* Department of Ophthalmology, Medical University of Vienna, Vienna, Austria **CR*

Hyperreflective intraretinal spots: a clinical OCT biomarker in diabetic retinopathy. *Edoardo Midena.* [1]Department of Ophthalmology, University of Padova, Padova, Italy; [2]IRCCS – Fondazione Bietti, Rome, Rome, Italy

Harbour Ballroom

Tuesday, April 30, 2019 7:00 AM-8:30 AM

309 Breakfast with the experts

East 1

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Anatomy and Pathology/Oncology

310 Non-Melanoma Tumors: Genetics and Therapeutics

Moderators: Emine Kilic, Hans E. Grossniklaus and Jens F. Kiilgaard

2776 — *8:45* **Single cell vitreous analysis increases sensitivity of MYD88^{L265P} detection and allows detailed genotyping.** *Wei Jian Tan[1], M. M. Wang[2], P. Castagnoli[1], A. S. Chan[2], T. Lim[1].* [1]A. Menarini Biomarkers Singapore Pte Ltd; [2]Translational Ophthalmic Pathology Platform, Singapore Eye Research Institute **CR*

2777 — *9:00* **Treatment of vitreo-retinal lymphoma - 20 years of experience.** *Jacob Pe'er[1], Z. Habot-Wilner[2, 3], S. Frenkel[1].* [1]Ophthalmology, Hadassah-Hebrew Univ Med Ctr; [2]Ophthalmology, Tel Aviv Medical Center; [3]Sackler Faculty of Medicine, Tel Aviv University

2778 — *9:15* **Intravitreal melphalan for vitreoretinal lymphoma.** *Li-Anne S. Lim[1], L. A. Dalvin[1, 2], D. Ancona-Lezama[1], M. Chang[1], A. Mashayekhi[1], C. L. Shields[1].* [1]Ocular Oncology, Wills Eye Hospital; [2]Ocular Oncology, Mayo Clinic

2779 — *9:30* **Epidemiology of Conjunctival Lymphoma — A National Population Study.** *Anthony K. Ma[1], O. M. Ahmed[1], J. Lee[1], R. Pointdujour-Lim[2, 3].* [1]Yale School of Medicine; [2]Department of Ophthalmology and Visual Science, Yale School of Medicine; [3]Smilow Yale Cancer Center

2780 — *9:45* **Basal Cell Carcinoma-Associated Retinopathy and Optic Neuropathy (BARN): A Novel Paraneoplastic Entity.** *Alessandro Iannaccone[1], F. Birnbaum[1], R. Champaigne[2], G. Adamus[2].* [1]Duke Eye Center, Duke University Medical Center; [2]Casey Eye Institute, Ocular Immunology Lab, Oregon Health Sciences University

2781 — *10:00* **Universal Reflex Referral to VHL Comprehensive Clinical Care Center of Patients Presenting to Ophthalmologists Leads to Dramatic Improvement in Guideline-concordant Screening: Results of a Pilot Study.** *Alexis Flowers[1], K. Rathmell[2], D. Friedman[2], A. B. Daniels[1].* [1]Vanderbilt Eye Institute; [2]Hematology/oncology, Vanderbilt University Medical Center

2782 — *10:15* **Ocular findings in a phase 2 trial testing the first-in-class oral HIF-2α inhibitor, PT2385, for renal cell carcinoma in von Hippel-Lindau disease.** *Henry Wiley[1], R. Srinivasan[2], M. Linehan[2], C. A. Cukras[1], T. D. Keenan[1], W. T. Wong[1], E. Y. Chew[1].* [1]National Eye Institute; [2]National Cancer Institute ↗

East 2/3

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Physiology/Pharmacology

311 Diabetic retinapathy

Moderators: Teresio Avitabile and Katrin Lorenz

2783 — *8:45* **A potential role for Src during early experimental diabetic retinopathy?** *Jurgen Sergeys[1], I. Etienne[2], E. Lefevere[1], I. Van Hove[2], T. Van Bergen[2], L. De Groef[1], M. Porcu[2], J. Feyen[2], L. K. Moons[1].* [1]Biology, KU Leuven; [2]Oxurion **CR*

2784 — *9:00* **Connexin hemichannel block shuts down inflammation in an animal model of chronic diabetic retinopathy to improve structural and functional outcomes.** *Colin R. Green[1], M. N. Mat Nor[2], O. O. Mugisho[1], I. D. Rupenthal[1], D. M. Squirrell[1], M. L. Acosta[2].* [1]Ophthalmology, Univ of Auckland; [2]School of Optometry, University of Auckland **CR*

2785 — *9:15* **VEGFA strongly affects aflibercept's transport through retinal endothelial cells.** *Heidrun L. Deissler, G. K. Lang, G. E. Lang.* Department of Ophthalmology, Universitaetsklinikum Ulm

2786 — *9:30* **Modulation of phototransduction by RBP4 antagonists for treatment of diabetic retinopathy.** *Konstantin Petrukhin, A. Varadi, B. Racz.* Department of Ophthalmology, Columbia University **CR*

2787 — *9:45* **First-generation small molecule antagonists of profilin1 suppresses pathological retinal neovascularization.** *Xavier Guillonneau[1], D. M. Gau[2], L. Vignaud[1], J. Sturm[3], P. Francoeur[3], D. Koes[3], P. Roy[2].* [1]Institut de la Vision, INSERM; [2]Bioengineering, University of Pittsburgh; [3]Computational and Systems Biology, University of Pittsburgh

2788 — *10:00* **Targeting LXR using N,N-dimethyl-3ß-hydroxycholenamide (DMHCA) provides protection from development of diabetic retinopathy in db/db mice.** *Cristiano Pedrozo Vieira[1], A. F. Longhini[1], S. L. Calzi[1], B. Asare-Bediako[1], M. Dupont[1], J. V. Busik[2], M. B. Grant[1].* [1]University of Alabama at Birmingham; [2]Michigan state University

2789 — *10:15* **Influence of ranibizumab, laser photocoagulation or combination therapy on high-risk proliferative diabetic retinopathy.** *Katrin Lorenz[1], G. E. Lang[2], A. Stahl[3], C. Quiering[5], L. Sander[5], G. Spital[6], S. Liakopoulos[4].* [1]Department of Ophthalmology, University Medical Center Mainz; [2]University Eye Hospital Ulm; [3]University Eye Hospital Greifswald; [4]Department of Ophthalmology, University of Cologne; [5]Novartis Pharma GmbH; [6]St. Franziskus-Hospital Münster **CR*, ↗

East 8&15

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retina

312 Macular edema and neuroprotection-translational studies

Moderators: David N. Zacks and Demetrios Vavvas

2790 — *8:45* **Wnt Signaling Regulates Blood Retinal Barrier Permeability by Suppressing MFSD2A-dependent Vascular Endothelial Transcytosis.** *Zhongxiao Wang, C. Liu, Y. Sun, S. Huang, Z. Fu, W. Britton, S. Cho, A. Poblete, J. Chen.* Ophthalmology, Boston Children's Hospital

2791 — *9:00* **Complement C3 mediates vascular endothelial growth factor (VEGF) induced retinal edema but not visual dysfunction in mice.** *Allen C. Clermont[1], A. Feener[1], N. Murugesan[2], L. P. Aiello[1, 3], E. Feener[2].* [1]Beetham Eye Institute, Joslin Diabetes Center; [2]Kalvista Pharmaceuticals, Inc; [3]Ophthalmology, Harvard Medical School **CR*

2792 — *9:15* **Naïve pluripotency improves human diabetic iPSC derived-vascular progenitor cell engraftment and migration in an ischemic retinopathy mouse model.** *Tea Soon Park[1], L. Zimmerlin[1], I. A. Bhutto[2, 3], R. Kanherkar[1], R. Evans-Moses[1], G. A. Lutty[2], E. T. Zambidis[1].* [1]Pediatric Oncology, Johns Hopkins University; [2]Ophthalmology, Wilmer Eye Institute; [3]Ophthalmology, University of Pittsburgh **CR*

2793 — *9:30* **NAD$^+$ supplementation attenuates photoreceptor degeneration and reduces inflammation in a mouse model of retinal degeneration.** *Xiaohong N. Chen[1, 2], G. A. Moustafa[1, 2], P. Barbisan[1, 2], J. W. Miller[1, 2], D. Vavvas[1, 2].* [1]Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School; [2]Angiogenesis Laboratory, Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School

2794 — *9:45* **Inhibition of ROCK activity improves morphological and functional outcomes of reattached retina.** *Ellen Townes-Anderson, E. Halasz, I. Sugino, M. A. Zarbin.* Rutgers New Jersey Medical School **CR*

2795 — *10:00* **Adjuvant ursodeoxycholic acid for retinal detachment : a potential neuroprotective therapy.** *Alejandra Daruich[1, 2], E. Picard[1], M. Zola[3], H. Henry[3], J. H. Boatright[4], F. F. Behar-Cohen[1].* [1]Paris Descartes University- U1138; [2]Hôpital Necker-Enfants Malades; [3]University of Lausanne; [4]Emory University ↗

East 11/12

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retinal Cell Biology

313 Microglia and Innate Immunity

Moderators: Malia M. Edwards and Margaret M. DeAngelis

2796 — *8:45* **Age-dependent development of retinal microgliopathy in LysM$^{Cre/+}$SOCS3$^{fl/fl}$CX3CR1$^{gfp/gfp}$ mice.** *Xuan Du, M. Chen, H. Xu.* Centre for Experimental Medicine, Queen's University Belfast

2797 — *9:00* **Microglia Repopulation Ameliorates Aging Phenotypes in Retinal Microglia and Neurons.** *Lian Zhao, J. Cueva Vargas, J. Liao, W. T. Wong.* National Eye Institute

2798 — *9:15* **Inhibition of NLRP3 does not protect against photo-oxidative damage-induced retinal degeneration.** *Yvette Wooff[1, 2], N. Fernando[1], J. Wong[1], C. Dietrich[1], R. Aggio-Bruce[1], J. A. Chu-Tan[1], S. Doyle[3], A. Robertson[4], S. Man[5], R. C. Natoli[1, 2].* [1]Neuroscience, The Australian National University; [2]The ANU Medical School; [3]Trinity College Dublin; [4]University of Queensland; [5]Immunology, Australian National University

2799 — *9:30* **Peripheral monocyte are involved in permanent retinal neuroglia remodeling after injury.** *Eleftherios I. Paschalis, F. Lei, C. Zhou, C. H. Dohlman, R. Dana, J. Chodosh, D. Vavvas.* Ophthalmology, Harvard Medical School-MEEI

2800 — *9:45* **RNA-Seq Reveals Alterations in Homeostatic Microglial Function during Inflammation and Resolution.** *Oliver H. Bell[1], D. Copland[1], A. Ward[1], C. J. Chu[1], C. Lange[2], A. D. Dick[1, 3].* [1]Translational Health Sciences, University of Bristol; [2]Eye Center, Medical Center, Faculty of Medicine, University of Freiburg; [3]UCL Institute of Ophthalmology & NIHR Biomedical Research Centre for Ophthalmology at Moorfields Eye Hospital

2801 — *10:00* **Complement targets newborn retinal ganglion cells for phagocytic elimination by microglia.** *Monica L. Vetter[1, 2], S. R. Anderson[1], J. Zhang[1], M. R. Steele[1], C. O. Romero[1], A. Kautzman[3], D. Schafer[3].* [1]Neurobiology & Anatomy, University of Utah; [2]Ophthalmology and Visual Sciences, University of Utah; [3]Neurobiology, University of Massachusetts Medical School

2802 — *10:15* **Complement is required for retinal ganglion cell axon regeneration following mouse optic nerve injury.** *Sheri Peterson[1, 2], Y. Li[1, 2], K. A. Wong[1, 2], L. Benowitz[1, 2].* [1]Neurosurgery, Boston Childrens Hospital; [2]F. M. Kirby Neurobiology Center, Harvard Medical School

East Ballroom B

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retina

314 Diabetic Retinopathy: Clinical Imaging

Moderators: Barbara A. Blodi, Richard B. Rosen and Amani A. Fawzi

2803 — *8:45* **Diabetic Retinopathy Severity Level Assessment in Ultrawide-field Imaging.** *Nancy Barrett, K. Dohm, K. McDaniel, B. Blodi, A. Domalpally.* Fundus Photo Reading Center University of WI

2804 — *9:00* **Evaluation of Quantitative Ultra-widefield Fluorescein Angiography Metrics and Diabetic Macular Edema Features.** *Alice C. Jiang[1, 2], S. K. Srivastava[2], J. Boss[2], S. Sharma[2], J. L. Reese[2], J. P. Ehlers[2].* [1]Case Western Reserve University School of Medicine; [2]Cleveland Clinic **CR*

2805 — *9:15* **Classification of Regions of Nonperfusion on Ultra-widefield Fluorescein Angiography in patients with Diabetic Macular Edema.** *Mengyuan Fang[1, 2], w. fan[1], Y. Shi[1], M. S. Ip[1, 2], C. C. Wykoff[3], K. Wang[1], K. G. Falavarjani[1], D. M. Brown[3], J. v. Hemert[4], S. R. Sadda[1, 2].* [1]Doheny Eye Institute; [2]Opthalmology, University of California, Los Angeles; [3]Retina Consultants of Houston; [4]Optos PLC **CR*

2806 — *9:30* **Deep learning algorithm for patient-level prediction of diabetic retinopathy (DR) response to vascular endothelial growth factor (VEGF) inhibition.** *Filippo Arcadu[1, 2], F. Benmansour[1, 2], A. Maunz[1, 2], J. R. Willis[3, 4], M. Prunotto[5, 2], Z. Haskova[3, 4].* [1]Roche Informatics, Roche; [2]Roche Personalized Healthcare, Roche; [3]Clinical Science Ophthalmology, Genentech, Inc; [4]Roche Personalized Healthcare, Genentech, Inc; [5]Immunology, Infectious Disease & Ophthalmology, Roche **CR*, ↗

2807 — *9:45* **Quantifying Spatial and Temporal Vascular Perfusion Changes Before and After Intravitreal Anti-VEGF Injections in Proliferative Diabetic Retinopathy(PDR).** *Richard B. Rosen[1, 2], J. Andrade[1, 2], D. B. Zhou[1, 2], M. V. Castanos[1, 2], R. Weitz[1], T. Y. Chui[1, 2].* [1]Ophthalmology, New York Eye & Ear Infirmary; [2]Ophthalmology, Icahn School of Medicine at Mount Sinai **CR*

2808 — *10:00* **Changes of individual Diabetic Retinal Neovascularizations under Treatment with intravitreal Anti-VEGF or Laser using Optical Coherence Tomography Angiography.** *Katrin Fasler, C. Haensli, S. A. Zweifel.* Ophthalmology, University Hospital Zurich

East Ballroom C

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Biochemistry/Molecular Biology

315 Gene variants in major ocular diseases

Moderators: Alison J. Hardcastle, Dror Sharon and Elfride De Baere

2809 — *8:45* **Allele Frequency Analysis of Variants Reported to cause Autosomal Dominant Retinal Diseases Revealed that 17% of Genes and 9% of Mutations are Unlikely Pathogenic.** *Dror Sharon, M. Hanany.* Department of Ophthalmology, Hadassah-Hebrew Univ Medical Ctr

2810 — *9:00* **Biallelic loss-of-function alleles of the *SCLT1* gene cause a variable phenotypic spectrum of retinal ciliopathies.** *Kristof Van Schil[1], R. L. Taylor[2, 4], G. Ascari[1], B. Guillemyn[1], L. Lambrechts[1], F. Depasse[3], B. P. Leroy[6, 5], G. Black[2, 4], E. De Baere[1].* [1]Center for Medical Genetics, Ghent University and Ghent University Hospital; [2]Manchester Centre for Genomic Medicine, Manchester Academic Health Sciences Centre, Manchester University NHS Foundation Trust, St Mary's Hospital; [3]Department of Ophthalmology, Centre Hospitalier Universitaire de Charleroi; [4]Division of Evolution and Genomic Sciences, Neuroscience and Mental Health Domain, School of Biological Sciences, Faculty of Biology, Medicine and Health, University of Manchester; [5]Division of Ophthalmology, The Children's Hospital of Philadelphia; [6]Department of Ophthalmology, Ghent University Hospital

2811 — *9:15* **CPH1, a new gene for Dominant Optic Atrophy.** *Cecile Delettre Cribaillet[1, 2], C. Mégy[1, 2], X. Zanlonghi[6], I. A. Meunier[4, 1], M. O. Pequignot[1, 2], M. Quiles[1, 2], C. Hamel[1, 2], A. Roubertie[4, 1], N. Weisschuh[5], B. Bocquet[4, 1], G. Lenaers[8, 9], G. Manes[1, 2], B. Wissinger[5], M. Vilarrubias[7], H. Spelbrink[3], E. Sarzi[1, 2].* [1]INSERM U1051; [2]University of Montpellier; [3]Radboud Center for Mitochondrial Medicine; [4]Centre of Reference for Genetic Sensory Diseases, CHU; [5]Centre for Ophthalmology; [6]Clinique Jules Verne; [7]Molecular Biology Institute Barcelona; [8]Institut MitoVasc; [9]Université d'Angers

2812 — *9:30* **Target 5000: Target Capture Genotyping of Retinal Degenerations in Ireland.** *Adrian Dockery[1], N. C. Wynne[3], K. Stephenson[2], L. Whelan[1], P. Humphries[1], G. Silvestri[4], M. Carrigan[1], D. J. Keegan[2], P. F. Kenna[3, 1], G. Farrar[1].* [1]Trinity College Dublin; [2]Ophthalmology, The Mater Misericordiae Hospital; [3]Ophthalmology, Royal Victoria Eye and Ear Hospital; [4]Centre for Experimental Medicine, Queen's University Belfast

2813 — *9:45* **Towards comprehensive identification and functional characterization of deep-intronic *ABCA4* variants in 1000 Stargardt disease cases.** *Mubeen Khan[1, 2], S. Cornelis[1, 2], M. del Pozo Valero[1, 3], M. Khan[1, 2], H. Stohr[4], F. Grassmann[5], M. Steehouwer[1], A. Hoischen[1], C. Ayuso[3], R. Ramesar[6], I. A. Meunier[7], S. defoort[8], B. H. Weber[4], C. Dhaenens[9], F. P. Cremers[1].* [1]Department of Human genetics, Radboud university medical center; [2]Donders institute for Brain,Cognition and Behaviour; [3]Fundación Jiménez Díaz, CIBERER, Department of Genetics; [4]Institut für Humangenetik, Universität Regensburg; [5]Department of Medical Epidemiology and Biostatistics, Karolinska Institutet; [6]Division of Human Genetics, Institute of Infectious Disease and Molecular Medicine, University of Cape Town; [7]Institut des Neurosciences de Montpellier, INSERM, Université de Montpellier; [8]Service des explorations de la fonction visuelle, CHRU de Lille; [9]University Lille, Inserm UMR-S 1172, CHU Lille., Biochemistry and Molecular Biology Department - UF Génopathies, Lille

2814 — *10:00* **Genetic risk of AMD at both the *CFH* and *ARMS2/HTRA1* loci is associated with increased protease expression and activity in human Bruch's membrane/inner choroid.** *Paul N. Bishop[1, 2], S. McHarg[1], N. Bayatti[1], R. Perveen[1, 5], G. Black[1, 5], A. J. Day[1], A. Dowsey[3], S. J. Clark[1], R. J. Unwin[4].* [1]School of Biological Sciences, University of Manchester; [2]Manchester Royal Eye Hospital, Manchester University NHS Foundation Trust, Manchester Academic Health Sciences Centre; [3]University of Bristol; [4]School of Medical Sciences, University of Manchester; [5]St. Mary's Hospital, Manchester University NHS Foundation Trust, Manchester Academic Health Science Centre

2815 — *10:15* **Targeted assessment of the chromosome 15 locus identifies a potential protective role for *ISLR* coding variants in exfoliation syndrome.** *Mineo Ozaki[1, 2], T. Mizoguchi[3], S. Nakano[4], S. Manabe[5], K. Mori[6], K. Miyata[7], E. Chihara[8], S. Ishiko[9], K. Inoue[10], Y. Kiuchi[11], M. Inatani[12], K. Sugiyama[13], T. Kubota[4], T. Aung[14], C. Khor[15].* [1]Ophthalmology, Ozaki Eye Hosp; [2]Ophthalmology, Faculty of Medicine University of Miyazaki; [3]Ophthalmology, Mizoguchi Eye Hospital; [4]Ophthalmology, Oita University Faculty of Medicine; [5]Ophthalmology, Hayashi Eye Hospital; [6]Ophthalmology, Kyoto Prefectural University of Medicine.; [7]Ophthalmology, Miyata Eye Hospital; [8]Ophthalmology, Sensho-kai Eye Institute; [9]Medicine and Engineering Combined Research Institute, Asahikawa Medical University; [10]Ophthalmology, Inouye Eye Hospital; [11]Ophthalmology and Visual Sciences, Graduate School of Biomedical Sciences, Hiroshima University; [12]Ophthalmology, Faculty of Medical Science, University of Fukui; [13]Ophthalmology & Visual Science, Kanazawa University Graduate School of Medical Science; [14]Singapore Eye Research Institute; [15]Genome Institute of Singapore

West 211

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Cornea

316 Dry Eye II

Moderators: Tor P. Utheim, Cintia S. De Paiva and Monica Alves

2816 — *8:45* **DDIT4 regulates impaired autophagy through oxidative stress in dry eye.** *BOWEN WANG, X. Wang, J. Yuan.* Zhongshan Ophthalmic Center

2817 — *9:00* **Alleviation of endoplasmic reticulum stress enhances human corneal epithelial cell viability under hyperosmotic conditions.** *Damien Guindolet, P. Argueso.* Schepens Eye Research Institute

2818 — *9:15* **Anti-inflammatory properties of butyrate on the ocular surface epithelium.** *Humberto Hernandez[1], R. G. de Souza[1], Z. Yu[1], R. A. Britton[2], C. S. De Paiva[1].* [1]Ophthalmology, Baylor College of Medicine; [2]Molecular Virology and Microbiology, Baylor College of Medicine **CR*

2819 — *9:30* **Vitamin D enhances the autophagic lysosomal clearance in oxidatively stressed human corneal epithelial cells: A therapeutic intervention for keratoconus.** *Shivapriya Shivakumar[1], R. S[2], A. Ghosh[1], N. Jeyabalan[1].* [1]GROW Research Laboratory, Narayana Nethralaya Foundation; [2]Department of Cornea and Refractive Surgery, Narayana Nethralaya Post Graduate Institute of Ophthalmology, Narayana Nethralaya Eye Hospital

2820 — *9:45* **Silk-Derived Protein-4 (SDP-4) Inhibits Nuclear Factor Kappa B (NF-κB) Inflammatory Signaling that Underlies Dry Eye Disease (DED).** *David W. Infanger, W. Abdel-Naby, J. J. Kalal, N. B. Paulson, Y. Bai, B. D. Lawrence.* Research and Development, Silk Technologies, Ltd. **CR*

2821 — *10:00* **Topical Leukocyte Function-Associated Antigen-1 (LFA-1) Antagonist Treatment (Lifitegrast) Suggest that Immune Synapsis and T cell Adhesion in Limbal Vessels is affected during DED.** *Gustavo Ortiz[1], V. G. Sendra[2], A. Jamali[1], P. Hamrah[1].* [1]Hamrah Lab Location: Tupper 2nd floor, Center for Translational Ocular Immunology; [2]Pathology Department, Universidad de Buenos Aires **CR*

2822 — *10:15* **Development of a targeted carrier for Rapamycin in a murine model of Sjögren's syndrome.** *Yaping Ju[1], H. Guo[1], F. Yarber[2], M. Edman[2], S. Peddi[1], S. Janga[2], J. A. MacKay[2, 1], S. F. Hamm-Alvarez[2, 1].* [1]Department of Pharmacology and Pharmaceutical Sciences, School of Pharmacy, University of Southern California; [2]Department of Ophthalmology, Roski Eye Institute, Keck School of Medicine, University of Southern California

West 212-214

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Glaucoma

317 Laser Therapy

Moderators: Tony Realini and Richard Chitedze

2823 — *8:45* **The incidence of acute angle-closure attack in primary angle closure suspect after pharmacologic mydriasis: A randomized controlled trial.** *David S. Friedman[1], D. S. Chang[1], P. J. Foster[2], B. Munoz[1], T. Aung[4], M. He[3].* [1]Ophthalmology, Johns Hopkins Wilmer Eye Inst, Dana Center; [2]NIHR Biomedical Research Centre, Moorfields Eye Hospital; [3]Zhongshan Ophthalmic Center; [4]Singapore National Eye Center ↗

2824 — *9:00* **Effect of laser peripheral iridotomy location on post-operative visual function.** *Rick Trevino[1], W. E. Sponsel[1, 2], C. Majcher[1], C. Villaflor[1], J. Nozicka[1].* [1]Rosenberg School of Optometry, University of the Incarnate Word; [2]Biomedical Engineering, University of Texas San Antonio ↗

2825 — *9:15* **Microscope Real-time Video (MRTV), High- resolution OCT (HR-OCT) & Histopathology (HP) to Assess How Transcleral Micropulse Laser (TML) Affects the Sclera, Ciliary Body (CB), Muscle (CM), Secretory Epithelium (CBSE), Suprachoroidal Space (SCS) & Aqueous Outflow System.** *Murray A. Johnstone[4], S. SONG[1], S. Padilla[4], K. Wen[4], C. Xin[2], J. C. Wen[4], E. Martin[3], R. K. Wang[1].* [1]Department of Bioengineering, University of Washington; [2]Department of Ophthalmology, Beijing Tongren Eye Center; [3]Department of Ophthalmology, Indiana University; [4]Department of Ophthalmology, University of Washington

2826 — *9:30* **Clinical outcomes of micropulse transscleral cyclophotocoagulation in post-keratoplasty patients.** *Jessica M. Kang, J. Rose-Nussbaumer, J. M. Schallhorn, D. G. Hwang, Y. Han.* UCSF

2827 — *9:45* **Effect of Selective Laser Trabeculoplasty in a sub-Saharan Rural Population.** *Richard Chitedze[1], v. M. saka[1], M. Montelongo[2, 3], S. Sullivan[4], A. Amin[4], R. G. Garcia[2], W. E. Sponsel[1, 5].* [1]Sponsel Foundation/Child Legacy International; [2]School of Medicine, Universidad Autonoma de Guadalajara; [3]International Fellow, Sponsel Foundation; [4]Ophthalmology, New York Medical College; [5]Vision Sciences/Biomedical Engineering, UIW/UTSA

2828 — *10:00* **West Indies Glaucoma Laser Study (WIGLS) 7. Clinical Outcomes following Selective Laser Trabeculoplasty in Afro-Caribbean Glaucoma Patients at High Risk for Progression**. *Tony Realini[1], B. K. Goundappa[2], D. Burt[3], H. Shillingford-Ricketts[4].* [1]Ophthalmology, WVU Eye Institute; [2]Epidemiology Data Center, Graduate School of Public Health, University of Pittsburgh; [3]Eye Care St. Lucia; [4]Harlsbro Medical Center ↗

2829 — *10:15* **Beliefs and Attitudes of Ophthalmologists Regarding Selective Laser Trabeculoplasty as First Line Therapy for Glaucoma**. *Lucas Bonafede[1], J. Tran[1], L. A. Hark[3], C. Sanvicente[1], Q. Zhang[2], R. Costello[2], L. J. Katz[1].* [1]Glaucoma Research Center, Wills Eye Hospital; [2]Biostatistics Consulting Core, Wills Eye Hospital; [3]Department of Ophthalmology, Columbia University Medical Center

West 217-219

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Genetics Group

318 Glaucoma Genetics Development with advanced technology & large datasets

Moderators: Louis R. Pasquale and Kathryn P. Burdon

2830 — *8:45* **Genome-wide association study of macular ganglion cell complex thickness in 41,504 participants of the UK Biobank study**. *Hannah Currant[1], T. Fitzgerald[1], P. G. Hysi[2], C. A. Reisman[3], Q. Yang[3], C. J. Hammond[2], P. T. Khaw[4], P. J. Foster[4], P. Patel[4], E. Birney[1], A. P. Khawaja[4].* [1]European Bioinformatics Institute (EMBL-EBI); [2]Kings College London; [3]Topcon Healthcare Solutions; [4]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology **CR*

2831 — *9:00* **Genome-wide Association Study of Choroidal Thickness in the Amish**. *Omar García Rodríguez[1], S. H. Slifer[1], W. K. Scott[1], Y. E. Song[2], K. Miskimen[2], M. G. Nittala[3], S. R. Sadda[3, 4], J. L. Haines[2, 5], M. A. Pericak-Vance[1], D. Stambolian[6].* [1]Hussman Institute for Human Genomics, Univesity of Miami; [2]Population & Quantitative Health Science, Case Western Reserve University; [3]Doheny Eye Institute, Doheny Imaging Reading Center; [4]Ophthalmology, University of California; [5]Institute for Computational Biology, Case Western Reserve University; [6]Ophthalmology and Genetics, University of Pennsylvania **CR*

2832 — *9:15* **Glaucoma polygenic risk score predicts treatment intensity and RNFL loss in glaucoma suspects**. *Ayub Qassim[1], M. Hassall[1], X. Han[2], H. N. Marshall[1], M. S. Awadalla[1], S. L. Graham[3], P. R. Healey[4], A. Agar[5], J. Landers[1], A. Galanopoulos[6], R. J. Casson[7], A. W. Hewitt[8], S. MacGregor[2], J. E. Craig[1].* [1]Department of Ophthalmology, Flinders University; [2]QIMR Berghofer Medical Research Institute; [3]Macquarie University; [4]University of Sydney; [5]Prince of Wales Hospital; [6]Royal Adelaide Hospital; [7]Adelaide University; [8]University of Tasmania

2833 — *9:30* **Rare *ATXN2* Variants in Cases with Primary Open Angle Glaucoma Cause Visual Impairment in Zebrafish**. *Shi Song Rong, A. Larson, J. S. Borchert, J. L. Wiggs.* Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School

2834 — *9:45* **Mutations in *PRSS56* are Associated with Primary Congenital Glaucoma**. *Subhabrata Chakrabarti[1], G. Pyatla[1], C. Labelle-Dumais[2], S. Koli[2], A. K. Mandal[3], S. Senthil[3], M. Kabra[1], N. Tolman[4], S. Hameed[1], R. C. Khanna[5], I. Kaur[1], S. John[4], S. Nair[2, 6].* [1]Brien Holden Eye Research Centre, L V Prasad Eye Institute; [2]Ophthalmology, University of California; [3]Jasti V Ramanamma Children's Eye Care Centre, L V Prasad Eye Institute; [4]Howard Hughes Medical Institute, The Jackson Laboratory; [5]Gullapalli Pratibha Rao International Centre for Advancement of Rural Eye Care, L V Prasad Eye Institute; [6]Anatomy, University of California

2835 — *10:00* **Novel DDX58 Gene Mutation Associated With Childhood Glaucoma**. *Terri L. Young, K. Whisenhunt, Y. Bradfield, N. Stangel, S. Lamartina, S. Tompson.* Ophthalmology, University of Wisconsin

2836 — *10:15* **Exome-Based Investigation Of The Genetic Basis Of Pigment Dispersion Syndrome**. *Wesley Goar, C. van der Heide, B. Roos, W. L. Alward, Y. H. Kwon, M. Anderson, V. Sheffield, T. E. Scheetz, J. H. Fingert.* University of Iowa

West 220

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Clinical/Epidemiologic Research

319 Aging with Vision Loss: Understanding the aging consequences of visual impairment - Minisymposium

Visual impairment largely affects older adults, and as the global population ages, the prevalence of visual impairment is expected to rise dramatically. Research has documented that the impact of visual impairment goes beyond vision, as older adults with visual impairment have worse physical and cognitive functioning and are greater risk of negative health outcomes such as disability and mortality. This session is focused on considering the impact visual impairment within the complexities of aging, and will outline gaps in our understanding of the long-term health consequences of visual impairment older adults.

Moderators: Bonnielin K. Swenor and Ecosse L. Lamoureux

2837 — *8:45* **Aging Eyes in Aging Bodies: What Does a Graying Population Mean for the Vision Care and Research Community?** *Heather Whitson[1, 2].* [1]Duke University; [2]Geriatrics Research Education and Clinical Center, Durham VA

— *9:05* **Q&A**

2838 — *9:10* **Cause of Death?: The relationship between visual impairment, ocular conditions and mortality**. *David J. Lee.* University of Miami

— *9:25* **Q&A**

2839 — *9:30* **Cognitive and functional implications of vision loss**. *Ellen E. Freeman[1, 2].* [1]School of Epidemiology and Public Health, University of Ottawa; [2]Ophthalmology, Maisonneuve-Rosemont Hospital

— *9:45* **Q&A**

2840 — *9:50* **The impact of visual impairment on quality of life among older adults**. *Ecosse L. Lamoureux[1, 2].* [1]Singapore Eye Research Institute, Singapore National Eye Centre; [2]Duke-NUS Medical School

— *10:05* **Q&A**

2841 — *10:10* **Integrating vision and healthcare services for older adults**. *Alan R. Morse.* Lighthouse Guild **CR*

— *10:25* **Q&A**

West 223/224

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Visual Psychophysics/Physiological Optics / Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Low Vision / Visual Neuroscience

320 Clinical outcomes and visual quality with retinal prosthetic vision restoration - Minisymposium

Many new vision restoration approaches are being clinically explored. However, the expected visual outcomes are not well understood. This minisymposium focuses on clinical outcomes, potential visual quality, and visual adaptation that has been achieved or can be expected through retinal prosthetic devices.

Moderators: Lisa A. Ostrin and Ava K. Bittner

— 8:45 **Introduction**

2842 — *8:48* **Signals triggering electrophysical remodeling in retinal degeneration**. *Richard H. Kramer.* Molecular and Cell Biology, University of California, Berkeley **CR*

2843 — *9:05* **Reading performance in simulated prosthetic vision**. *Yossi Mandel[1, 2].* [1]School of Optometry and Vision Science, Faculty of Life Sciences, Bar-Ilan University; [2]Bar-Ilan Institute for Nanotechnology and Advanced Materials (BINA), Bar-Ilan University

2844 — *9:22* **Testing for vision rather than testing vision**. *Eli Peli.* Ophthalmology, Schepens Eye Res Inst, MEEI **CR*

2845 — *9:39* **Toward a high-resolution artificial retina.** *E.J. Chichilnisky.* Neurosurgery, Stanford University

2846 — *9:56* **Eye Tracking Control in Visual Prostheses**. *Avi Caspi[1, 2].* [1]Electrical and Electronic Engineering, Jerusalem College of Technology; [2]The Johns Hopkins Wilmer Eye Institute - Johns Hopkins Medicine **CR*

2847 — *10:13* **Image preprocessing and daily life performance with retinal prosthetics**. *Gislin Dagnelie.* Ophthal-Lions Vision Cntr, Johns Hopkins Univ **CR*

ARVO Ballroom

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Glaucoma

321 Neurodegeneration

Moderators: Meredith S. Gregory-Ksander and Leonard A. Levin

2848 — *8:45* **Densitometry and geometry of optic disc hemorrhages in the Ocular Hypertension Treatment Study**. *Louis R. Pasquale[2], C. Cousins[1], B. Pan[1], J. C. Chou[1], L. Q. Shen[1], M. Gordon[3], M. Kass[3], R. Ritch[4].* [1]Ophthalmology, Harvard Medical School; [2]Ophthalmology PnR, Icahn School of Medicine at Mt. Sinai; [3]Department of Ophthalmology and Visual Sciences, Washington University School of Medicine; [4]Ophthalmology PnR, New York Eye and Ear Infirmary at Mt. Sinai **CR*

2849 — *9:00* **T and B Lymphocyte Deficiency in RAG1 Mice Decreases Retinal Ganglion Cell Loss in Experimental Glaucoma.** *Markus H. Kuehn[1, 2], O. W. Gramlich[1, 2], N. D. Heuss[3], C. R. Godwin[1, 2], D. S. Gregerson[3].* [1]Ophthalmology and Visual Sciences, University of Iowa; [2]Iowa City VA Medical Center; [3]Ophthalmology and Visual Neurosciences, University of Minnesota

2850 — *9:15* **APOE signaling plays a key role in neurodegeneration-associated microglia in glaucoma.** *Milica Margeta[1], S. M. Letcher[1], O. Butovsky[2].* [1]Mass Eye & Ear Infirmary; [2]Brigham and Women's Hospital

2851 — *9:30* **Reduced number and caliber of optic nerve axons and smaller optic nerves in mice homozygous for a glaucoma-causing mutation in *Adamts10*.** *Hangjing Wu[1], R. W. Kuchtey[1, 2], J. Kuchtey[1].* [1]Vanderbilt Eye Institute; [2]Department of Molecular Physiology and Biophysics, Vanderbilt University

2852 — *9:45* **Astrocyte energy transfer via connexin 43 results in contralateral deficits following unilateral glaucoma.** *Melissa Cooper[1, 2], S. Pasini[2], W. S. Lambert[2], M. L. Risner[2], K. B. D'Alessandro[2], D. J. Calkins[2].* [1]Neuroscience, Vanderbilt University; [2]Vanderbilt Eye Institute, Vanderbilt University Medical Center

2853 — *10:00* **Live imaging of human optineurin mutants in the optic nerve of Xenopus laevis.** *Yaeram Jeong, N. Marsh-Armstrong.* Ophthalmology, University of California, Davis

2854 — *10:15* **Machine Learning-Based Quantification of Axonal Damage in Glaucomatous Rat Optic Nerves.** *Bailey Hannon[1], M. Ritch[2], R. C. Ford[3], A. T. Read[2], K. Gao[2], E. L. Dyer[2], J. Reynaud[4], G. Cull[4], C. F. Burgoyne[4], M. T. Pardue[2, 5], C. R. Ethier[1, 2].* [1]Woodruff School of Mechanical Engineering, Georgia Institute of Technology; [2]Coulter Department of Biomedical Engineering, Georgia Institute of Technology and Emory University; [3]School of Electrical and Computer Engineering, Georgia Institute of Technology; [4]Devers Eye Institute, Legacy Research Institute; [5]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Healthcare System

Harbour Ballroom

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Glaucoma

322 Visual Fields, Psychophysics, and Electrophysiology

Moderators: John G. Flanagan and Vincent Michael Patella

2855 — *8:45* **Central Visual Field Loss Patterns in Glaucoma.** *Mengyu Wang[1], L. Q. Shen[2], L. R. Pasquale[3], M. V. Boland[4], S. R. Wellik[5], C. De Moraes[6], J. S. Myers[7], P. Bex[8], O. Saeedi[9], N. Baniasadi[1], H. Wang[1, 10], D. Li[1], J. Tichelaar[1], T. Elze[1].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School; [2]Massachusetts Eye and Ear, Harvard Medical School; [3]Icahn School of Medicine at Mount Sinai, New York Eye and Eye Infirmary of Mount Sinai; [4]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [5]Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [6]Edward S. Harkness Eye Institute, Columbia University Medical Center; [7]Wills Eye Hospital, Thomas Jefferson University; [8]Department of Psychology, Northeastern University; [9]Department of Ophthalmology and Visual Sciences, University of Maryland Medical Center; [10]Institute for Psychology and Behavior, Jilin University of Finance and Economics **CR*

2856 — *9:00* **Predictors Of Long-Term Visual Field Fluctuation.** *Alessandro Rabiolo[1, 2], E. Morales[1], J. Kim[1], D. Salazar[1], A. A. Afifi[3], F. Yu[1, 3], K. Nouri-Mahdavi[1], J. Caprioli[1].* [1]Stein Eye Institute - UCLA; [2]San Raffaele Scientific Institute; [3]Department of Biostatistics, Jonathan and Karin Fielding School of Public Health at UCLA

2857 — *9:15* **Using a Machine Learning Technique Called Kalman Filtering to Forecast Conversion from Ocular Hypertension to Primary Open Angle Glaucoma.** *Gian-Gabriel P. Garcia[1], M. Lavieri[1], C. Andrews[2, 3], X. Liu[1], M. P. Van Oyen[1], M. Kass[4], M. O. Gordon[4], J. D. Stein[2, 3].* [1]Industrial and Operations Engineering, University of Michigan; [2]Ophthalmology and Visual Sciences, University of Michigan; [3]Center for Eye Policy and Innovation, University of Michigan; [4]Ophthalmology and Visual Sciences, Washington University School of Medicine

2858 — *9:30* **Defect Classes of Visual Field Measurement in Glaucoma.** *Jorryt G. Tichelaar[1], M. Wang[1], L. Q. Shen[2], L. R. Pasquale[7], M. V. Boland[3], S. R. Wellik[4], C. G. de Moraes[5], J. S. Myers[6], P. Bex[8], O. Saeedi[9], N. Baniasadi[1], D. Li[1], H. Wang[1, 10], T. Elze[1].* [1]Schepens Eye Research Institute, Harvard Medical School; [2]Mass. Eye and Ear, Harvard Medical School; [3]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [4]Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [5]Edward S. Harkness Eye Institute, Columbia University Medical Center; [6]Wills Eye Hospital; [7]Icahn School of Medicine at Mount Sinai, New York Eye and Eye Infirmary of Mount Sinai; [8]Department of Psychology, Northeastern University; [9]Department of Ophthalmology and Visual Sciences, University of Maryland Medical Center; [10]Institute for Psychology and Behavior, Jilin University of Finance and Economics ***CR***

2859 — *9:45* **A new perimetry thresholding algorithm with size-modulated stimuli reduces variability by half in damaged regions of the visual field compared to SITA Standard.** *David F. Garway-Heath[1], M. A. Miranda[1], H. Zhu[1, 2], P. J. Mulholland[1, 3], B. Petriti[1], C. Bronze[1], D. P. Crabb[4], R. Anderson[3, 1].* [1]National Institute for Health Research (NIHR) Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]School of Computer Science, Beihang University; [3]Optometry and Vision Science Research Group, Ulster University; [4]Division of Optometry and Visual Sciences, City University London ***CR***

2860 — *10:00* **"No need to press a button" – Using a portable eye movement perimeter to rapidly assess visual field loss in a glaucoma clinic.** *Pete R. Jones[1], D. Lindfield[2], D. P. Crabb[1].* [1]Optometry and Visual Sciences, City, University of London; [2]Royal Surrey County Hospital ***CR***

2861 — *10:15* **The effect of TrkB receptor knockdown on mouse retinal ganglion cell function and their response to acute mild intraocular pressure stress.** *Vickie H. Wong[1], A. Wang[1], C. T. Nguyen[1], J. K. Lim[1], M. Nicholson[2], J. Xiao[2], S. Murray[2], B. V. Bui[1].* [1]Optometry and Vision Sciences, The University of Melbourne; [2]Anatomy and Neurosciences, The University of Melbourne

West Exhibition Hall A0033-A0049

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retinal Cell Biology

323 Stem Cells and Retinal Organoids: Disease modeling

Moderators: Roly Megaw and Valeria Canto Soler

2862 — *A0033* **North Carolina Macular Dystrophy: Causes and Consequences of Gene Dysregulation.** *Matthew Miller, J. Fick, J. M. Hoffmann, J. A. Penticoff, R. F. Mullins, E. M. Stone, B. Tucker.* Institute for Vision Research, Department of Ophthalmology & Visual Sciences, University of Iowa

2863 — *A0034* **Tissue Engineered Macular Edema-On-A-Chip.** *Haig Pakhchanian[1], E. Nguyen[1], N. Hotaling[2], D. Ortolan[1, 3], R. Dejene[1], A. Maminishkis[1], K. Bharti[1].* [1]Ocular and Stem Cell Translational Research Unit, National Eye Institute; [2]Biosystems and Biomaterials Division, National Institute of Standards and Technology; [3]Laboratory of Neurophysiology of Vision, University of L'Aquila

2864 — *A0035* **Modelling Autosomal Dominant Optic Atrophy using Induced Pluripotent Stem Cells.** *Paul E. Sladen[1], K. Jovanovic[1], M. Aguilà[1], P. Yu-Wai-Man[1, 2], M. E. Cheetham[1].* [1]Institute of Ophthalmology, UCL; [2]Moorfields Eye Hospital

2865 — *A0036* **Analysis of photoreceptor degeneration by using promoter Nrl reporter knock-in human induced pluripotent stem cell lines.** *Kohei Homma[1], N. Ozato[1], K. Tsubota[1], H. Okano[2], Y. Ozawa[1].* [1]Ophthalmology, Keio University School of Medicine; [2]Physiology, Keio University School of Medicine **CR*

2866 — *A0037* **Delayed differentiation of retinal organoids derived from a patient with *CRB1*-associated retinitis pigmentosa.** *Xiao Zhang[1, 2], S. McLenachan[1, 2], D. Zhang[1], S. Chen[1], S. Arunachalam[1], J. A. Thompson[3], T. McLaren[3], T. Lamey[2, 3], J. Roach[2, 3], F. K. Chen[1, 2].* [1]Ocular Tissue Engineering Laboratory, Lions Eye Institute; [2]Centre for Ophthalmology and Visual Science, The University of Western Australia; [3]Australian Inherited Retinal Disease Registry, Sir Charles Gairdner Hospital

2867 — *A0038* **Establishment of non-integrated iPSCs from urine-derived cells of a Chinese patient with X-linked retinoschisis.** *Xin Yan[1, 2], Y. Guo[3], S. Mao[1, 2], Y. Zhou[1, 2], J. Chen[2, 3], S. Tang[1, 2].* [1]Aier School of Ophthalmology, Central South University; [2]Aier Eye Institute; [3]Key Laboratory for Regenerative Medicine, Ministry of Education, Jinan University

2868 — *A0039* **Utilising patient-specific retinal organoids to investigate the role of *SNRNP200* variants of unknown significance in severe early onset retinitis pigmentosa.** *Carla B. Mellough[1, 2], M. Ackerman[1, 2], J. A. Thompson[3], J. Roach[3], T. McLaren[3], T. Lamey[3], A. Akkari[4, 6], R. Ram[5], S. Leary[5], A. Chopra[5], S. Chen[1], D. Zhang[1], S. McLenachan[1, 2], F. K. Chen[1, 2].* [1]Lions Eye Institute Ltd.; [2]Centre for Ophthalmology and Visual Science, University of Western Australia; [3]Department of Medical Technology & Physics, Australian Inherited Retinal Disease Registry & DNA Bank, Sir Charles Gairdner Hospital; [4]The Perron Institute for Neurological and Translational Science; [5]Institute for Immunology & Infectious Diseases, Murdoch University; [6]Industrial Pharmacogenetics, Murdoch University

2869 — *A0040* **Generation of Induced Pluripotent Stem Cell Models of Dominant Retinitis Pigmentosa.** *Kwan-Leong Hau[1], K. Ziaka[1], R. Guarascio[1], D. Athanasiou[1], M. Aguilà[1], J. Bellingham[1], E. Bloch[1, 2], L. Da Cruz[1, 2], M. E. Cheetham[1].* [1]UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital

2870 — *A0041* **Modelling RP2 retinitis pigmentosa using iPSC derived retinal organoids.** *Amelia Lane[1], K. Jovanovic[1], D. Ottaviani[1], A. Brugulat-Panes[1], C. Shortall[2], G. Farrar[2], A. J. Hardcastle[1], M. E. Cheetham[1].* [1]UCL Institute of Ophthalmology; [2]Trinity College Dublin, Smurfit Institute of Genentics

2871 — *A0042* **Generation of rod- vs. cone-dominant patient-derived 3D retinal grafts for the treatment of retinal degenerative blindness.** *Laura R. Bohrer[1], J. A. Cooke[1], A. Shrestha[1, 2], E. R. Burnight[1], K. R. Anfinson[1], M. M. Collins[1], R. F. Mullins[1], E. M. Stone[1], K. S. Worthington[1, 2], L. A. Wiley[1], B. Tucker[1].* [1]Institute for Vision Research, Department of Ophthalmology & Visual Sciences, University of Iowa; [2]Department of Biomedical Engineering, University of Iowa

2872 — *A0043* **Non-invasive electrical stimulation promotes photoreceptor survival and regeneration in mice with inherited photoreceptor degeneration.** *Honghua Yu[1], X. Dong[1], B. Liu[1], Q. Wu[1], S. Enayati[2], K. Cho[2], D. Chen[2].* [1]Opthalmology, Guangdong General Hospital; [2]Schepens Eye Research Institute of Massachusetts Eye and Ear, Department of Ophthalmology, Harvard Medical School

2873 — *A0044* **Evaluation of selected Human Embryonic Stem Cell Lines for differentiation to three-dimensional retinal tissue (organoids) for cell therapies of retinal degenerative conditions.** *Ratnesh K. Singh, F. Binette, L. Rosenberg, G. S. Hogge, I. O. Nasonkin.* Department of Ophthalmology, BioTime **CR*

2874 — *A0045* **Variation in retinal differentiation capacity between patient derived hiPSC lines.Variation in retinal differentiation capacity between patient derived hiPSC lines.** *Jessica A. Cooke, C. M. Cranston, E. L. Kennedy, A. Deluca, S. S. whitmore, T. E. Scheetz, R. F. Mullins, E. M. Stone, B. A. Tucker.* Institute for Vision Research, Ophthalmology and Visual Science, The University of Iowa

2875 — *A0046* **Generation of a patient: sibling pair-derived hiPSC-RPE model of pathological myopia.** *Xinyue Bai[1], L. Chen[1], X. Yang[2].* [1]Eye & ENT Hospital of Fudan University; [2]Jules Stein Eye Institute-UCLA

2876 — *A0047* **Generation of stem cell lines that can model human Ocular Albinism Type 1 by carrying a mutated or deleted *OA1* gene.** *Debora B. Farber, E. Baulier.* Jules Stein Eye Inst, CHS/UCLA

2877 — *A0048* **Differential transcriptome profile associated with pigmentation defects in induced pluripotent stem cell-derived retinal pigment epithelium from Albinism patients.** *Aman George, F. Ruchi, T. Pfister, D. McGaughey, N. Hotaling, M. S. Abu-Asab, Q. Wan, C. Zhang, K. Bharti, B. P. Brooks.* Ophthalmic Genetics and Visual Function Branch, National Eye Institute/NIH

2878 — *A0049* **Modeling oculodentodigital dysplasia syndrome using human induced pluripotent stem cells.** *Lin Cheng[1, 2], M. R. Cring[3], M. H. Kuehn[1, 2].* [1]Department of Ophthalmology and Visual Sciences, The University of Iowa; [2]Center for the Prevention and Treatment of Visual Loss, Veterans Affairs Medical Center; [3]Department of Pediatrics, The University of Iowa

West Exhibition Hall A0050-A0066

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retinal Cell Biology

324 Stem Cell based Approaches for Transplantation and Therapies

Moderators: Anna La Torre and Melissa K. Jones

2879 — *A0050* **Safety and retinal toxicity of a biodegradable scaffold for stem cells derived RPE implantation.Preclinical study in rabbits.** *Mariana Kawamuro[1], r. a. fernandes[1], m. maia[1], F. Lojudice[2].* [1]Universidade Federal de São Paulo; [2]NUCEL, University of Sao Paulo

2880 — *A0051* **Expression of membrane complement regulatory proteins and complement factor H in human embryonic stem cell-derived retinal pigment epithelium.** *Kailai Nie, L. Feng, W. Fan.* Ophthalmology, West China Hospital, Sichuan University

2881 — *A0052* **Donor-host material transfer is photoreceptor-specific and comprises mRNA but not mitochondria.** *Oliver Borsch[1, 2], S. Llonch[1, 2], S. Gasparini[1, 2], M. Ader[1, 2].* [1]Center for Regenerative Therapies Dresden; [2]TU Dresden

2882 — *A0053* **Neuroprotective Effect of Extracellular Vesicles delivery via Intravenous Injection on Optic Nerve Crushed Mice.** *Leila Satarian[1], H. Baharvand[1], S. Seiedrazizadeh[1], F. Pakdel[2].* [1]Stem cell, Royan; [2]Farabi Hospital

2883 — *A0054* **Transplantation of human iPS-derived RPE cells preserves the retinal structure and function in the rd10 mouse model of retinitis pigmentosa.** *Deliang Zhu[1, 2], M. Xie[1], Z. Cui[2], Y. Guo[2], S. Liu[3], P. Wang[3], J. Zhang[1], J. Chen[2, 4].* [1]Key Laboratory of Optoelectronic Information and Sensing Technologies of Guangdong Higher Educational institutes, Jinan University; [2]Key Laboratory for Regenerative Medicine, Ministry of Education, Jinan University; [3]Depertment of Ophthalmology, the First Clinical Medical College of Jinan University; [4]Eye institute, Medical college of Jinan University

2884 — *A0055* **Differentiation, Characterization, and Transplantation of hiPSC-derived retinal pigment epithelial (RPE) cells in retinal degenerative RCS rats.** *Rupendra Shrestha[1, 2], Y. Wen[2], R. Tsai[1, 2].* [1]Institute of Medical Sciences, Tzu Chi University; [2]Institute of Eye Research, Hualien Tzu Chi General Hospital

2885 — *A0056* **Transplantation of human iPSC-derived photoreceptor precursors isolated by targeting of the surface antigen CD73.** *Giuliana Gagliardi[2, 1], K. Ben M'Barek[3], J. Conart[2], A. Slembrouck-Brec[2], J. Degardin[2], C. Nanteau[2], S. Reichman[2], O. Goureau[2].* [1]Department of Ophtalmology, Donders Institute of Brain, Radboud University Medical Center; [2]Institut de la Vision, Sorbonne Université, INSERM, CNRS; [3]INSERM U861, CECS, AFM, Institute for Stem Cell Therapy and Exploration of Monogenic Diseases

2886 — *A0057* **Transplantation of human pluripotent stem cell-derived photoreceptors on a biocompatible scaffold in the S334ter rat.** *Allison Ludwig[1, 2], J. Phillips[2, 3], L. Jager[3], K. Nilles[3], S. Stuedemann[3], J. Lee[4], I. Lee[4], S. Gong[5], Z. Ma[4], D. M. Gamm[2, 6].* [1]Comparative Biomedical Sciences, University of Wisconsin-Madison; [2]McPherson Eye Research Institute, University of Wisconsin-Madison; [3]Waisman Center, University of Wisconsin-Madison; [4]Electrical and Computer Engineering, University of Wisconsin-Madison; [5]Biomedical Engineering, University of Wisconsin-Madison; [6]Ophthalmology and Visual Sciences, University of Wisconsin-Madison **CR*

2887 — *A0058* **Subretinal transplantation of Human Central Nervous System Stem Cells stimulates controlled proliferation of endogenous retinal pigment epithelium.** *Trevor J. McGill[1], J. Stoddard[1], B. Lu[2], A. Tsukamoto-Weissman[3], S. huhn[4], L. Osborne[4], A. Capela[4].* [1]Ophthalmology, Casey Eye Institute-OHSU; [2]Cedar Sinai; [3]BOCO; [4]StemCells Inc **CR*

2888 — *A0059* **Transplantation sites affect the outcome of mesenchymal stem cell based therapy on retinal degeneration.** *Haibin Tian, L. Lu, G. Xu.* Tongji University Eye institute, Tongji University Medical school

2889 — *A0060* **hESC-derived retina organoid sheet transplants develop photoreceptors, connect with the host retina and improve visual function in immunodeficient RCS rats.** *Magdalene J. Seiler[1, 2], B. Lin[1], B. McLelland[1, 3], G. Nistor[3], R. B. Aramant[1], B. Thomas[4], H. Keirstead[3].* [1]PMR; Stem Cell Research Ctr, Univ of California, Irvine; [2]Ophthalmology, University of California, IIrvine; [3]AIVITA Biomedical Inc.; [4]Roski Eye Inst., Ophthalmology, University of Southern California **CR*

2890 — *A0061* **Co-grafted sheets of hESC derived retina organoids and RPE improve vision function in RCS rats.** *Bin Lin[1], J. Martinez[2, 3], D. Zhu[2, 4], D. R. Hinton[2, 4], M. Humayun[2, 3], B. McLelland[1], R. Aramant[1], M. J. Seiler[1, 5], B. Thomas[2, 3].* [1]Stem Cell Research Center, University of California at Irvine; [2]Department of Ophthalmology, USC Roski Eye Institute; [3]USC Dr. Allen and Ginsburg Institute for Biomedical Therapeutics; [4]Department of Pathology, Keck School of Medicine, USC; [5]Ophthalmology, UC Irvine, School of Medicine **CR*

2891 — *A0062* **Subretinal survival of retinal progenitors (RPs) derived from human embryonic stem cells (hESCs) in different animal models.** *Hamzah Aweidah[1, 2], A. Obolensky[1, 2], A. Ejzenberg[1, 2], C. Matsevich[2], M. Idelson[3], H. Khaner[3], B. Reubinoff[3], E. Banin[1, 2].* [1]Ophthalmology Department, Hadassah Hebrew University Medical Center; [2]Ophthalmology Department, Center for Retinal and Macular Degenerations, Hadassah Hebrew University Medical Center; [3]Gene Therapy Institute, Hadassah-Hebrew University Medical Center

2892 — *A0063* **Inhibition of Receptor interacting protein kinases enhance photoreceptor precursor graft survival in a mouse model of inherited retinal degeneration.** *Daniel E. Maidana, L. Gonzalez-Buendia, J. W. Miller, D. Vavvas.* Ophthalmology, Massachusetts Eye and Ear Infirmary

2893 — *A0064* **Transplantation of embryonic stem cell-derived retinal neurons preserves retinal ganglion cells and their function in glaucomatous mice.** *Karen Chang[1], K. Cho[1], s. Kim[2], C. Luo[3], W. Su[4], R. Chen[2], M. Mirotsou[3], R. Lanza[3], D. F. Chen[1].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear, Department of Ophthalmology, Harvard Medical School; [2]HGSC, Department of Molecular and Human Genetics, Baylor College of Medicine; [3]Astellas Institute of Regenerative Medicine; [4]Department of Materials Science and Engineering, National Taiwan University **CR*

2894 — *A0065* **The Construction of Bioengineered RPE Sheets with Enhanced RPE Cilium Assembly Using SMILE-Derived Lenticule.** *Jianing Gu[1, 2], Y. Wang[2, 1], Z. Cui[1], H. Li[2, 1], J. Chen[1, 2], S. Tang[1, 2].* [1]Aier Eye Institute; [2]Aier School of Ophthalmology, Central South University,

2895 — *A0066* **Mechanisms of Action of Mesenchymal Stem Cell-Derived Extracellular Vesicles in Retinal Ischemia.** *Biji Mathew[1], S. Ravindran[2], L. A. Torres[1], M. Chinnakesavalu[1], S. Tran[1], R. Patel[1], S. Roth[1, 3].* [1]Anesthesiology, University of Illinois At Chicago; [2]College of dentistry, University of Illinois at Chicago; [3]Ophthalmology, University of Illinois at Chicago

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West Exhibition Hall A0083-A0113

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Physiology/Pharmacology

325 Gene Therapy and Delivery

Moderators: David Culp and Elizabeth Crabtree

2896 — *A0083* **Intravitreal Delivery of rAAV2 Vectors to the 13-Lined Ground Squirrel Retina.** *Benjamin S. Sajdak[1, 2], K. J. Ertel[1], H. Zhang[1], E. R. Nettesheim[3], D. K. Merriman[4], D. M. Lipinski[1, 3], J. Carroll[1, 3].* [1]Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin; [2]McPherson Eye Research Institute, University of Wisconsin-Madison; [3]Ophthalmology & Visual Sciences, Medical College of Wisconsin; [4]Biology, University of Wisconsin Oshkosh

2897 — *A0084* **Novel recombinant Adeno-Associated Virus transfects photoreceptor cells following intravitreal injection in sheep.** *Maya Ross[1], E. Banin[2], E. Averbukh[2], M. Desrosiers[3], A. Obolensky[2], R. Ezra-Elia[1], H. Honig[4], E. Yamin[2], A. Rosov[4], H. Dvir[4], E. Gootwine[4], D. Dalkara[3], R. Ofri[1].* [1]Koret School of Veterinary Medicine, Hebrew University of Jerusalem Israel; [2]Department of Ophthalmology, Hadassah-Hebrew University Medical Center; [3]Institute de la Vision; [4]ARO, The Volcani Center, Rishon LeZion **CR*

2898 — *A0085* **First in human clinical trial of robot-assisted subretinal drug delivery under local anaesthesia.** *Jasmina Cehajic Kapetanovic[3, 1], K. Xue[3, 1], T. Edwards[3, 1], T. C. Meenink[2], M. J. Beelen[2], G. J. Naus[2], M. D. de Smet[2], R. E. MacLaren[3, 1].* [1]Oxford Eye Hospital, Oxford University Hospitals NHS Foundation Trust; [2]Preceyes BV; [3]Nuffield Laboratory of Ophthalmology, University of Oxford **CR*, ↗

2899 — *A0086* **Gene Transfer to Human Corneal Limbal Stem Cells with Viral Vectors.** *Liujiang Song[1, 2], N. Fry[3], L. Conatser[1, 2], T. Llanga[1, 2], B. C. Gilger[4], H. Mei[1], T. Kafri[3], M. Hirsch[1, 2].* [1]Opthalmology, University of North Carolina; [2]Gene Therapy Center, University of North Carolina; [3]Microbiology & Immunology, University of North Carolina; [4]Department of Clinical Sciences, North Carolina State University **CR*

2900 — *A0087* **Novel AAV Capsids Demonstrate Strong Retinal Expression in Non-Human Primates After Intravitreal Administration.** *Brian Kevany[1], S. Suh[2], J. Lu[2], L. Padegimas[1], K. Palczewski[2], T. Miller[1].* [1]Product Development, Abeona Therapeutics, LLC; [2]Ophthalmology, University of California - Irvine **CR*

2901 — *A0088* **A modular linked-AAV building block system for gene and protein delivery.** *Bilge E. Ozturk[1], T. P. Day[2], S. Turunc[1], S. Jabalameli[1], J. G. Flannery[2], J. A. Sahel[1], L. Byrne[1, 3].* [1]Ophthalmology, University of Pittsburgh; [2]Helen Wills Neuroscience Institute, University of California, Berkeley; [3]Neurobiology, University of Pittsburgh **CR*

2902 — *A0089* **A fluorescence-based assay for improvement of dual hybrid AAV vectors in the retina.** *Elvir Becirovic[1, 2], L. M. Riedmayr[1, 2], M. Biel[1, 2].* [1]Center for Integrated Protein Science Munich CiPSM; [2]Department of Pharmacy – Center for Drug Research, Ludwig-Maximilians-Universitaet Muenchen

2903 — *A0090* **Switchable gene therapy for controlled intervention in neovascular blindness.** *Jinying Chen[1, 2], L. Tu[1], J. Wang[3, 4], F. Li[2, 5], B. V. Bui[6], A. W. Hewitt[2, 4], J. Zhong[1], G. Liu[2, 3].* [1]Department of Ophthalmology, the First Affiliated Hospital of Jinan University; [2]Menzies Institute for Medical Research, University of Tasmania; [3]Ophthalmology, Department of Surgery, University of Melbourne; [4]Centre for Eye Research Australia; [5]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Centre, Sun Yat-sen University; [6]Department of Optometry and Vision Sciences, University of Melbourne

2904 — *A0091* **Suprachoroidal injection of AAV8 for ocular gene delivery in the nonhuman primate.** *Glenn Yiu[3], S. H. Chung[3], I. N. Mollhoff[3], U. T. Nguyen[3], S. M. Thomasy[2], S. Kim[2], J. Yoo[1], D. Taraborelli[1], G. Noronha[1].* [1]Clearside Biomedical; [2]Surgical & Radiological Sciences, UC Davis; [3]Ophthalmology & Vision Science, UC Davis **CR*

2905 — *A0092* **Rhodopsin genomic loci DNA nanoparticles transfer led physiological transgene expressions in retinitis pigmentosa.** *Zongchao Han[1, 2], M. Zheng[1], R. N. Mitra[1].* [1]Ophthalmology, University of North Carolina at Chapel Hill; [2]Division of Pharmacoengineering & Molecular Pharmaceutics, UNC Eshelman School of Pharmacy

2906 — *A0093* **Rescue of human LHON Cybrids and LHON Mice with A Single Mito-targeted AAV Carrying Multiple Mitochondrial Genes.** *Hong Yu, J. Guy.* Ophthalmology, Bascom Palmer Eye Inst, Univ of Miami

2907 — *A0094* **AAV-mediated Targeting of Müller Glia in Healthy and Diseased Retina.** *Cecile Fortuny[2, 1], C. Baker[3], J. G. Flannery[1, 2].* [1]HWNI, University of California; [2]Vision Science Graduate Group, University of California, Berkeley; [3]Molecular & Cell Biology, University of California, Berkeley

2908 — *A0095* **Optical gene delivery, stimulation and imaging of the visual system.** *Samarendra Mohanty, S. Batabyal, S. Mustafi, X. Li, D. Narcisse, M. Galicia, B. Jozi, W. Wright.* Nanoscope Technologies, LLC **CR*

2909 — *A0096* **Suprachoroidally delivered non-viral DNA nanoparticles transfect chorioretinal cells in non-human primates and rabbits.** *Viral Kansara[1], J. Yoo[1], M. J. Cooper[2], O. S. Laird[2], D. Taraborelli[1], R. Moen[2], G. Noronha[1].* [1]Clearside Biomedical, Inc; [2]Copernicus Therapeutics, Inc **CR*

2910 — *A0097* **Immunological response and durability of expression following sequential intravitreal administration of AAV2.7m8 gene therapy to the contralateral eye in non-human primates.** *Diana Cepeda, E. Yeh, J. Nieves, C. Ceballos Diaz, A. Rosario, J. Greengard, C. Gelfman, M. Gasmi.* Adverum Biotechnologies **CR*

2911 — *A0098* **Effect of Neutralizing Anti-AAV Antibodies on Vector Transduction Following Intravitreal Administration of AAV in Non-Human Primates.** *Heikki Turunen, A. M. Timmers, J. Newmark, S. Pennock, m. s. shearman.* Applied Genetic Technologies Co. **CR*

2912 — *A0099* **Controlling Inflammation and the Immune Response after Intravitreal Injection with Post-Processing of AAV Vectors and Modulation of Capsid and Viral Genome Titers.** *Adrian M. Timmers, J. Newmark, H. Turunen, T. Farivar, C. Song, G. Ye, S. Pennock, D. Knop, K. Beasley, m. s. shearman.* In vivo pharmacology and toxicology, AGTC **CR*

2913 — *A0100* **Repeated plasmid electrotransfection into the ciliary muscle allows for fine-tuning of intraocular protein levels.** *Thierry Bordet[1], K. Bigot[1], E. Touchard[1], R. Benard[1], J. Laffitte[1], R. BUGGAGE[1], F. F. Behar-Cohen[2, 3].* [1]Eyevensys; [2]Paris Descartes University, Centre de Recherche des Cordeliers, Inserm UMR_S 1138; [3]Sorbonne University, University of Pierre et Marie Curie **CR*

2914 — *A0101* **AAVHSCs target multiple cell types in the eye and have potential to treat rare retinal diseases.** *Sumeet Sarin[1], N. Avila[2], L. Smith[2], H. Rubin[2], P. Morales[2], J. L. Ellsworth[2], J. Gingras[1], O. Francone[2], A. Seymour[2].* [1]Ophthalmology, Homology Medicines; [2]Homology Medicines

2915 — *A0102* **Efficient Non-viral Gene Therapy for Stargardt's Disease with pH-Sensitive Multifunctional Lipid ECO Plasmid DNA Nanoparticles.** *Da Sun, R. Schur, A. Sears, S. Gao, R. Xin, A. Maeda, K. Palczewski, Z. Lu.* Case Western Reserve University

2916 — *A0103* **Lipid Nanoparticle Based Messenger RNA Delivery to the Retina.** *Renee C. Ryals[1, 2], S. Patel[2], K. Weller[1], M. E. Pennesi[1], G. Sahay[2].* [1]Ophthalmology, Casey Eye Institute OHSU; [2]Pharmacy, Oregon State University

2917 — *A0104* **PDMAEMA non-viral vectors efficiently express PDE6β in the rd10 mouse model of Retinitis Pigmentosa.** *Diogo B. Bitoque[2], A. M. Rosa da Costa[1, 3], G. A. Silva[2].* [1]Algarve Chemistry Research Centre (CIQA), University of Algarve; [2]CEDOC/Nova Medical School-Universidade Nova de Lisboa; [3]Department of Chemistry and Pharmacy, University of Algarve

2918 — *A0105* **Corneal fluorescein distribution following intrastromal injection using a purpose-designed precise corneal injection (PCI) needle.** *Allison Blanchard[1], M. Cullen[1], E. Crabtree[1], J. H. Salmon[1], L. Song[3, 2], M. Hirsch[3, 2], B. C. Gilger[1, 4].* [1]Clinical Science, North Carolina State University; [2]Gene Therapy Center, University of North Carolina; [3]Department of Ophthalmology, University of North Carolina; [4]Theia Medical, Inc. **CR*

2919 — *A0106* **Vector shedding and immunology measures in a choroideremia gene therapy trial.** *Alun R. Barnard[1, 2], A. Rudenko[2, 1], M. I. Patracio[1, 2], L. C. Chandler[1, 2], K. Xue[1, 2], R. E. MacLaren[1, 2].* [1]Nuffield Lab of Ophthalmology, University of Oxford; [2]Oxford Eye Hospital, Oxford University Hospitals NHS Foundation Trust and NIHR Biomedical Research Centre **CR*, ↗

2920 — *A0107* **Development of a glial cell specific and hypoxia responsive gene therapy vector for use in models of retinal neovascularization.** *James Sullivan, J. C. Blanks, H. M. Prentice.* Complex Systems, Florida Atlantic University

2921 — *A0108* **Effects of Subretinal AAV8 Gene Therapy on Microperimetry in CNGA3 Achromatopsia Patients.** *G. Alex Ochakovski[1], A. Zhour[1], L. Kuehlewein[1], S. Kohl[2], A. Rindtorff[3], K. Bartz-Schmidt[1], M. Ueffing[2], E. Zrenner[1, 2], S. Michalakis[4], M. Biel[4], B. Wissinger[2], T. Peters[3], B. Wilhelm[3], M. Fischer[1, 2].* [1]Centre for Ophthalmology, University Eye Hospital, University Hospital Tuebingen; [2]Institute for Ophthalmic Research, Centre for Ophthalmology, University Hospital Tuebingen; [3]STZ eyetrial at the Centre for Ophthalmology, University Hospital Tuebingen; [4]Center for Integrated Protein Science Munich CiPSM at the Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-University of Munich **CR*, ↗

2922 — *A0109* **Biodistribution and tolerability of rAAV vectors in the anterior chamber for the treatment of primary open angle glaucoma.** *Kristina Ertel[1], D. M. Lipinski[2, 3].* [1]Cell Biology Neurobiology and Anatomy, Medical College of Wisconsin; [2]Ophthalmology and Visual Science, Medical College of Wisconsin; [3]Nuffield Laboratory of Ophthalmology, University of Oxford **CR*

2923 — *A0110* **Suprachoroidal AAV8-Vectored Gene Transfer Provides Widespread Transgene Expression in RPE and Retina.** *Kun Ding[1], J. Shen[1], Z. Hafiz[1], S. Hackett[1], R. Formica[1], V. E. Lorenc[1], R. Chadha[1], M. Zhang[1], S. V. Everen[2], N. Buss[2], M. Fiscella[2], O. Danos[2], P. A. Campochiaro[1].* [1]Wilmer Eye Institute; [2]Regenxbio **CR*

2924 — *A0111* **Subretinal and Intravitreal Delivery of the Photoreceptor-Specific AAV2-7m8-hGRK1-GFP Viral Vector in Mice.** *Chen Matsevich[1], D. Dalkara[2], A. Obolensky[1], M. Desrosiers[2], A. Ejzenberg[1], D. Sharon[1], E. Banin[1], A. Beryozkin[1].* [1]Center for Retinal and Macular Degeneration, Hadassah-Hebrew University Medical Center; [2]Institut de la Vision

2925 — *A0112* **Long term safety and efficacy of gene editing by CRISPR/Cas9 in autosomal dominant mutation model for RP.** *Shaomei Wang[1, 2], B. Bakondi[1], B. Lu[1], A. Mercado[1], Y. zhou[1], S. Girman[1].* [1]Board of Governors Regenerative Medicine Institute, Cedars-Sinai Medical Center; [2]Medicine, David Geffen School of Medicine **CR*

2926 — *A0113* **Transduction profiles of rAAV capsid mutants for retina following intravitreal injection.** *Wensheng Li.* Shanghai Aier Eye Hospital, Aier School of Ophthalmology, Central South University

West Exhibition Hall A0210-A0236

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Genetics Group

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Moderators: Chen Zhao and Bo Lei

2927 — *A0210* **A novel homozygous in-frame deletion of *GNAT1* gene cause golden discolouration of the fundus and reduced dark-adapted ERG similar to characteristics of Oguchi disease in a Japanese family.** *Shuhei Kameya[5], D. Kubota[3], K. Gocho[3], S. Kikuchi[5], K. Yamaki[5], T. Igarashi[1], H. Takahashi[1], N. Ishida[4], K. Yoshitake[2], T. Iwata[2], A. Mizota[3].* [1]Ophthalmology, Nippon Medical School; [2]Division of Molecular and Cellular Biology, National Institute of Sensory Organs; [3]Ophthalmology, Teikyo University; [4]Ishida Eye Clinic; [5]Ophthaolmology, Nippon Medical School Chiba Hokusoh Hospital **CR*

2928 — *A0211* **Identification of the Genotypes of Inherited Retinal Disease with Night Blindness in West Virginia.** *Monique J. Leys, B. Froebel, R. Coakley, A. Jones, J. Odom.* Ophthalmology, WVU Eye Institute **CR*

2929 — *A0212* **Screening of patients for inherited retinal disease associated gene mutations in a university and university-affiliated retina-only private practice.** *Rebecca Sarran, M. W. MacCumber.* Ophthalmology, Rush University Medical Center **CR*

2930 — *A0213* **Novel compound heterozygote mutations in CYP2U1 can cause maculopathy with or without neurological signs of hereditary spastic paraplegia HSP56.** *Veronika Vaclavik[1], E. Ranza[2], F. Munier[1], F. Holzer[3], M. Guipponi[2], S. Antonarakis[2], D. F. Schorderet[1].* [1]Jules Gonin Eye Hospital, oculogenetic unit, University of Lausanne; [2]Service de Genetique HUG; [3]HUG, Service Neurology

2931 — *A0214* **Long-term follow-up of phenotype in a Chinese case with *KCNV2*-retinopathy: Report of novel disease-causing variants.** *XIAO LIU[2, 3], H. Lie[3], G. Wang[3], X. Meng[3], Y. Long[3], J. Ren[3], Q. Tao[3, 1], L. Yang[2, 1], Y. Y. Fujinami[1, 4], T. Kurihara[2], K. Tsubota[2], K. Fujinami[1, 5], S. Li[3], Z. Yin[3].* [1]Laboratory of Visual Physiology/Ophthalmic Genetics, National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center; [2]Department of Ophthalmology, Keio University School of Medicine; [3]Department of Ophthalmology, Southwest Hosipital; [4]Sport and Health Science Graduate School of Health Management, Keio University; [5]Department of Genetics, Department of Genetics **CR*

2932 — *A0215* **Structural *PPT1* variant implicated in non–syndromic retinal degeneration in dogs.** *Leonardo Murgiano[1], D. Becker[1], D. Torjman[1], J. K. Niggel[1], V. Jagannathan[4], S. Pearce-Kelling[2], M. L. Katz[3], G. D. Aguirre[1].* [1]Department of Clinical Sciences & Advanced Medicine, University of Pennsylvania; [2]Cornell Technology Park, OptiGen, a division of Wisdom Health; [3]Mason Eye Institute, University of Missouri School of Medicine; [4]Institute of Genetics, University of Bern

2933 — *A0216* **Genotype-Phenotype Analysis of Three Novel NR2E3 Mutations.** *saoud A. Al-khuzaei[1], S. Halford[2], P. Clouston[2], R. E. MacLaren[1, 2], S. M. Downes[1, 2].* [1]Oxford Eye Hospital, John Radcliffe Hospital, Oxford University Hospitals NHS Foundation Trust; [2]Nuffield Laboratory of Ophthalmology, Nuffield Department of Clinical Neuroscience, University of Oxford

2934 — *A0217* **Mutations in *RHO* and pre-mRNA Splicing-factor Genes Are Major Causes of Autosomal Dominant Retinitis Pigmentosa in Chinese Families.** *Yang Li.* Beijing Inst of Ophthalmology, Beijing Tongren Hospital

2935 — *A0218* **Case-control collapsing analysis identifies genes mimicking Stargardt/ABCA4 disease.** *Chu Jian Ma[1], C. Wolock[3], N. Stong[3], T. Nagasaki[1], W. Lee[1], D. Goldstein[3], R. Allikmets[1, 2].* [1]Dept. of Ophthalmology/Harkness Eye Institute, Columbia University Medical Center; [2]Dept of Pathology and Cell Biology, Columbia University; [3]Institute for Genomic Medicine, Columbia University Medical Center

2936 — *A0219* **Identification of Novel Genetic Variants of Retinal Disease in Brazilian Population.** *Luiz G. Mello[1], J. Polido[1, 2], J. R. Carvalho-Jr[2, 3], F. P. Saraiva[1], V. B. Mahajan[4, 5], T. Cabral[1, 2].* [1]Department of Specialized Medicine - CCS and Ebserh - Cassiano Antonio Moraes University Hospital (HUCAM), Federal University of Espírito Santo; [2]Department of Ophthalmology, Federal University of São Paulo; [3]Department of Ophthalmology, Columbia University; [4]Department of Ophthalmology and Omics Laboratory, Stanford University; [5]Veterans Affairs Palo Alto Health Care System

2937 — *A0220* **Clinical and mutation analysis of patients with Best vitelliform macular dystrophy or autosomal recessive bestrophinopathy in Chinese population.** *Luzhen Huang.* Ophthalmology, People's Hospital of Peking University

2938 — *A0221* ***EPAS1* gain-of-function mutation causes ocular manifestations in HIF-2α paraganglioma-somatostatinoma-polycythemia syndrome.** *Pauline Dmitriev[1], H. Wang[1], K. Pacak[2], E. Y. Chew[3], Z. Zhuang[1].* [1]Neuro-Oncology Branch, National Cancer Institute, NIH; [2]Section on Medical Neuroendocrinology, Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH; [3]Division of Epidemiology and Clinical Applications, National Eye Institute, NIH

2939 — *A0222* ***RPGR* ORF15 sequencing improves diagnostic yield in patients with inherited retinal dystrophies.** *Sari Tuupanen[1], J. Sistonen[1], K. Kämpjärvi[1], P. Siivonen[1], M. Mehine[1], J. Känsäkoski[1], K. Wells[1], J. Schleit[3], M. Valori[1], P. Salmenperä[1], E. Sankila[2], E. Salminen[1], T. Alastalo[3], J. Koskenvuo[1], S. Myllykangas[1].* [1]Blueprint Genetics; [2]Helsinki University Eye Hospital; [3]Blueprint Genetics **CR*

2940 — *A0223* **Whole Exome Sequencing of Unknown Retinal Disease Cases: The Alberta Perspective.** *Lance P. Doucette, S. Hoang, a. radziwon, I. M. MacDonald.* Ophthalmology & Visual Sciences, University of Alberta

Tuesday Posters
8:45 am – 10:30 am

2941 — *A0224* **Next generation sequencing using molecular inversion probes in hereditary retinal disorders genes in Polish patients: an update.** *Anna M. Tracewska-Siemiatkowska[1], J. Murawska[2], B. Kocyla-Karczmarewicz[3], M. Szalinski[4], A. Rafalska[4], M. Rydzanicz[5], P. Stawinski[5], E. Ciara[3], M. Khan[6, 7], A. Henkes[6], A. Hoischen[6, 8], C. Gilisen[6, 7], M. van der Vorst[6, 7], F. P. Cremers[6, 7], R. Ploski[5], K. Chrzanowska[3].* [1]DNA Analysis Laboratory, PORT Polish Center for Technology Development; [2]Department of Ophthalmology, University Clinical Centre; [3]Children's Memorial Health Institute; [4]Department of Ophthalmology, Wroclaw Medical University; [5]Department of Medical Genetics, Medical University of Warsaw; [6]Department of Human Genetics, Radboud University Medical Center; [7]Donders Institute for Brain, Cognition and Behavior, Radboud University Medical Center; [8]Department of Internal Medicine and Radboud Center for Infectious Diseases, Radboud University Medical Center

2942 — *A0225* **Inherited Retinal Disease due to *PRPH2* gene pathogenic variants.** *Mariana M. da Palma, F. L. Motta, M. V. Salles, J. M. Sallum.* Ophthalmology and Visual Sciences, Universidade Federal de Sao Paulo

2943 — *A0226* **Multiple copies of rhodopsin as a novel cause of autosomal dominant retinitis pigmentosa.** *Jacque L. Duncan[1], K. Trzupek[2], J. Fisher[3], L. Kenney[3], S. Tuupanen[4], M. Mehine[4], S. P. Daiger[5, 6], B. Mansfield[3].* [1]Ophthalmology, Univ of California - SF; [2]InformedDNA; [3]Foundation Fighting Blindness; [4]Blueprint Genetics Oy, Biomedicum; [5]School of Public Health, University of Texas Health Science Center; [6]Ruiz Department of Ophthalmology and Visual Science, University of Texas Health Science Center **CR*

2944 — *A0227* **Characterization of copy number variants (CNVs) identified by genetic testing of inherited retinal disorders.** *Lucia Guidugli[1], M. Mehine[1], S. Tuupanen[1], K. Kämpjärvi[1], K. Wells[1], J. Känsäkoski[1], M. Valori[1], I. Saarinen[1], M. Muona[1], E. K. Sankila[2], S. Myllykangas[1], J. Koskenvuo[1], T. Alastalo[1].* [1]Blueprint Genetics; [2]Helsinki University Eye Hospital **CR*

2945 — *A0228* **Genetic Diagnosis and detection of novel variants in *ABCA4*-related Stargradt disease in East Asia.** *Ta-Ching Chen[1, 3], P. Chen[2], C. Lin[1], D. Huang[1], H. Hsu[1], C. Yang[1], C. Yang[1], F. Hu[1].* [1]Department of Ophthalmology, National Taiwan University Hospital; [2]Graduate Institute of Mecial Genomics and Proteomics, National Taiwan University College of Medicine; [3]Department of Ophthalmology, National Taiwan University Hospital Yunlin Branch

2946 — *A0229* **Genetic Diagnosis and detection rate for patients of inherited retinal degenerations in East Asia.** *Ding-Siang Huang[1], T. Chen[1, 2], P. Chen[3], C. Lin[1], H. Hsu[1], C. Yang[1], C. Yang[1], F. Hu[1].* [1]Department of Ophthalmology, National Taiwan University Hospital; [2]Department of Ophthalmology, National Taiwan University Hospital Yunlin Branch; [3]Graduate Institute of Medical Genomics and Proteomics, National Taiwan University College of Medicine

2947 — *A0230* **Novel mutation in *CTNNB1* causing familial exudative vitreoretinopathy and microcephaly.** *Razek Georges Coussa[1], Y. Zhao[1], M. J. DeBenedictis[1], A. Babiuch[1], J. E. Sears[1, 2], E. I. Traboulsi[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Cellular and Molecular Medicine, Cleveland Clinic **CR*

2948 — *A0231* **Prevalence and phenotypes/genotypes of *CRB1* retinal dystrophies.** *Beatrice BOCQUET[2, 1], C. Dhaenens[3, 4], I. Perrault[5], J. Rozet[5], J. Kaplan[5], A. Roux[6], D. Hamroun[2], G. Gardes[2], G. Manes[1, 2], E. De Baere[7], B. P. Leroy[7], V. Kalatzis[1], I. A. Meunier[2, 1].* [1]University of Montpellier, INSERM U1051 - INM; [2]Montpellier Hospital, National Centre for rare diseases; [3]Biochemistry and Molecular Biology Department - UF Génopathies, University Lille - CHU Lille; [4]INSERM UMR-S 1172; [5]IMAGINE - Paris Descartes University, Laboratory of Genetics in Ophthalmology (LGO - INSERM UMR1163 - Institute of Genetic Diseases; [6]Montpellier Hospital - University of Montpellier, Laboratory of Molecular Genetics; [7]Center for Medical Genetics Ghent - Ghent University Hospital

2949 — *A0232* **Danon disease presenting with early onset of hypertrophic cardiomyopathy and peripheral pigmentary retinal dystrophy in a female with a de novo novel mosaic mutation in the *LAMP2* gene.** *Elisabeth Wittström[1], M. Meinert[1], E. Englund[1], C. Hedberg Oldfors[2], A. Oldfors[2], C. Lundin[1].* [1]Department of Ophthalmology, Lund University; [2]Department of Pathology, University of Gothenburg

2950 — *A0233* **Prediction of Causative Genes in Inherited Retinal Disorders From Spectral-domain Optical Coherent Tomography Utilizing Deep Learning Techniques.** *Yu Y. Fujinami[1, 2], N. PONTIKOS[5, 1], L. Yang[1, 4], K. Yoshitake[6], K. Tsunoda[1], G. Arno[3, 1], T. Iwata[6], H. Miyata[2, 7], K. Fujinami[1, 3].* [1]Laboratory of Visual Physiology, Division of Vision Research, National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center; [2]Graduate School of Health Management, Keio University; [3]UCL Institute of Ophthalmology; [4]Department of Ophthalmology, Keio University of Medicine; [5]Moorfields Eye Hospital; [6]Division of Molecular and Cellular Biology, National Institute of Sensory Organs, National Tokyo Medical Center; [7]Department of Health Policy and Management, School of Medicine, Keio University **CR*

2951 — *A0234* **Functional Characteristics of East Asian Patients with Occult Macular Dystrophy (Miyake's disease); EAOMD Report No. 2.** *Lizhu Yang[1, 2], K. Joo[3], K. Tsunoda[1], M. Kondo[4], Y. Y. Fujinami[1, 5], A. G. Robson[6, 7], T. Kurihara[2], K. Tsubota[2], S. Kameya[8], T. Iwata[9], X. Zou[10], K. Park[3], Y. Miyake[11], S. Woo[3], R. Sui[10], K. Fujinami[1, 7].* [1]Division of Vision Research, National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center; [2]Department of Ophthalmology, Keio University School of Medicine; [3]Department of Ophthalmology, Seoul National University Bundang Hospital; [4]Department of Ophthalmology, Mie University Graduate School of Medicine; [5]Graduate School of Health Management, Keio University; [6]Electrophysiology, Moorfields Eye Hospital; [7]UCL Institute of Ophthalmology; [8]Department of Ophthalmology, Nippon Medical School Chiba Hokusoh Hospital; [9]Division of Molecular and Cellular Biology, National Institute of Sensory Organs, National Hospital Organization Tokyo Medical Center; [10]Department of Ophthalmology, Peking Union Medical College Hospital, Peking Union Medical College and Chinese Academy of Medical Sciences; [11]Aichi Medical University **CR*

2952 — *A0235* **Alternate day vs daily topical brinzolamide in the treatment of cystic maculopathy in inherited rod cone retinal degenerations.** *Andrea L. Vincent[1, 2], G. Kiray[1, 2].* [1]Ophthalmology, New Zealand National Eye Centre, FMHS, University of Auckland; [2]Eye Department, Greenlane Clinical Centre, Auckland District Health Board

2953 — *A0236* **Patient Involvement in Development of Customised Care Plans for Genetically-confirmed Inherited Retinal Degeneration.** *Aoife Mary Long[1, 2], K. Stephenson[2], J. Zhu[2], A. Dockery[3], G. Silvestri[4, 5], P. F. Kenna[3, 4], L. Brady[6], J. O'Byrne[7], J. Turner[8], G. Farrar[3], D. J. Keegan[2].* [1]Royal College of Surgeons Ireland; [2]Mater Misericordiae University Hospital; [3]School of Genetics & Microbiology, Trinity College Dublin; [4]The Research Foundation, Royal Victoria Eye and Ear Hospital; [5]Department of Ophthalmology, The Royal Victoria Hospital; [6]Fighting Blindness Foundation; [7]National Centre for Inherited Metabolic Disorders, Mater Misericordiae University Hospital; [8]Rare Disease Office, Mater Misericordiae University Hospital

West Exhibition Hall A0237-A0254

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Genetics Group

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Moderator: William K. Scott

2954 — *A0237* **Association between mitochondrial haplogroups and ranibizumab response in neovascular age-related macular degeneration.** *Francisco Ascaso[1, 2], O. Esteban[1, 2], J. Montoya[3, 2], P. Montes[1], J. Mateo[1, 2], J. Lara[1], E. Ruiz-Pesini[3, 2].* [1]Department of Ophthalmology, Hospital Clínico Universitario "Lozano Blesa", Zaragoza, Spain; [2]Instituto Aragonés de Ciencias de la Salud; [3]Departamento de Bioquímica, Biología Molecular y Celular; Universidad de Zaragoza.

2955 — *A0238* **Development of a Genotyping Assay for Age-Related Macular Degeneration: The EYE-RISK Consortium.** *Anita de Breuk[9], I. Acar[9], M. Meester[1, 2], M. M. Schijvenaars[3], E. Kersten[9], J. Mones[4], D. Pauleikhoff[5], R. Silva[6], S. Fauser[10], C. C. Hoyng[9], C. DelCourt[7], C. C. Klaver[1, 8], M. J. Coenen[3], A. I. Den Hollander[9].* [1]Department of Ophthalmology, Erasmus Medical Center; [2]Department of Epidemiology, Erasmus Medical Center; [3]Department of Human Genetics, Radboud University Medical Center, Radboud Institute for Health Sciences; [4]Institut de la Mâcula; [5]Ophthalmology Department, St. Franziskus Hospital; [6]Department of Ophthalmology, Centro Hospitalar e Universitário de Coimbra (CHUC); [7]Inserm UMR1219-Bordeaux Population Health Research Center, University of Bordeaux; [8]Department of Ophthalmology, Radboud University Medical Center; [9]Department of Ophthalmology, Donders Institute for Brain, Cognition, and Behaviour, Radboud University Medical Center; [10]Department of Ophthalmology, University Hospital of Cologne ***CR***

2956 — *A0239* ***Alterations in micro RNA-messenger RNA (miRNA-mRNA) complexity together contribute to amyloidogenesis, innate-immune deficits and retinal inflammation in age-related macular degeneration (AMD).*** *Walter J. Lukiw, Y. Zhao, V. Jaber, N. M. Sharfman, W. Li.* Neurology, Neuroscience & Ophthalmology, Lousiana State Univ Hlth Sci Ctr

2957 — *A0240* **Two novel FOXC2 disease-mutations identified in the Chinese lymphedema-distichiasis families cause change of protein function.** *LINGXI JIANG[1], Y. Shi[1, 2].* [1]University of Electronic Science and Technology; [2]Sichuan Provincial Key Laboratory for Human Disease Gene Study, Sichuan Academy of Medical Sciences & Sichuan Provincial People's Hospital

2958 — *A0241* **Evidence for novel risk loci for age-related macular degeneration on the X chromosome: the VA Million Veteran Program.** *Robert P. Igo[1, 2], C. W. Halladay[3], D. C. Crawford[1, 2], T. Hadi[4], P. B. Greenberg[5, 6], J. Sullivan[7, 8], S. J. Fliesler[7, 9], W. Wu[10, 11], P. E. Konicki[2, 12], N. S. Peachey[2, 13], S. K. Iyengar[1, 2].* [1]Population and Quantitative Health Sciences, Case Western Reserve University; [2]Louis Stokes Cleveland VA Medical Center; [3]Center for Innovation in Long Term Services and Supports, Providence VA Medical Center; [4]Ophthalmology and Visual Sciences, Case Western Reserve University, University Hospitals Eye Institute; [5]Section of Ophthalmology, Providence VA Medical Center; [6]Division of Ophthalmology, Alpert Medical School, Brown University; [7]Research Service, VA Western NY Healthcare System; [8]Ophthalmology, SUNY-University at Buffalo; [9]Ophthalmology, Biochemistry and Neuroscience Program, SUNY-University at Buffalo; [10]Section of Cardiology, Medical Service, Providence VA Medical Center; [11]Division of Cardiology, Alpert Medical School, Brown University; [12]Psychiatry, Case Western Reserve University; [13]Ophthalmology, Cleveland Clinic Lerner College of Medicine

2959 — *A0242* **Pathway analysis identifies *PLCG2* as a candidate gene for age-related macular degeneration.** *Andrea R. Waksmunski[1, 2], M. Grunin[3], T. Kinzy[3], R. P. Igo[3], J. L. Haines[2, 3], J. Cooke Bailey[2, 3].* [1]Genetics and Genome Sciences, Case Western Reserve University; [2]Cleveland Institute for Computational Biology, Case Western Reserve University; [3]Population and Quantitative Health Sciences, Case Western Reserve University

2960 — *A0243* **Clinical, molecular genetic, and functional analysis of a pedigree with a novel dominant optic atrophy mutation.** *John H. Fingert, C. van der Heide, J. A. Cooke, B. R. Roos, A. Jain, K. Rodine, R. F. Mullins, B. Tucker.* Ophthalmology and Visual Sciences, Carver College of Medicine, University of Iowa

2961 — *A0244* **X-Chromosome Inactivation is a Biomarker of Clinical Severity in Female Carriers of X-linked Retinitis Pigmentosa.** *Abigail T. Fahim[1], L. S. Sullivan[2], S. J. Bowne[2], K. Webb-Jones[3], D. K. Wheaton[3], K. E. Branham[1], M. Othman[1], A. J. Karoukis[1], C. Andrews[1], J. R. Heckenlively[1], D. G. Birch[3], S. P. Daiger[2].* [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Genetics, University of Texas Health Science Center; [3]Retina Foundation of the Southwest

2962 — *A0245* **Panel-based next generation sequencing reveals extensive locus and allelic heterogeneity underlying inherited retinal degenerations in Mexican population.** *Juan C. Zenteno[1, 3], L. Garcia-Montaño[1], M. Cruz-Aguilar[1], R. Matsui-Serrano[2], J. Ronquillo[1], F. Graue-Wiechers[2], L. Castul[1], T. Urrea[2], U. De Dios-Cuadras[2], O. Chacon-Camacho[1].* [1]Genetics, Institute of Ophthalmology "Conde de Valenciana"; [2]Retina, Institute of Ophthalmology "Conde de Valenciana"; [3]Biochemistry, Faculty of Medicine UNAM

2963 — *A0246* **Genetic factors associated with response to aflibercept therapy for exudative age -related macular degeneration.** *Yoichi Sakurada, S. Yoneyama, W. Kikushima, A. Sugiyama, M. Matsubara, N. Tanabe, F. Mabuchi, H. Iijima.* Ophthalmology, University of Yamanashi

2964 — *A0247* **Homogeneity and heterogeneity of genetic backgrounds among four uveitis subtypes estimated from genome-wide SNPs.** *Guannan Su, P. Yang.* Chongqing Medical University

2965 — *A0248* **Meta-Analysis of the rs243865 MMP-2 Polymorphism and Age Related Macular Degeneration Risk.** *Francisco J. Valentín Bravo[1], R. Usategui-Martín[2], S. Pastor Idoate[1, 2], J. Pastor[1, 2].* [1]Ophthalmology, Hospital Clínico Universitario de Valladolid; [2]University of Valladolid, Instituto Universitario de Oftalmobiología Aplicada (IOBA)

2966 — *A0249* **Sharing of genetic association signals by age-related macular degeneration and Alzheimer's disease at multiple levels.** *Handan Tan, P. Yang.* Chongqing Key Laboratory of Ophthalmology and Chongqing Eye Institute, The First Affiliated Hospital of Chongqing Medical University

2967 — *A0250* **The Association of Previously-Reported Genetic Markers with Clinical Phenotypes of Polypoidal Choroidal Vasculopathy.** *Mingyue Luo[1], Y. Chen[1], J. Yang[1], X. Zhao[1], S. Xia[2].* [1]Ophthalmology, Peking Union Medical College Hospital; [2]Guizhou Provincial People's Hospital

2968 — *A0251* **Three loci associated with risk of advanced age-related macular degeneration (AMD) also influence anti-VEGF treatment response.** *William K. Scott[1], O. García Rodríguez[1], P. Whitehead-Gay[1], L. D. Adams[1], J. K. Welch[1], R. Laux[2], M. A. Brantley[3], J. L. Kovach[4], S. G. Schwartz[4], A. Agarwal[3, 5], J. L. Haines[2], M. A. Pericak-Vance[1].* [1]Hussman Institute for Human Genomics, University of Miami; [2]Population and Quantitative Health Sciences, Case Western Reserve University; [3]Ophthalmology and Visual Sciences, Vanderbilt University Medical Center; [4]Bascom Palmer Eye Institute, University of Miami; [5]West Coast Retina ***CR***

2969 — *A0252* **Increased expression of *IGFBP2* induces RPE and photoreceptor degeneration at senescence.** *Sandeep Kumar[1, 2], A. Fnu[2], M. Parker[2], G. G. Gum[1], V. Naageshwaran[1], Y. Fu[2].* [1]Ophthalmology, Absorption Systems; [2]Ophthalmology, Cullen Eye Institute

2970 — *A0253* **The phenotype of knock-out mouse of *tumor-associated calcium signal transducer2* as a model of gelatinous drop-like corneal dystrophy.** *Yukiko Nagahara, k. uesugi, P. Xu, S. Kawasaki, M. Tsujikawa, K. Nishida.* Department of Ophthalmology, Osaka University Graduate School of Medicine

2971 — *A0254* **RGR gene mutation may cause progressive choroidal degeneration under zones of affected retinal pigment epithelium.** *David Mansfield[1], U. Shahani[2].* [1]Ophthalmology, Inverclyde Royal Hospital; [2]Vision Sciences, Glasgow Caledonian University

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West Exhibition Hall A0255-A0281

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retina

328 AMD Translational Studies

Moderator: Bruce Ksander

2972 — *A0255* **Clinical and histopathologic ophthalmic findings in a population of rhesus macaques (Macaca mulatta) with a remote history of high dose gamma radiation exposure.** *William Carrera[2, 1], G. Dugan[3], R. Carrera[4], J. Cline[3], J. Weinstein[2], M. Greven[2].* [1]Ophthalmology, California Pacific Medical Center; [2]Ophthalmology, Wake Forest Baptist Medical Center; [3]Pathology, Section on Comparative Medicine, Wake Forest Baptist Medical Center; [4]Columbia University Vagelos College of Physicians and Surgeons

2973 — *A0256* **Early local activation of complement in aqueous humor of patients with age-related macular degeneration.** *Lebriz Altay[1], T. Schick[1], G. Widmer[2], G. Duchateau-Nguyen[2], P. Piraino[3], A. Jayagopal[2], F. Drawnel[2], S. Fauser[1, 2].* [1]University of Cologne, Department of Ophthalmology; [2]Roche Pharma Research and Early Development, Roche Innovation Center Basel; [3]P Value Research S.R.L. **CR*

2974 — *A0257* **Translational fidelity of photoreceptor specific AAV capsids and promoter elements.** *Catherine O'Riordan, M. Adamowicz, F. Amy, S. Nass, M. Mattingly, D. Woodcock, M. Lukason, J. Sullivan.* Rare and Neurologic Diseases TA, Sanofi **CR*

2975 — *A0258* **Withdrawal_Neural Differentiation of Human Retinal Pigment Epithelial Cells on Alginate/Gelatin Substrate.** *Zahra S. Soheili[1], H. Shams Najafabadi[1], S. Samiee[2], H. Ahmadieh[3], E. Ranaei Pirmardan[1], M. haghighi[4].* [1]Molecular Medicine, National Institute of Genetic Engineering and Biotechnology; [2]Blood Transfusion Research Center High Institute for Research and Education in Transfusion Medicine; [3]Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences,; [4]Gynecologist and obstetrician, Aban hospital, Tehran, Iran.

2976 — *A0259* **Monocyte-related biomarkers of intermediate age-related macular degeneration.** *Vivienne Fang[1], V. Oza[2], S. S. Stinnett[1], L. Vajzovic[1], C. A. Toth[1], S. W. Cousins[1], E. M. Lad[1].* [1]Duke University Medical Center; [2]Tulane University Medical School **CR*

2977 — *A0260* **Fibrosis in a laser induced CNV/AMD monkey model.** *Yujiao Wang[1, 2], H. Zhang[2], K. Xu[2], K. Mu[2], C. Zhang[2], Q. Cai[2].* [1]Department of ophthalmology, West China Hospital, Sichuan University; [2]Disease Model and Medicine Translation Department, National Chengdu Center for Safety Evaluation of Drugs

2978 — *A0261* **Intravitreal Connective Tissue Growth Factor Neutralizing Antibody Reduces Subretinal Fibrosis Associated with Experimental Choroidal Neovascular Membrane.** *Hamid Ahmadieh[1], N. Daftarian[2], S. Rohani[1], M. Rezaei Kanavi[2], F. Suri[1], M. Mirrahimi[1], A. Hafezi-Moghadam[3], Z. Soheili[4].* [1]Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences; [2]Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences; [3]Molecular Biomarkers Nano-Imaging Laboratory, Department of Radiology, Harvard Medical School; [4]National Institute of Genetic Engineering and Biotechnology

2979 — *A0262* **Lacking SIPr3 attenuate the growth of Argon laser-induced choroidal neovascularization.** *HIroki Iwanishi, S. Yasuda, T. Sumioka, Y. Okada, M. Miyajima, K. Ichikawa, S. Saika.* Opthalmology, Wakayama Medecal University

2980 — *A0263* **The three dimensional (3D) ultrastructure of VEGF driven choroidal neovascularisation in the rat.** *Antje Biesemeier[1, 2], S. Liu[1], A. Tschulakow[1, 3], B. Illing[1], H. Thakkar[1, 3], Y. Fang[1], B. Schroeppel[2], C. Burkhardt[2], U. Schraermeyer[1, 3].* [1]Center for Ophthalmology, Division for experimental vitreoretinal surgery; [2]Natural and Medical Institute at the University of Tuebingen, Applied Material Science and Electron Microscopy; [3]STZ OcuTox Preclinical Drug Assesment

2981 — *A0264* **Gene therapy targeting PDGF-B for neovascular AMD.** *Xiaohui Zhang, H. Uehara, L. Carroll, B. Archer, B. K. Ambati.* Ophthalmology, John A Moran Eye Ctr, Univ of Utah

2982 — *A0265* **Interleukin-18 accelerates wound healing and induces changes in cellular organization in choroidal neovascularization.** *Ema Ozaki, E. Connolly, K. Brennan, M. Campbell, S. Doyle.* Trinity College Dublin

2983 — *A0266* **The Association of Reticular Pseudodrusen in Age-related Macular Degeneration in Human Eyebank Eyes.** *Fukutaro Mano[1], H. S. Robinson[2], N. Sprehe[3], T. W. Olsen[1, 2].* [1]Ophthalmology, Mayo Clinic; [2]Ophthalmology, Emory University; [3]The Lions Eye Institute for Transplant and Research

2984 — *A0267* **Meta-Analysis of the Ocular Half-Life (T½) of Fabs and IgGs in Humans and Other Species: Two Ways that Size Matters.** *Norman A. Mazer[1], D. Schwab[1], C. Diack[1], H. Kettenberger[2], K. F. Maass[3], S. Belli[1], R. Alvarez Sanchez[1], M. Fueth[1], A. Caruso[1].* [1]Pharmaceutical Sciences, Roche Innovation Center Basel; [2]Therapeutic Modalities, Roche Innovation Center Munich; [3]Clinical Pharmacology, Genentech **CR*

2985 — *A0268* **Characterization of the Controlled and Extended Release of Dexamethasone-Loaded Nanoparticles and Aflibercept-Loaded Microspheres from a Hydrogel Drug Delivery System.** *Kayla Cascarilla[1], W. Liu[1], A. Puskar[1], S. Hussain[1], W. F. Mieler[2], J. J. Kang-Mieler[1].* [1]Department of Biomedical Engineering, Illinois Institute of Technology; [2]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago **CR*

2986 — *A0269* **Sample preparation effects on retina lipid analysis by MALDI imaging and LC-MS technologies.** *Ankita Kotnala[1], D. M. Anderson[1], N. H. Patterson[1], J. D. Messinger[2], C. Curcio[2], K. L. Schey[1].* [1]Department of Biochemistry, Vanderbilt University; [2]Department of Ophthalmology, University of Alabama at Birmingham **CR*

2987 — *A0270* **Study of Stability and Bioactivity of Aflibercept During Fabrication and Release from a Microsphere-Hydrogel Drug Delivery System.** *Wenqiang Liu[1], K. Cascarilla[1], X. Li[1], A. Puskar[1], S. Hussain[1], S. Shah[1], B. Lee[2], W. F. Mieler[2], J. J. Kang-Mieler[1].* [1]Illinois Institute of Technology; [2]University of Illinois at Chicago **CR*

2988 — *A0271* **Human antibody targeting C-type lectin-like domain of CLEC14a as a potential therapy for neovascular age-related macular degeneration.** *Sung Wook Park[1, 2], U. Park[1, 2], I. Hong[1, 2], H. Lee[3], S. Lee[4], M. Kim[4], E. Lee[4], D. Kweon[5], H. Yu[1, 2].* [1]Ophthalmology, Seoul National University Hospital; [2]Retinal Degeneration Research Laboratory, Seoul National University Hospital Biomedical Research Institute; [3]Nuclear Medicine, Seoul National University Bundang Hospital; [4]Scripps Korea Antibody Institute; [5]Woori Technology Inc., **CR*

Tuesday Posters
8:45 am – 10:30 am

2989 — *A0272* **A negative immune regulator SOCS3 controls laser-induced choroidal neovascularization.** *Ye Sun, C. Liu, Y. Gong, B. Cakir, S. Cho, A. Poblete, W. Britton, J. D. Akula, J. Chen, L. E. Smith.* Ophthalmology, Boston Children's Hosp/Harvard Med Sch

2990 — *A0273* **High-throughput Screening Identifies Compounds that Protect RPE from Physiological Stressors Present in AMD.** *Mark A. Fields[1], H. Cai[1], J. Gong[1], l. abriola[2], D. Hoyer[2], L. V. Del Priore[1], S. Noggle[3], D. Paull[3].* [1]Ophthalmology and Visual Science, Yale School of Medicine; [2]Yale Center for Molecular Discovery; [3]New York Stem Cell Foundatioin

2991 — *A0274* **Intravitreal injection of bortezomib attenuates choroidal neovascularization by antagonizing VEGF and PDGF-mediated signaling.** *Shengzhou Wu, Y. Liu, M. Feng.* Sch of Optom & Ophthal, Wenzhou Medical College

2992 — *A0275* **Drusen-like Retinal Spots in NRF2-/- AMD Mouse Model correlate either to epi-RPE or sub BrM localization.** *Kristin Hösel, J. Tode, E. Richert, C. von der Burchard, A. Klettner, J. Roider.* Ophthalmology, UKSH Kiel

2993 — *A0276* **Cyto-/neuro-protective effects of brimonidine drug delivery system (DDS) in a nonhuman primate progressive retinal degeneration model of geographic atrophy (GA) secondary to age-related macular degeneration (AMD).** *Lakshmi Rajagopalan, C. Ghosn, M. Tamhane, A. Kulkarni, L. Christie, F. López, M. Engles.* Allergan PLC **CR*

2994 — *A0277* **An *ex vivo* mouse culture model to study choroidal vascularization in Sorsby fundus dystrophy.** *Heidi Stoehr, D. Schmied, D. Borgolte, C. Kiel.* Human Genetics, Regensburg University

2995 — *A0278* **Localized retinal detachment protects the neuroretina from laser burns aimed at producing subretinal choroidal neovascularizations in porcine eyes.** *Silja Hansen[1, 2], A. Askou[1], M. la Cour[3], T. Bek[2], T. Corydon[1, 2].* [1]Department of Biomedicine, Aarhus University; [2]Department of Ophthalmology, Aarhus University Hospital; [3]Department of Ophthalmology, Copenhagen University Hospital

2996 — *A0279* **The Differential Effects of Amyloid-Beta Species on Retinal Physiology in the Rat - Potential Implications for Retinal Disease and Age-Related Macular Degeneration.** *Shiri Zayit-Soudry[1, 2], E. Na'aman[1], S. Ya'ari[3], M. Mimouni[1, 2], S. Safuri[1, 2], L. Liba[1, 2], L. Adler-Abramovich[4], E. Gazit[3].* [1]Ophthalmology, Rambam Health Care Campus; [2]Technion-Israel Institute of Technology; [3]Molecular Microbiology and Biotechnology, Tel Aviv University; [4]Oral Biology, Tel Aviv University

2997 — *A0280* **Circadian rhythm mediated regulation of the inner blood retina barrier; Relevance for geographic atrophy development.** *Natalie Hudson[1], S. Liddie[2], E. Ozaki[1], S. Doyle[1], E. Demmons[2], A. Browne[2], M. S. Lawrence[2], M. Campbell[1].* [1]Trinity College Dublin; [2]RxGen **CR*

2998 — *A0281* **Folate decorated polymeric nanoparticles for enhanced lutein uptake for treatment of age-related macular degeneration.** *Jwala Renukuntla, P. Bolla, R. Kalhapure, A. Arnipalli, J. Franco, C. Meraz.* UTEP School of Pharmacy

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West Exhibition Hall A0342-A0393

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Multidisciplinary Ophthalmic Imaging Group

329 OCTA in AMD/DR/Glaucoma/ Ischemia

Moderators: Linda M. Zangwill and Qisheng You

2999 — *A0342* **3D Volumetric Analysis of Vascularized Serous Pigment Epithelial Detachment Progression in Neovascular AMD using OCT Angiography.** *David Sarraf[1], A. Au[1], K. K. Hou[1], J. Davila[1], F. Gunnemann[4], S. Fragiotta[2], R. Sacconi[6], M. Arya[7], D. Pauleikhoff[3], G. Querques[6], N. K. Waheed[7], K. Freund[5], S. R. Sadda[8].* [1]Ophthalmology, Stein Eye Institute UCLA; [2]Vitreous Retina Macula NY; [3]Ophthalmology, St Franziskus Hospital; [4]Ophthalmology, St Franziskus Hospital; [5]Vitreous Retina Macula Consultants NY; [6]Ophthalmology, IRCCS Ospedale San Raffaele, University Vita-Salute San Raffaele; [7]New England Eye Center, Tufts Medical Center; [8]Ophthalmology, Doheny Eye Institute **CR*

3000 — *A0343* **Automated Method for the Long-term Quantiative Analysis of Macular Neovascularization using Optical Coherence Tomography Angiography (OCTA).** *Alexandra Miere[1, 2], D. Colantuono[1], A. Ohayon[1], K. Taibouni[2], E. Petit[2], C. JUNG[3], E. H. Souied[1, 3].* [1]Ophthalmology, Centre Hospitalier intercommunal de Creteil; [2]Laboratory of Images, Signals and Intelligent Systems, University Paris-Est; [3]Clinical Research Center, GRC Macula, and Biological Ressources Center, Centre Hospitalier Intercommunal de Créteil

3001 — *A0344* **Manually modified versus automated layer segmentation of Spectral-domain OCT Angiography images for detection of CNV in eyes with various chorioretinal diseases.** *Anna M. Lentzsch, C. Spital, R. Siggel, S. Liakopoulos.* Department of Ophthalmology, University of Cologne **CR*

3002 — *A0345* **Quantitative comparison of three optical coherence tomography angiography devices in chorioretinal disease.** *Yifan Lu[1, 2], J. C. Wang[2, 1], R. Zeng[2], D. Vavvas[2], J. W. Miller[2], J. B. Miller[2].* [1]Harvard Medical School; [2]Massachusetts Eye and Ear Infirmary **CR*

3003 — *A0346* **Choriocapillaris perfusion measurement in dry age-related macular degeneration with optical coherence tomographic angiography after correcting multiple types of artifacts.** *Acner Camino, Q. You, J. Wang, Y. Guo, D. Huang, S. T. Bailey, Y. Jia.* OHSU **CR*

3004 — *A0347* **Confusion Matrix Evaluation of the Clinical Utility of OCT Angiography in AMD-associated Choroidal Neovascularization.** *Melina Cavichini Cordeiro, K. Dans, M. Jhingan, M. Amador, D. G. Bartsch, E. Nudleman, W. R. Freeman.* Shiley Eye Institute, UCSD

3005 — *A0348* **Optical coherence tomography angiography-guided photodynamic therapy for acute central serous chorioretinopathy.** *Jinfeng Qu.* People's Hospital of Peking Univ ↗

3006 — *A0349* **Comparison of Reproducibility of Foveal Avascular Zone Measurement using Optical Coherence Tomography Angiography and Fluorescein Angiography.** *Khalid Y. Al-Kirwi[1, 2], G. Uludağ[1], M. Hassan[1], M. S. Ormaechea[1, 4], Q. Zhou[6], M. Halim[1], A. N. Tran[1], R. Afridi[1], J. Bae[3], D. V. Do[1], M. A. Ibrahim[5], Q. D. Nguyen[1], Y. Sepah[1].* [1]Ophthalmology, Byers Eye Institute; [2]Ophthalmology, Imamein Khadhimein Medical City University Hospital; [3]Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine; [4]Ophthalmology, Hospital Universitario Austral; [5]Ocular Imaging Research and Reading Center; [6]Optovue Inc **CR*

3007 — *A0350* **Quantitative Optical Coherence Tomography Angiography of Dry vs Wet AMD and the Effects of Prolonged Anti-VEGF Therapy.** *Rami S. Gabriel, C. Shah, J. Toledo Corral, M. C. Mehta.* UC Irvine School of Medicine

3008 — *A0351* **Early OCT Angiography Changes One Week After Anti-VEGF Injection for Diabetic Macular Edema.** *Daniel Malach[1], C. Davis[2], J. Preble[2], X. Lin[1].* [1]Ophthalmology, Kresge Eye Institute/WSU; [2]Wayne State University School of Medicine

3009 — *A0352* **Quantitative OCTA Change Analysis after 6 month Anti-VEGF Treatments for Proliferative Diabetic Retinopathy in the Real World.** *Jesse J. Jung[1, 2], M. H. Chen[3, 4], Q. V. Hoang[5, 6].* [1]East Bay Retina Consultants, Inc.; [2]Ophthalmology, University of California, San Francisco; [3]Silicon Valley Eyecare; [4]Carl Zeiss Meditec Inc; [5]Ophthalmology, Edward S. Harkness Eye Institute, Columbia University College of Physicians and Surgeons; [6]Ophthalmology, Singapore Eye Research Institute, Sinagpore National Eye Centre, Duke-NUS Medical School **CR*

3010 — *A0353* **Optical coherence tomography angiography changes before and after panretinal photocoagulation in patients with treatment-naïve proliferative diabetic retinopathy.** *Anna S. Vergmann[1, 2], T. Y. Wong[4], R. Kawasaki[5, 2], T. Peto[2, 3], J. Grauslund[1, 2].* [1]Ophthalmology, Odense University Hospital, Denmark; [2]University of Southern Denmark; [3]School of Medicine, Dentistry and Biomedical Sciences, Queen's University, Belfast; [4]Singapore National Eye Centre; [5]Department of Vision Informatics, Osaka University Graduate School of Medicine ↗

3011 — *A0354* **Changes on the Optical Coherence Tomography Angiography (OCT-A) in newly diagnosed Type I diabetes patients. One year follow-up.** *Anna Sala-Puigdollers, M. Figueras-Roca, C. Alba-Linero, J. Zarranz-Ventura, V. Budi, M. Hernandez, A. Adan.* Ophthalmology, Hospital Clinic de Barcelona

3012 — *A0355* **Diagnostic Ability of Subnormal Capillary Density Area using a Reference-Based OCT-Angiography Deviation Mapping Approach to detect eyes with Diabetic Retinopathy.** *Jorge S. Andrade Romo[1], G. Lynch[2], D. B. Zhou[1, 2], M. V. Castanos[1], R. E. Linderman[3], J. Carroll[3], R. B. Rosen[1, 2], T. Y. Chui[1, 2].* [1]New York Eye and Ear Infirmary; [2]Icahn School of Medicine at Mount Sinai; [3]Medical College of Wisconsin **CR*

3013 — *A0356* **Quantitative geometric features in optical coherence tomography angiography of diabetic retinopathy.** *David Le[1], M. Alam[1], J. I. Lim[2], X. Yao[1, 2].* [1]Department of Bioengineering, University of Illinois at Chicago; [2]Department of Ophthalmology & Visual Science, University of Illinois at Chicago

3014 — *A0357* **Identifying Macular and Peripapillary Perfusion Density Change in Eyes with Retinopathies Using OCT-Angiography.** *Toco Y. Chui[1, 2], D. B. Zhou[1, 2], M. M. Castanos[1], J. S. Andrade Romo[1], R. E. Linderman[3], J. Carroll[3, 4], R. B. Rosen[1, 2].* [1]Ophthalmology, New York Eye & Ear Infirmary of Mount Sinai; [2]Ophthalmology, Icahn School of Medicine at Mount Sinai; [3]Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin; [4]Ophthalmology & Visual Sciences, Medical College of Wisconsin **CR*

3015 — *A0358* **Use of optical coherence tomography angiography as the biomarker in diabetic retinopathy.** *Amir Hajrasouliha[1], E. Kassa[1], A. H. Hajrasouliha[2].* [1]Ophthalmology, Indiana University School of Medicine; [2]Department of City and Regional Planning, California Polytechnic State University

3016 — *A0359* **Utilisation of Spectralis optical coherence tomography angiography to assess retinal neovascularisation in diabetic retinopathy.** *Joanna DaCosta, D. Bhatia, O. Crothers, J. S. Talks.* Ophthalmology, Royal Victoria Infirmary **CR*

3017 — *A0360* **Ultra-wide field OCTA for evaluation of different stages of diabetic retinopathy.** *Kasra Attaran-Rezaei, S. Saraf, Q. Zhang, f. wang, R. K. Wang.* Ophthalmology & Visual Science, University of Washington **CR*

3018 — *A0361* **Impact of the scan field on flow measurements in Optical Coherence Tomography Angiography (OCTA) images of diabetic eyes.** *Javier Zarranz-Ventura[1], M. Dotti[1], A. Ala-Chilet[1], M. Barraso[1], T. Hernandez[1], C. Oliva[1], J. Gascon[1], A. Sala-Puigdollers[1], M. Figueras-Roca[1], Z. Chu[2], R. K. Wang[2], A. Adan[1].* [1]Vitreo-Retinal Unit, ICOF, Hospital Clinic Barcelona; [2]University of Washington **CR*, ↗

3019 — *A0362* **Changes in vessel density in the initial stages of retinopathy in diabetes type 2. A two-year longitudinal study.** *Luis Mendes[2], T. Santos[2], I. Marques[2], D. Alves[2], M. K. Durbin[1], J. G. Cunha-Vaz[2].* [1]Carl Zeiss Meditec; [2]AIBILI - Association for Innovation and Biomedical Research on Light **CR*

3020 — *A0363* **Projection-resolved optical coherence tomography angiography based metrics for early detection of retinal microvascular impairments in diabetes mellitus.** *Juan Ye, T. Zhu.* Eye Center, Second Affiliated Hospital of Medical College, Zhejiang University

3021 — *A0364* **Longitudinal OCTA Analysis of Children with Type I Diabetes Mellitus.** *Kim Duong[1], M. Ferm[2], A. Omiunu[2], A. S. Khouri[2], B. Szirth[2].* [1]University of Alabama at Birmingham School of Optometry; [2]Rutgers New Jersey Medical School

3022 — *A0365* **Multimodal imaging of the initial stages of diabetic retinopathy. Different disease pathways in different patients.** *Dalila Alves[1], I. \. Marques[2], T. Santos[2], L. Mendes[2], A. Santos[2], C. Lobo[2, 4], M. K. Durbin[3], J. G. Cunha-Vaz[2, 4].* [1]4C, AIBILI - Association for Innovation and Biomedical Research on Light and Image; [2]AIBILI - Association for Innovation and Biomedical Research on Light and Image; [3]R & D, Carl Zeiss Meditec, Inc; [4]Faculty of Medicine, University of Coimbra **CR*

3023 — *A0366* **The diagnostic efficacy of various measurements using optical coherence tomography angiography for detecting retinal microvascular changes in diabetic eyes without clinical features of diabetic retinopathy.** *Sawarin Laotaweerungsawat[1, 2], C. Psaras[1], C. Amornrattanapan[1, 3], H. Tran[1], H. Li[1], A. R. Afshar[1], J. M. Stewart[1].* [1]Ophthalmology, UCSF; [2]Ophthalmology, Charoenkrung Pracharak Hospital; [3]Ophthalmology, Banphaeo Hospital **CR*

3024 — *A0367* **Retinal vascular changes during pregnancy in patients with diabetes mellitus as measured using optical coherence tomography angiography.** *Mali Okada[1], F. Widyaputri[2, 5], S. Rogers[2], A. Nankervis[3, 4], J. Conn[3, 4], A. Shub[6, 9], X. Fagan[1, 10], D. Guest[7], L. L. Lim[1, 2], R. C. Symons[8, 7].* [1]Royal Victorian Eye and Ear Hospital; [2]Centre for Eye Research Australia; [3]Department of Diabetes and Endocrinology, Royal Melbourne Hospital; [4]Diabetes and Endocrine Service, Royal Women's Hospital; [5]Department of Surgery (Ophthalmology), University of Melbourne; [6]Department of Obstetrics and Gynaecology, Mercy Hospital for Women; [7]Department of Optometry and Vision Sciences, University of Melbourne; [8]Department of Ophthalmology, Royal Melbourne Hospital; [9]Perinatal Department, Mercy Hospital for Women; [10]Department of Ophthalmology, Austin Hospital **CR*

3025 — *A0368* **Relating retinal vessel oxygenation and tortuosity at progressive stages of diabetic retinopathy.** *Selin L. Auvazian[1], P. Karamian[1], J. Cano[1], S. Leahy[1], A. H. Kashani[1], A. A. Moshfeghi[1], H. Ameri[1], N. P. Blair[2], M. Shahidi[1].* [1]Department of Ophthalmology, University of Southern California; [2]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago

3026 — *A0369* **A Comparison: Structural optical coherence tomography and angiography in diabetic retinopathy and diabetic macular edema.** *Laura C. Huang[1], A. Shariati[1], A. Oh[2], T. Leng[1], Y. J. Liao[1].* [1]Ophthalmology, Byers Eye Institute, Stanford University; [2]Ophthalmology, UCLA Doheny Eye Institute

3027 — *A0370* **Peripapillary vascular and neural remodelling secondary to diabetic retinopathy: an OCT angiography study.** *Luisa Frizziero[1], R. Parrozzani[2], D. Londei[2], S. Bini[2], E. Pilotto[2], E. Midena[2, 1].* [1]IRCCS – Fondazione Bietti, Rome, Italy; [2]Department of Ophthalmology, University of Padova

3028 — *A0371* **Retinal Vascular Response to the Handgrip Test in Type 1 Diabetes using OCT-Angiography.** *Carlos Marques-Neves[1, 2], I. Cardoso Leal[1, 2], A. Silva-Herdade[3], S. Moreira[4], S. do Vale[5], P. Dionísio[4], L. Abegão Pinto[1, 2], M. Castanho[3], D. C. Sousa[1, 2].* [1]Vision Sciences Study Center, Universidade de Lisboa; [2]Ophthalmology, Hospital Santa Maria; [3]Instituto de Bioquímica, Faculdade de Medicina, Universidade de Lisboa; [4]Respiratory Medicine, Hospital Santa Maria; [5]Endocrinology, Hospital Santa Maria ↗

3029 — *A0372* **Ultra Wide-Field en face Swept-Source Optical Coherence Tomography Angiography Application in Proliferative Diabetic Retinopathy.** *Hagar Khalid[1, 2], L. Nicholson[1], R. Schwartz[1], M. El-Bradey[3], D. A. Sim[1], K. Balaskas[1], P. A. Keane[1], R. Rajendram[1].* [1]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, UK; [2]Ophthalmology, Tanta University; [3]Ophthalmology Department, Tanta University **CR*

3030 — *A0373* **Effect of Segmentation Error Correction on Optical Coherence Tomography Angiography Measurements in Healthy Subjects and Diabetic Macular Edema.** *Khalil Ghasemi Falavarjani[1], A. Habibi[1], P. Anvari[1], S. Ghasemizadeh[1], M. Ashrafkhorasani[1], D. Sarraf[2].* [1]Department of Ophthalmology, Iran University of Medical Sciences; [2]Department of Ophthalmology, Stein Eye Institute, UCLA **CR*

3031 — *A0374* **Correlation of OCT-Angiography Vessel Densities and the Early Treatment Diabetic Retinopathy Study Grading Scale.** *Neesurg S. Mehta[1], J. Andrade[1], D. B. Zhou[1], M. V. Castanos[1], L. Gupta[2], T. Y. Chui[1], J. Lee[1], R. B. Rosen[1].* [1]New York Eye & Ear Infirmary of Mount Sinai; [2]Department of Ophthalmology and Visual Sciences, Case Western Reserve University **CR*

3032 — *A0375* **Correlation of Optical Coherence Tomography Angiography Retinal Vascular Parameters with Systemic Biomarkers in Diabetic Black Adults without Retinopathy.** *Rose Dimitroyannis[1], L. Chun[2, 3], K. Ho[1], P. Hulvey[3], D. Skondra[3].* [1]University of Chicago; [2]Univeristy of Chicago Pritzker School of Medicine; [3]Department of Ophthalmology and Visual Science, University of Chicago Medical Center

3033 — *A0376* **Optical coherence tomography angiography-quantified vascular metrics in diabetic eyes without retinopathy: a systematic review.** *Joel Kaluzny, Y. Jia, T. S. Hwang.* Casey Eye Institute **CR*

3034 — *A0377* **Three Dimensional Evaluation of Foveal Ischemia in Diabetic Retinopathy.** *Bingjie Wang, A. Camino, S. Pi, Y. Guo, D. Huang, T. S. Hwang, Y. Jia.* Casey Eye Institute, Oregon Health & Science University **CR*

3035 — *A0378* **Automated Image Alignment for Comparing Vascular Changes in Fundus Fluorescein Angiography and Optical Coherence Tomography Angiography in the Macula of Patients with Diabetic Retinopathy.** *David J. Ramsey[2, 1], A. G. Elnahry[3].* [1]Ophthalmology, Lahey Hospital and Medical Center; [2]Ophthalmology, Tufts University School of Medicine; [3]Department of Ophthalmology, Cairo University

3036 — *A0379* **Comparison of foveal avascular zone quantification.** *Tobias Batram, N. Feucht, C. Lohmann, M. Maier.* Department of Ophthalmology, Technical University of Munich

3037 — *A0380* **Evaluation of diabetic macular ischemia using Optical Coherence Tomography Angiography and Fluorescein Angiography.** *Jeniffer Trenado Luna[1], S. Rojas Juarez[2], A. Ramirez Estudillo[2].* [1]Ophthalmology Resident, Hospital de la Luz; [2]Retina, Hospital de la Luz

3038 — *A0381* **Association of superficial and deep macula vessel density with past visual field progression in glaucoma.** *Sasan Moghimi, L. M. Zangwill, H. Hou, J. Proudfoot, R. Penteado, H. Kyung, m. Haft, A. Li, E. Ghahari, C. Bowd, R. N. Weinreb.* Viterbi Family Department of Ophthalmology, University of California, San Diego ↗

3039 — *A0382* **Integration of OCTA in Community-Based Screening Programs for Vision-Threatening Diseases.** *Ben Szirth, A. Ooms, A. S. Khouri.* Ophthalmology, Rutgers Medical School **CR*

3040 — *A0383* **Diurnal variations in flow density measured using Optical Coherence Tomography Angiography (OCTA) and the impact of heart rate, mean arterial pressure and intraocular pressure on flow density in primary open-angle glaucoma patients.** *Viktoria C. Müller[1], J. Storp[1], L. Kerschke[2], P. Nelis[1], M. Alnawaiseh[1], N. Eter[1].* [1]Dept. of Ophthalmology, University of Muenster Medical Center; [2]Dept. of Biometry and Clinical Research, University of Muenster Medical Centre

3041 — *A0384* **Comparison of the glaucoma diagnostic ability of macular vessel density in inner retina layers.** *Jonghoon Shin, J. Seo.* ophthalmology, Pusan national university yansan hospital

3042 — *A0385* **Peripapillary Vessel Density as a Glaucoma Biomarker throughout the Glaucoma Severity Spectrum.** *Ravneet S. Rai[1], K. Lucy[1], N. Tracer[1], M. Wu[1], M. Liu[2], M. de los Angeles Ramos Cadena[1], S. Rathi[1], A. Madu[1], H. Ishikawa[1], J. Schuman[1], G. Wollstein[1].* [1]NYU Eye Center, NYU Langone Health; [2]Departments of Population Health and Environmental Medicine, NYU Langone Health **CR*

3043 — *A0386* **Macular optical coherence tomography angiography in ischemic optic neuropathy compared to that in glaucoma.** *Masoud Fard[1], H. Ghahvechian[1], R. Ritch[2].* [1]Neuro-ophthalmology, Farabi Eye Hospital; [2]New York Eye and Ear Infirmary

3044 — *A0387* **Diagnostic accuracy of OCTA vessel density and OCT tissue thickness measurements using machine learning.** *Christopher Bowd[1], A. Belghith[1], L. M. Zangwill[1], M. H. Goldbaum[2], M. Christopher[1], E. Ghahari[1], H. Hou[1], S. Moghimi[1], R. Penteado[1], R. N. Weinreb[1].* [1]Hamilton Glaucoma Center, Shiley Eye Institute, Viterbi Family Department of Ophthalmology, UC San Diego; [2]Jacobs Retina Center, Shiley Eye Institute, Viterbi Family Department of Ophthalmology, UC San Diego **CR*, ↗

3045 — *A0388* **Reverse Polarity OCT Angiography as a Biomarker of Neovascular and Ischaemic Retinal Diseases.** *Chris Ashton, N. Patel.* NHS

3046 — *A0389* **Vessel Position of the Arteriovenous Crossing in Branch Retinal Vein Occlusion.** *Takahiro Kogo[1], Y. Muraoka[1], Y. Iida[1, 2], S. Ooto[1], T. Murakami[1], Y. Iida-Miwa[1], S. Kadomoto[1], A. Uji[1], A. Tsujikawa[1].* [1]Department of Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine; [2]Osaka Red Cross Hospital **CR*, ↗

3047 — *A0390* **Collateral Vessels in Branch Retinal Vein Occlusion: Anatomical and functional analysis by Optical Coherence Tomography Angiography.** *Hirofumi Sasajima, K. Tsuboi, M. Kamei.* Ophthalmology, Aichi Medical University

3048 — *A0391* **Longitudinal changes of vessel density in cases converting from non-ischemic to ischemic central retinal vein occlusion.** *Akira Fukutomi, K. Tsuboi, M. Kamei.* Aichi Medical University

3049 — *A0392* **Optical coherence tomography angiography (OCTA) in unilateral non-arteritic anterior ischemic optic neuropathy (NAION): A comparison with the fellow eyes and with disc-at-risk.** *Alex Song, S. Sunshine, E. Simjanoski, Y. S. Zhang, N. J. Volpe.* Ophthalmology, Northwestern University

3050 — *A0393* **The Carbon Footprint of Fluorescein Angiography compared to OCT Angiography.** *Rhianon Reynolds[1], D. Morris[1], U. Chakravarthy[2].* [1]University Hospital of Wales; [2]Queens University, Belfast **CR*

West Exhibition Hall A0394-A0410

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Multidisciplinary Ophthalmic Imaging Group

330 OCTA in Healthy/Aging Eyes

Moderator: Brian Soetikno

3051 — *A0394* **Visualizing the Choriocapillaris and Choroidal Vasculature in Normal Eyes with En Face Swept-Source Optical Coherence Tomography Versus Angiography.** *Jay C. Wang, I. Lains, R. Silverman, L. Sobrin, D. Vavvas, J. W. Miller, J. B. Miller.* Retina, Massachusetts Eye and Ear

3052 — *A0395* **Choriocapillaris flow density negatively correlates with advancing age in spectraldomain optical coherence tomography angiography.** *Christiane Frank, P. Scherm, K. Wehrmann, N. Feucht, C. Lohmann, M. Maier, M. Pettenkofer.* Klinikum rechts der Isar, Technische Universität München

3053 — *A0396* **Generalized estimating equation modeling of choriocapillaris flow deficits with an SS-OCTA normal database.** *Zhongdi Chu[1], J. Yin[2], Q. Zhang[1], G. Gregori[3], P. J. Rosenfeld[3], R. K. Wang[1, 4].* [1]Bioengineering, University of Washington; [2]Department of Biostatistics, University of Washington; [3]Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [4]Ophthalmology, University of Washington **CR*

3054 — *A0397* **OCT Angiography reveals a non-flow area enlargement in the choriocapillaris with increasing age.** *Pieter Nelis[2, 1], V. C. Müller[2], N. Mihailovic[2], N. Eter[2], M. ten Tusscher[1], M. Alnawaiseh[2].* [1]UZBrussel (VUB); [2]University of Muenster Medical Center

3055 — *A0398* **Repeatability of choriocapillaris flow deficit measurements in PLEX Elite 9000 for normal eyes.** *Mary K. Durbin[1], L. De Sisternes[1], S. Kubach[1], Z. Chu[2], Q. Zhang[2], G. Gregori[3], H. Zhou[3], Y. Shi[3], R. K. Wang[2], P. J. Rosenfeld[3].* [1]Carl Zeiss Meditec, Inc; [2]Department of Bioengineering, University of Washington; [3]Ophthalmology, Bascom Palmer Eye Institute **CR*

3056 — *A0399* **Impact of slab selection on quantification of the choriocapillaris on optical coherence tomography angiography.** *Ik Soo Byon[1, 2], M. Nassisi[1, 2], S. R. Sadda[1, 2].* [1]Doheny Eye Institute; [2]Ophthamology, University of California, Los Angeles **CR*

3057 — *A0400* **Quantitative Assessment of the Choriocapillaris in Healthy Individuals Using Spectral Domain Optical Coherence Tomography Angiography.** *Yongsok Ji[1, 2], T. Hirano[1, 2], M. G. Nittala[1], s. velaga[1], S. R. Sadda[1, 2].* [1]Doheny Eye Institute; [2]Ophthamology, University of California, Los Angeles **CR*

3058 — *A0401* **Objective evaluation of size and shape of foveal avascular zone in normal subjects by optical coherence tomography angiography.** *Takato Sakono, H. Shiihara, H. Terasaki, N. Kakiuchi, T. Yamashita, S. Sonoda, T. Sakamoto.* Kagoshima Univercity

3059 — *A0402* **The Foveal Avascular Zone Area in Healthy Eyes Measured by Ocular Coherence Tomography Angiography Using a Full Spectrum Probabilistic Algorithm.** *Jose D. Morales, L. Wu.* Asociados de Mácula Vítreo y Retina de Costa Rica **CR*

3060 — *A0403* **Quantitative comparisons of angiograms of 4 OCTA devices.** *Jingyuan Yang, M. Yuan, X. Zhao, E. Wang, Y. Chen.* Ophthalmology, Peking Union Medical College Hospital

3061 — *A0404* **Anterior segment vasculature imaging of OCT angiography.** *Xiao Zhou, Q. Zhang, R. K. Wang.* Department of Bioengineering, University of Washington **CR*

3062 — *A0405* **Correlation Between Blood Pressure, Oxygen Saturation and Macular Perfusion Measured by OCT Angiography.** *Matus Rehak, A. S. Sauer, C. Busch, P. M. Wiedemann.* Department of Ophthalmology, University of Leipzig **CR*, ↗

3063 — *A0406* **Changes of Optical Coherence Tomography Angiographic Findings with Age in Japanese Normal Subjects.** *Satoshi Ebihara, S. Machida.* ophthalmology, Dokkyo medical university Saitama medical center

3064 — *A0407* **Vasculature analysis by anterior segment OCT angiography in light- and dark-colored eyes.** *Jil Cathérine Andresen[1], F. Bosche[1], B. Sandhöfner[2], F. G. Holz[1], C. K. Brinkmann[1].* [1]Department of Ophthalmology, University of Bonn; [2]Carl Zeiss Meditec **CR*

3065 — *A0408* **Ocular Vessel Density Among Healthy Subjects of Different Ethnicities.** *Maria de los Angeles Ramos Cadena[1], H. Ishikawa[1], J. Schuman[1], K. Lucy[1], M. Wu[1, 2], M. Liu[1, 2], R. S. Rai[1], J. Jiménez Román[3], G. Lazcano[3], D. Díaz Robles[3], J. Shin[4, 5], K. Sung[4], G. Wollstein[1].* [1]NYU Langone Health, NYU Eye Center; [2]Division of Biostatistics, Department of Population Health and Environmental Medicine, NYU Langone Health; [3]Glaucoma, Asociación Para Evitar la Ceguera en México I.A.P.; [4]Ophthalmology, College of Medicine, University of Ulsan, Asan Medical Center; [5]University of Ulsan, Gangneung Asan Hospital **CR*

3066 — *A0409* **Age-Related Optic Nerve Head and Retinal Microvasculature Dropout Varies by Race.** *Mohamad Moghadam, J. H. Lee, R. N. Weinreb, R. Voora, C. Bowd, J. A. Proudfoot, S. Moghimi, R. Penteado, H. Hou, E. Ghahari, P. Manalastas, M. Christopher, A. Belghith, L. M. Zangwill.* Glaucoma, Shiley Eye Institute **CR*, ↗

3067 — *A0410* **Intrasession repeatability of quantitative metrics using widefield optical coherence tomography angiography (OCTA) in old community-dwelling Asian adults.** *Jimmy M. Hong[1, 2], B. Tan[2], P. Gupta[2], T. Y. Wong[2], E. L. Lamoureux[2], L. Schmetterer[2], J. Chua[2].* [1]Ophthalmology, NTU Lee Kong Chian School of Medicine; [2]Singapore Eye Research Institute

West Exhibition Hall A0411-A0441

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Multidisciplinary Ophthalmic Imaging Group

331 OCTA - Experimental Applications and Technical Improvements

Moderators: Yifan Jian and Qinqin Zhang

3068 — *A0411* **Choriocapillaris analysis in non-human primates using SS-OCTA.** *Bingyao Tan[1], J. Chua[1, 2], V. A. Barathi[1, 2], B. Mani[1, 2], A. S. Chan[1, 2], M. Ang[1, 2], L. Schmetterer[1, 2].* [1]Singapore Eye Research Institute; [2]Academic Clinical Program, Duke-NUS Medical School

3070 — *A0413* **4D contrast-enhanced OCT improves *in vivo* visualization of neovascular structure and hemodynamics in mice.** *Conrad W. Merkle[1], M. Augustin[1], D. J. Harper[1], V. J. Srinivasan[2, 3], G. Garhofer[4], B. Baumann[1].* [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]Biomedical Engineering, University of California, Davis; [3]Ophthalmology and Vision Science, University of California Davis School of Medicine; [4]Clinical Pharmacology, Medical University of Vienna **CR*

3071 — *A0414* **Averaging strategies to improve imaging of the rodent choriocapillaris with OCT angiography.** *Vivek J. Srinivasan[1, 2], T. Zhang[1], J. Zhu[1].* [1]Biomedical Engineering, University of California, Davis; [2]Ophthalmology and Vision Science, University of California, Davis **CR*

3072 — *A0415* **In vivo imaging of anti-vascular growth factor inhibitor induced therapeutic responses in the rat retina by using optical coherence tomography angiography.** *Johanna Meyer, J. Gross, F. G. Holz, S. Schmitz-Valckenberg.* Ophthalmology, University of Bonn **CR*

3073 — *A0416* **Optical Coherence Tomography Angiography in laser-induced mouse branch retinal vein occulusion model.** *hajime takahashi, K. Nakagawa, H. Yamada, H. Mori, K. Takahashi.* Kansai Medical University **CR*

3074 — *A0417* **Hemodynamics of Neovascular Central Serous Chorioretinopathy: a Stress/Rest Optical Coherence Tomography-Angiography Study.** *Marco Lupidi[1, 2], F. Cardillo Piccolino[2], C. Cagini[1], R. Corbucci[1], D. Fruttini[1], M. Nicolò[2], C. Eandi[2].* [1]Ophthalmology, Eye Clinic, University of Perugia; [2]The Macula Onlus Foudation **CR*

3075 — *A0418* **Optical coherence tomography angiography for vascular remodeling after pterygium surgery with limbal-conjunctival autograft.** *Zhanlin Zhao[2, 1], Y. YUE[2, 1], C. Shao[2, 1], Y. Fu[2, 1], X. Fan[2, 1].* [1]Shanghai Key Laboratory of Orbital Diseases and Ocular Oncology; [2]Ophthalmology, Ninth People's Hospital, Shanghai JiaoTong University School of Medicine

3076 — *A0419* **Optic nerve head and macula perfusion in diabetics after anti-VEGF injection.** *Katherine Makedonsky[1], C. Wu[1], M. K. Durbin[1], S. Ray[2].* [1]Carl Zeiss Meditec, Inc.; [2]Bay Area Retina Associates **CR*

3077 — *A0420* **Textural Parameters of OCTA Images of Choriocapillaris Are Different in Young Healthy Adults of Different Races.** *Asadolah Movahedan[1], L. Chun[1], P. Vargas[2], D. Skondra[1], P. La Riviere[2].* [1]Ophthalmology & Visual Sciences, University of Chicago; [2]Department of Radiology, University of Chicago **CR*

3078 — *A0421* **MHz Swept-Source OCT Angiography of the choriocapillaris.** *Tilman Schmoll[2, 1], M. Niederleithner[2], H. Ren[1], M. A. Arain[1], R. Williams[1], M. Salas[2], L. Ginner[2], W. Drexler[2], R. A. Leitgeb[2].* [1]Research and Development, Carl Zeiss Meditec, Inc.; [2]Center of Medical Physics and Biomedical Engineering, Medical University of Vienna **CR*

3079 — *A0422* **Differentiating veins from arteries on optical coherence tomography angiography (OCTA) using vortices in the deep capillary plexus to identify venous outflow origin.** *Xiaoyu Xu[1, 2], N. Yannuzzi[3], D. Sarraf[4], K. Freund[1, 5].* [1]Vitreous Retina Macula Consultants of New York; [2]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University; [3]Bascom palmer eye Institute, University of Miami; [4]Stein Eye Institute, UCLA; [5]Department of Ophthalmology, New York University School of Medicine **CR*

3080 — *A0423* **Projection resolved optical coherence tomography angiography to distinguish flow signal in retinal angiomatous proliferation from flow artifact.** *Alaa E. Fayed[1, 2], A. A. Fawzi[1].* [1]Northwestern University; [2]Cairo University

3081 — *A0424* **Methods of Quantification for Optical Coherence Tomography Angiography Image Analysis.** *Nihaal Mehta[1, 2], K. Liu[1, 3], A. Alibhai[1], P. Braun[1, 4], A. Ishibazawa[1, 5], O. Sorour[1, 6], J. S. Duker[1], N. K. Waheed[1].* [1]New England Eye Center, Tufts Medical Center; [2]Brown University Alpert Medical School; [3]University of Hawai'i John A. Burns School of Medicine; [4]Yale School of Medicine; [5]Department of Ophthalmology, Asahikawa Medical University; [6]Department of Ophthalmology, Tanta University **CR*

3082 — *A0425* **Retinal flow velocity measurement using optical coherence tomography angiography.** *Ali Fard[1], D. Rikhter[1], P. Sha[1], W. Wei[2], Q. Zhang[2], R. K. Wang[2].* [1]Carl Zeiss Meditec, Inc.; [2]University of Washington **CR*

3083 — *A0426* **High-resolution pigment and flow imaging with multi-scale sensorless adaptive optics OCT.** *Destiny Hsu[1], J. Kwon[1], D. J. Wahl[1], M. Ju[1], Y. Jian[2], M. V. Sarunic[1].* [1]School of Engineering Science, Simon Fraser University; [2]Casey Eye Institute, Oregon Health & Science University **CR*

3084 — *A0427* **Assessing Scleral Area Vessel Density in Subjects with Anterior Scleritis using Optical Coherence Tomography Angiography.** *Sarakshi Mahajan[1], M. Halim[1], M. Hassan[1], M. S. Ormaechea[1, 2], G. Uludağ[1], A. N. Tran[1], J. Bae[1, 3], R. Afridi[1], S. Karkhur[4], M. Hasanreisoglu[5], A. Pham[1], K. Y. Al-Kirwi[1], D. V. Do[1], Q. D. Nguyen[1], Y. Sepah[1].* [1]Ophthalmology, Byers Eye Institute, Stanford University; [2]Ophthalmology, Hospital Universitario Austral; [3]Department of Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine; [4]Ophthalmology, Shri Sadguru Seva Sangh Trust- eye Hospital; [5]Ophthalmology, Gazi University

3085 — *A0428* **3D Image Processing and Image Display of the Vascular Network in OCT-Angiography images.** *Vivien VASSEUR, M. Mauget-Faÿsse, L. Salomon.* Rothschild Foundation

3086 — *A0429* **Visualization of fine retinal networks through higher optical resolution OCTA.** *Simon Bello[1], S. Kubach[1], L. De Sisternes[1], P. Krawec[1], T. Callan[1], C. Wu[1], R. A. Goldberg[2].* [1]Carl Zeiss Meditec, Inc.; [2]Bay Area Retina Associates **CR*

3087 — *A0430* **Variability and Repeatability of Retinal Vessel Caliber Measurements with Optical Coherence Tomography Angiography.** *Martha Whiting[1], J. Tsai[1], X. Zhang[1], L. Magder[2], O. Saeedi[1].* [1]Ophthalmology, University of Maryland School of Medicine; [2]University of Maryland School of Medicine **CR*

3088 — *A0431* **Assessment of OCT angiography image quality in clinical studies.** *Ian Holmen[1, 2], S. Konda[1, 2], J. W. Pak[1, 2], B. A. Blodi[1, 2], K. E. Stepien[2], A. Domalpally[1, 2].* [1]Fundus Photograph Reading Center, Madison, WI; [2]Department of Ophthalmology and Visual Sciences, University of Wisconsin

3089 — *A0432* **Quantification of choriocapillaris structure in high-resolution OCTA images.** *Brennan Marsh-Armstrong, J. Migacz, R. Jonnal, J. S. Werner.* Ophthalmology, University of California Davis

3090 — *A0433* **Comparing higher order morphometrics of retina blood vessels imaged with OCT-angiography and histology.** *marconi barbosa[1], D. Yu[2], P. Yu[2], D. An[2], T. Maddess[1].* [1]Neuroscience Department, The Australian National University; [2]Lions Eye Institute, UWA **CR*

3091 — *A0434* **Factors Affecting the Variability of Vessel Width Measurements Within Individual Vessels in OCT Angiography.** *Joby Tsai, X. Zhang, M. Whiting, L. Magder, O. Saeedi.* University of Maryland School of Medicine **CR*

3092 — *A0435* **Handheld spectrally encoded coherence tomography and reflectometry (HH-SECTR) for motion compensated OCT angiography and mosaicking.** *Joseph D. Malone, M. El-Haddad, I. Oguz, Y. Tao.* Vanderbilt University **CR*

3093 — *A0436* **Handheld Swept-Source Optical Coherence Tomography Angiography in Awake Neonates Screened for Retinopathy of Prematurity.** *Yasman Moshiri[2], A. Legocki[1], K. Zhou[4], S. SONG[4], K. Rezaei[3], K. Tarczy-Hornoch[1, 3], R. K. Wang[4], M. T. Cabrera[1, 3].* [1]Department of Ophthalmology, Seattle Children's Hospital; [2]University of Washington School of Medicine; [3]Department of Ophthalmology, University of Washington Medical Center; [4]Department of Bioengineering, University of Washington

3094 — *A0437* **Handheld OCT Angiography Probe for Imaging of Infants in the Clinic or Nursery.** *Christian Viehland[1], X. Chen[2], D. Tran-Viet[2], M. Jackson-Atogi[2], P. Ortiz[1], G. Waterman[1], C. A. Toth[2, 1], J. A. Izatt[1, 2].* [1]Biomedical Engineering, Duke Univeristy; [2]Ophthalmology, Duke Universeity **CR*, ↗

3095 — *A0438* **Machine Learning for the automated interpretation of Optical Coherence Tomography Angiography for Age-related Macular Degeneration.** *Konstantinos Balaskas[1], A. Alfahaid[1], H. Khalid[1], P. Sergouniotis[2], N. PONTIKOS[1], P. A. Keane[1].* [1]Moorfields Eye Hospital, London; [2]Manchester Royal Eye Hospital **CR*

3096 — *A0439* **Using Medical Image Reconstruction Methods for Denoising of OCTA Data.** *Lennart Husvogt[2], S. Ploner[2], E. M. Moult[1], A. Alibhai[3], J. Schottenhamml[2], J. S. Duker[3], N. K. Waheed[3], J. G. Fujimoto[1], A. K. Maier[2].* [1]Massachusetts Institute of Technology; [2]Pattern Recognition Lab, Friedrich-Alexander University Erlangen-Nuremberg; [3]New England Eye Center, Tufts Medical Center **CR*

3097 — *A0440* **Correction of artifacts from misregistered B-scans in orthogonally scanned and registered OCT angiography.** *Stefan B. Ploner[1, 2], J. Schottenhamml[1, 2], E. Moult[2], L. Husvogt[1, 2], A. Alibhai[3], N. K. Waheed[3], J. S. Duker[3], J. G. Fujimoto[2], A. K. Maier[1].* [1]Pattern Recognition Lab, Friedrich-Alexander University Erlangen-Nuremberg; [2]Electrical Engineering and Computer Science and Research Laboratory of Electronics, Massachusetts Institute of Technology; [3]New England Eye Center, Tufts Medical Center **CR*

3098 — *A0441* **Removal of microsaccade artifacts on *en face* OCT angiograms using hybrid frequency and wavelet filtering.** *Hao Wang[1], J. Yang[1], J. Xie[1], Z. Gu[1], H. Mao[1], S. Jiang[1], K. Zhao[1], Y. Zhao[1], Y. Hu[1], J. Cheng[1], Y. Zheng[2], J. Liu[1].* [1]Cixi Institute of Biomedical Engineering, Chinese Academy of Sciences; [2]Department of Eye and Vision Science, University of Liverpool

West Exhibition Hall A0490-A0514

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Visual Neuroscience

332 Animal Models for Visual Disease and Restoration

Moderator: Stephanie C. Joachim

3099 — *A0490* **Establishment of a hypoxia model for the MEA-based analysis of electrical activity of murine retina.** *Claudia Ingensiep, K. Schaffrath, P. Walter, S. Johnen.* Department of Ophthalmology, University Hospital RWTH Aachen

3100 — *A0491* **Evaluating retinal biomarkers in a mouse model of Parkinson's disease.** *Christine T. Nguyen[1], K. Tran[1], J. K. Lim[1], V. H. Wong[1], A. Shahandeh[1], A. J. Vingrys[1], B. V. Bui[1], D. Finkelstein[2].* [1]Optometry and Vision Sciences, University of Melbourne; [2]Florey Institute of Neuroscience and Mental Health

3101 — *A0492* **Physiologic dysfunction, demyelination, and retinal ganglion cell loss in mice with neurofibromatosis and optic pathway gliomas.** *Steven F. Stasheff[1, 2], F. Nadal-Nicolas[1], E. Jecrois[2], W. Li[1], M. Bornhorst[2], Y. Zhu[2].* [1]Section on Retinal Neurophysiology, National Eye Institute; [2]Center for Neurosciences, Children's National Health Care/George Washington U

3102 — *A0493* **Histological changes associated with aging in the retina of the vervet monkey.** *Jerome Garneau[1], L. Rodriguez[1], J. Bouskila[2, 3], J. Bouchard[3], M. Ptito[3, 4], V. Pernet[1].* [1]Ophthalmology, Universite Laval - CHUL; [2]Department of Human Genetics, McGill University; [3]School of Optometry, University of Montreal; [4]Laboratory of Neuropsychiatry-Psychiatric Centre, University of Copenhagen

3103 — *A0494* **Thyroid hormone levels may predict pathological changes in cone opsin expression and consequent color vision defects before detectable retinopathy.** *Rozina I. Hajdu[1, 2], Z. Turoczi[3], I. Szalai[1], E. Tátrai[1], F. Pálya[1], Z. Z. Nagy[1], C. Mátyás[4], T. Radovits[4], K. Szabó[2], A. Szabo[2], A. Kusnyerik[5], A. Somogyi[3], G. M. Somfai[6, 1], D. Veres[7], A. Enzsoly[1], A. Lukats[2].* [1]Department of Ophthalmology, Semmelweis University; [2]Department of Anatomy, Histology and Embriology, Semmelweis University; [3]2nd Department of Internal Medicine, Semmelweis University; [4]Heart and Vascular Center, Semmelweis University; [5]Pazmany Peter Catholic University; [6]Augenzentrum Retinology Unit, Pallas Kliniken; [7]Department of Biophysics and Radiation Biology, Semmelweis University

3104 — *A0495* **Release of Retinal Extracellular Vesicles in a Model of Retinitis Pigmentosa.** *Lorena Vidal[1], M. Oltra[1], J. Barcia[1], A. Sahaboglu[2], F. Sancho[1].* [1]Catholic University of Valencia; [2]Institute for Ophthalmic Research, University of Tübingen

3105 — *A0496* **The eye as a window to the brain: retinal characterization in a transgenic αSYN mouse model of Parkinson's disease.** *Lien Veys[1], M. Vandenabeele[1], V. Baekelandt[2], L. K. Moons[1], L. De Groef[1].* [1]Biology, KU Leuven; [2]Medicine, KU Leuven

3106 — *A0497* **Signal transduction mechanism underlying H+ efflux from retinal Müller glial cells induced by extracellular ATP.** *Robert P. Malchow[1], B. K. Tchernookova[2], M. Gongwer[3], B. Goeglein[3], L. Shepherd[3], H. Caringal[3], T. Leuschner[3], L. Kiedrowski[2], M. Kreitzer[3].* [1]Biological Sciences & Ophthalmology, University of Illinois at Chicago; [2]Biological Sciences, University of Illinois at Chicago; [3]Biology, Indiana Wesleyan University

3107 — *A0498* ***In vivo*** **screen for extracellular vesicles that promote Muller glia proliferation and neurogenic activity in zebrafish and mice.** *Sankarathi Balaiya[1], D. Didiano[2], C. Bertalocini[1], S. Hinger[2], E. M. Levine[1], J. Patton[2].* [1]Ophthalmology, Vanderbilt Eye institute, Vanderbilt University Medical Center; [2]Department of Biological Sciences, Vanderbilt University

3108 — *A0499* **Bone Marrow Mesenchymal Stem Cells-Derived Exosomes Attenuate Neuroinflammation and Promote Survival of Photoreceptor in Retinitis Pigmentosa.** *Yan Liu, T. Zhou, Z. Yang, X. Sun, Z. Huang, X. Deng, C. He, X. Liu.* Zhongshan Ophthalmic Center Sun Yat-Sen University

3109 — *A0500* **Transplantation of human embryonic stem cell derived retinal tissue in the subretinal space of immunodeficient rats with retinal degeneration (RD).** *Igor O. Nasonkin[1], B. Lin[2], F. Binette[1], G. Hogge[1], R. Aramant[2], R. K. Singh[1], M. J. Seiler[2].* [1]Biotime, Inc.; [2]Physical Medicine & Rehabilitation; Ophthalmology, University of California, Irvine; School of Medicine ***CR***

3110 — *A0501* **Ephrin-A2 and -A3 are negative regulators of photoreceptor regeneration in rhodopsin knockout mice.** *Ruilin Zhu[1], K. Cho[2], L. Yang[1], D. F. Chen[2].* [1]Ophthalmology, Peking University First Hospital; [2]Schepens Eye Research Institute

3111 — *A0502* **Minocycline protects retinal ganglion cells and optic nerve structure in an immune mediated retina degeneration model.** *Andreas Smit, P. Grotegut, S. Kuehn, G. Stute, B. Dick, S. C. Joachim.* Experimental Eye Research Institute, Ruhr University Bochum

3112 — *A0503* **Retinal and optic nerve dysfunction in PS19 tau transgenic mice.** *Daniel L. Chao, J. H. Lin, D. Castillejos, K. Chiang, N. Hiramatsu, A. Chen, E. Koo.* Ophthalmology, UCSD ***CR***

3113 — *A0504* **Fishing for neuroreparative strategies in the short-living *Nothobranchius furzeri*.** *Sophie Vanhunsel, J. Van houcke, I. Bollaerts, L. K. Moons.* Biology, KU Leuven

3114 — *A0505* ***Impg1*** **and** ***Impg2*** **knock down analysis in the development of medaka fish photoreceptors.** *Guillaume OLIVIER[1], D. FALANGA[2], F. SALIERNO[2], D. INTARTAGLIA[2], C. CAZEVIEILLE[1], E. POLISHCHU[2], S. Banfi[2], A. MULLER[1], I. A. Meunier[3], I. Conte[2], G. Manes[1].* [1]Neurobiology, INSERM - U1051; [2]TIGEM; [3]Guy de Chauliac

3115 — *A0506* **Midkine-a deficiency causes cell cycle arrest and reactive gliosis in zebrafish Müller glia following photoreceptor cell death.** *Mikiko Nagashima, T. D'Cruz, D. Hesse, P. F. Hitchcock.* Department of Ophthalmology and Visual Sciences, University of Michigan

3116 — *A0507* **Retinal physiological changes in Thyroid Stimulating Hormone Receptor Knock Out mice.** *Adrianna Latuszek, R. Wudali, Y. Hu, C. Romano.* Ophthalmology, Regeneron Pharmaceuticals ***CR***

3117 — *A0508* **Enhanced temporal contrast sensitivity precedes retinal degeneration in a P23H mouse model of retinitis pigmentosa.** *Rose L. Pasquale[1, 2], M. Booth[3], B. Knox[1], Y. Umino[1], E. C. Solessio[1].* [1]Ophthalmology, Center for Vision Research, SUNY Upstate Medical University; [2]Neuroscience, SUNY Upstate Medical University; [3]SUNY Upstate Medical University

3118 — *A0509* **Extended electrophysiological characterization of the retinal degeneration in CLN6*nclf* mice.** *Cornelia Volz[1], M. Mirza[3], T. Langmann[2], H. Jaegle[1].* [1]Department of Ophthalmology, University Clinic Regensburg; [2]Institute of Human Genetics, University of Cologne; [3]Institute of Human Genetics, University of Regensburg

3119 — *A0510* **Diabetes-induced changes in rat ERG in relation to glucose and pH.** *Robert A. Linsenmeier[1, 2], A. Dmitriev[1].* [1]Biomedical Engineering Dept, Northwestern University; [2]Neurobiology Department, Northwestern University

3120 — *A0511* **Effects of exercise on retinal and cognitive function in Type II diabetic rats.** *Cody A. Worthy[1, 2], R. S. Allen[1, 2], L. V. Cardelle[1, 2], C. Motz[1], A. Feola[1, 2], M. Coulter[1, 3], J. H. Boatright[1, 3], M. T. Pardue[1, 2].* [1]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center; [2]Biomedical Engineering, Georgia Institute of Technology; [3]Ophthalmology, Emory University School of Medicine

3121 — *A0512* **Preferential retina horizontal cell loss in an animal model of mild traumatic brain injury.** *Mary A. Johnson[1], J. C. DeMar[2], G. Xue[1], D. M. Wilder[2], A. C. Batuure[2], J. G. Rosenberger[2], J. B. Long[2].* [1]Ophthal and Vis Science, Univ of Maryland Sch of Medicine; [2]Center for Military Psychiatry and Neuroscience Research, Blast-Induced Neurotrauma Branch, Walter Reed Army Institute of Research, Silver Spring MD USA

Tuesday Posters
8:45 am – 10:30 am

3122 — *A0513* **Characteristics of GCaMP expressing cells in retinal ganglion cell layer of Thy1-GCaMP transgenic mice before and after optic nerve injury.** *Yabana Takeshi[1, 2], M. Hooper[1], S. Farrell[1], B. C. Chauhan[1].* [1]Ophthalmology and Visual Sciences, Dalhousie University; [2]Ophthalmology, Tohoku University Graduate School of Medicine **CR*

3123 — *A0514* **Transcriptomic assessing and guiding DSB repair pathway activity towards precise genomic engineering of post-mitotic neurons.** *Giovanni Pasquini[1], A. Kempe[1], M. Karl[1, 2], K. Stieger[3], V. Busskamp[1].* [1]DFG Research Center for Regenerative Therapies, Technische Universität Dresden; [2]Deutsches Zentrum für Neurodegenerative Erkrankungen e.V. (DZNE); [3]Department of Ophthalmology, Justus-Liebig-University Giessen

West Exhibition Hall B0042-B0059

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Clinical/Epidemiologic Research

333 Pediatric eye disease

Moderators: Fiona Stapleton and Megan E. Collins

3124 — *B0042* **Progression from Preplus to Plus Disease in Acute-Phase Retinopathy of Prematurity (e-ROP) Study.** *Qianqian E. Cheng[1], G. E. Quinn[2], E. Daniel[1], A. Baumritter[2], G. Ying[1].* [1]University of Pennsylvania; [2]Ophthalmology, Children's Hospital of Philadelphia

3125 — *B0043* **Prevalence and caretaker perception of childhood eye diseases in urban Tanzania.** *Ariana Naaseh[1], K. White[1], A. Dinicu[1], D. Zezoff[1], J. Chinn[1], A. Runge[1], A. Lucas[1], K. Bera[1], E. Crawford[1], E. Cooper[1], J. Maher[1], C. Boisvert[2].* [1]University of California, Irvine School of Medicine; [2]Gavin Herbert Eye Institute, University of California, Irvine School of Medicine

3126 — *B0044* **Concussion-Related Visual Dysfunction in Children: A Retrospective Study.** *Premkumar Gunasekaran[1], C. Hodge[1, 2], G. Browne[2], C. Fraser[2], K. A. Rose[1].* [1]University of Technology Sydney; [2]University of Sydney

3127 — *B0045* **Success rate of optical biometry measurements in primary school students.** *Takuto Hamada, T. Yamashita, N. Yoshihara, N. Kakiuchi, T. Sakamoto.* Kagoshima Uniersity

3128 — *B0046* **Accuracy of vision screening in pre-school and young school-aged children.** *Mythili Ilango, A. French, K. A. Rose.* University of Technology Sydney

3129 — *B0047* **How do states compare on children's vision testing? Investigating data in 2016-2017 National Survey of Children's Health (NSCH).** *Sandra S. Block[1], K. Baldonado[2].* [1]School-Based Vision Clinic, Illinois College of Optometry; [2]Prevent Blindness

3130 — *B0048* **Access to Eye Care Services by Schoolchildren in a Longitudinal Cohort.** *Felicia Adinanto, A. French, K. A. Rose.* Discipline of Orthoptics, University of Technology Sydney

3131 — *B0049* **Effectiveness of teachers visual acuity test in school screening of children from 3 to 14 years in Sete Barras, Sao Paulo, Brazil.** *Ana C. Carneiro[1], C. Pelegrini Barbosa Gracitelli[2], A. Fernandes[2], A. L. Silva[2], F. Hirai[2], C. Nakanami[1].* [1]Pediatric Ophthalmology, Federal University of São Paulo; [2]Federal University of São Paulo

3132 — *B0050* **Causes Of Childhood Blindness At A Tertiary Eye Care Facility In Saudi Arabia.** *Burhan A. Aldawalibi[1], K. F. Tabbara[1, 2].* [1]Ophthalmology, The Eye Center and The Eye Foundation for Research in Ophthalmology; [2]Department of Ophthalmology, College of Medicine, King Saud University

3133 — *B0051* **Social interaction in children with visual disabilities who live in a developing country IV: parents healthcare satisfaction.** *Bruna M. Araújo, L. A. Freire, J. R. Negrao, T. S. Venancio, N. Kasahara.* Irmandade da Santa Casa de Misericórdia de São Paulo

3134 — *B0052* **Frequency of office based probing for treatment of nasolacrimal duct obstruction.** *Irma Muminovic, W. Ryu, S. R. Lambert.* Ophthalmology, Stanford University

3135 — *B0053* **Secondary IOL Implantation among aphakic children in the Infant Aphakia Treatment Study.** *Carolyn Drews-Botsch[1], A. Nizam[1], E. Wilson[2], D. Vanderveen[3], S. R. Lambert[4].* [1]Department of Biostatistics and Bioinformatics, Emory University; [2]Medical University of South Carolina; [3]Harvard University; [4]Ophthalmology, Stanford University ↗

3136 — *B0054* **Epidemiology of Pediatric Chemical-related Eye Injuries Treated in US Emergency Departments (2000-2017).** *Nitasha Khanna, T. Yilmaz, M. Simon, M. E. Migliori.* Ophthalmology, Warren Alpert Medical School at Brown University

3137 — *B0055* **Natural history of retinal maturation in Asian Indian preterm infants with and without Retinopathy of Prematurity.** *Sucheta Kulkarni, R. Mendke, C. Deshpande.* H. V. Desai Eye Hospital

3138 — *B0056* **Efficacy of preschool vision screening in New Zealand children in a community with significant socioeconomic disadvantage.** *Joanna Black[1], R. Findlay[1], A. Leversha[2], A. Burge[2], N. Anstice[3].* [1]University of Auckland; [2]Starship Community Services, Auckland District Health Board; [3]School of Optometry and Vision Science, University of Canberra

3139 — *B0057* **Use of Social Media as a Tool to Enhance Public Awareness of Leukocoria.** *Aisha A. Mumtaz, J. Alexander.* Ophthalmology, University of Maryland Medical Center

3140 — *B0058* **Prognostic factors of poor final visual acuity after repair of open globe injuries in a pediatric population in Mexico.** *Marissa L. Fernandez, A. Treviño-Herrera, D. Rodriguez-Medellin, F. Morales-Wong, C. Fernández de Luna, A. Rodriguez-Martinez, G. Villarreal-Mendez, M. Fernandez-Espinosa, J. Mohamed-Hamsho, K. Mohamed-Noriega.* Departement of Ophthalmology, Universidad Autonoma de Nuevo Leon

3141 — *B0059* **Universal digital imaging screening cost of neonatal visual impairment causes.** *Lorena d. Haefeli, L. M. Neves, J. Malacarne, M. L. Moreira, A. A. Zin, M. T. Pinto.* Instituto Fernandes Figueira

West Exhibition Hall B0190-B0210

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Anatomy and Pathology/Oncology

334 Genetics and Light dependent mechanisms in myopia

Moderator: Elise N. Harb

3142 — *B0190* **The characterization of high myopic-associated SNPs in Asiatic populations in an European cohort of myopic maculopathy.** *Sergio Recalde[1, 2], M. Hernandez[1, 2], V. Bilbao[3, 1], L. Maestre-Rellan[1], I. Belza[1, 2], E. Alonso[1, 2], J. Bezunartea[1, 2], J. Araiz[4, 5], J. Ruiz-Moreno[6, 7], P. Fernandez[1, 2], A. Garcia-Layana[3, 1].* [1]Ophthalmology Experimental Lab., Clinica Universidad de Navarra; [2]IDISNA, Navarra Institute for Health Research; [3]Ophthalmology department, Clinica Universidad de Navarra; [4]Ophthalmology department, San Eloy Hospital; [5]Surgical-Clinical Institute of Ophthalmology, University of the Basque Country; [6]Ophthalmology department, Castilla La Mancha University; [7]Ophthalmology department, Baviera European Institute of Retina **CR*

3143 — *B0191* **Genetic risk scores of the largest multi-trait GWAS meta-analysis on refractive errors.** *Caroline C. Klaver[1, 2], M. S. Tedja[1], X. Han[3], V. J. Verhoeven[1, 4], N. Ericksson[5], N. Furlotte[5], N. Amin[6], C. v. Duijn[6, 7], S. MacGregor[3].* [1]Ophthalmology and Epidemiology, Erasmus Medical Center; [2]Ophthalmology, Radboud University Medical Center; [3]Statistical Genetics, QIMR Berghofer Medical Research Institute; [4]Clinical Genetics, Erasmus Medical Center; [5]23andMe; [6]Epidemiology, Erasmus MC; [7]Epidemiology, University of Oxford, NDPH **CR*

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

3144 — *B0192* **Dark-adapted rod and cone system responses in a genotyped twin cohort: exploring heritability and associations with a myopia risk variant.** *Xiaofan Jiang[2, 3], I. Chow[2], A. Tariq[2], T. Bhatti[2], T. Soorma[2], K. Williams[2], C. J. Hammond[2, 1], O. A. Mahroo[3, 2].* [1]Twin Research and Genetic Epidemiology, King's College London; [2]Ophthalmology, King's College London; [3]UCL Institute of Ophthalmology, University College London

3145 — *B0193* **Association of *PDGFRA* variants with myopia in southern Chinese population.** *Tsz Kin Ng[1], J. Liu[1], R. Zhang[1], L. Sun[1], Y. Zhang[1], C. C. Pang[2], M. Zhang[1].* [1]Joint Shantou International Eye Center of Shantou University and The Chinese University of Hong Kong; [2]Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong

3146 — *B0194* **Myopia is Significantly Linked to Chromosomes 7p14.3 and 17p13.2 Across Five Discrete Populations.** *Anthony Musolf[1], C. L. Simpson[2], L. Portas[3], F. Murgia[3], Q. Li[1], E. Ciner[4], D. Stambolian[5], J. E. Bailey-Wilson[1].* [1]National Human Genome Research Institute, National Institutes of Health; [2]Department of Genetics, Genomics and, University of Tennessee Health Science Center; [3]Institute of Population Genetics; [4]The Pennsylvania College of Optometry at Salus University,; [5]Department of Ophthalmology, University of Pennsylvania

3147 — *B0195* **Association of epigenetically altered genes and pathways involved in the pathogenesis of non-syndromic high myopia.** *Sangeetha Vishweswaraiah[1], J. Swierkowska[2], C. Guda[3], M. Mrugacz[4], J. Karolak[5], M. Gajecka[6], U. Radhakrishna[1].* [1]Oakland University- William Beaumont School of Medicine; [2]Institute of Human Genetics, Polish Academy of Sciences; [3]Dept. of Genetics, Cell Biology & Anatomy, University of Nebraska Medical Center; [4]Department of Ophthalmology and Eye Rehabilitation, Medical University of Bialystok; [5]Poznan University of Medical Sciences; [6]Department of Cancer Genetics, Institute of Human Genetics, Polish Academy of Sciences

3148 — *B0196* **Altered methylation profiling of miRNA encoding genes associated with High myopia.** *Nazia Saiyed[1], K. Johar[2], S. S. Chettiar[3], U. Ratnamala[4], U. Radhakrishna[5], S. K. Nath[6].* [1]Institute of Science, Nirma University; [2]Raghudeep Eye Hospital; [3]Department of Zoology, Gujarat University; [4]Creighton University; [5]Green Cross Pathology & Molecular Laboratory; [6]Arthritis and Immunology Research Program, Oklahoma Medical Research Foundation

3149 — *B0197* **Identification of two gene variants for axial length in children.** *Shiyao Lu[1], J. YAM[1], S. Tang[1], K. Kam[1, 2], A. L. Young[1, 2], C. C. Tham[1, 4], C. C. Pang[1, 3], L. Chen[1, 2].* [1]Department of Ophthalmology and Visual Sciences, the Chinese of Hong Kong; [2]Department of Ophthalmology and Visual Sciences, Prince of Wales Hospital; [3]Joint Shantou International Eye Center of Shantou University and the Chinese University of Hong Kong; [4]Hong Kong Eye Hospital

3150 — *B0198* **Commonalities between transcriptomic and proteomic profiles of FDM in chick.** *Loretta Giummarra Vocale[1, 2], N. Riddell[2], M. J. Murphy[2], S. G. Crewther[2].* [1]School of Health and Biomedical Sciences, RMIT; [2]School of Psychology & Counselling, La Trobe University

3151 — *B0199* **Crosstalk between prostanoid receptor (EP2) and peroxisome proliferator-activated receptor (PPAR)-linked cyclic adenosine monophosphate (cAMP) signaling affects myopia in guinea pigs.** *Nethrajeith Srinivasalu, S. Zhang, Y. Hu, X. Zhou, J. Qu.* Wenzhou Medical University

3152 — *B0200* **Light exposure history alters dopamine activity in the retina.** *Erica Landis[1], H. Park[2], M. A. Chrenek[2], L. He[2], C. Sidhu[2], R. Strickland[1], P. Iuvone[2, 3], M. T. Pardue[4, 1].* [1]Atlanta VA Health System; [2]Ophthalmology, Emory University School of Medicine; [3]Pharmacology, Emory University School of Medicine; [4]Biomedical Engineering, Georgia Institute of Technology

3153 — *B0201* **Wavelength Specificity of Violet Light on Suppressing Refractive Change and Axial Elongation in A Murine Model of Lens-induced Myopia.** *Xiaoyan Jiang[1, 2], T. Kurihara[1, 2], K. Mori[1, 2], S. Ikeda[1, 2], H. Torii[1, 2], K. Tsubota[2].* [1]Laboratory of Photobiology, Keio University School of Medicine; [2]Department of Ophthalmology, Keio University School of Medicine **CR*

3154 — *B0202* **Blue light in the evening stimulates ocular growth and alters ocular rhythms in chicks.** *Jonathan Elin-Calcador, S. Sarfare, C. Taylor, F. J. Rucker, D. L. Nickla.* New England College of Optometry

3155 — *B0203* **The effect of monochromatic light on eye growth of chicks with competing optical defocus.** *Rachel Ka-man Chun, H. Li, H. So, C. Yiu, K. Li, T. Lam, D. Y. Tse, C. To.* School of Optometry, The Hong Kong Polytechnic University

3156 — *B0204* **Determining the Isoluminant Point in Chicks.** *Alex Hentschel.* Vision Science, New England College of Optometry

3157 — *B0205* **Effect of colored "sunglasses" on L, M and S cone densities and opsin concentrations in the chicken.** *Sandra Gisbert Martinez, F. Schaeffel.* University of Tubingen

3158 — *B0206* **Dopamine transporter (DAT) expression changes in lens induced myopic eye in Guinea pigs.** *Wangyuan Liu, J. Dai.* Fudan University Eye and ENT Hospital

3159 — *B0207* **Effects of reduced ambient lighting on refractive development in infant rhesus monkeys.** *Zhihui She, L. Hung, B. Arumugam, K. M. Beach, E. L. Smith.* College of Optometry, University of Houston

3160 — *B0208* **Species differences in emmetropization under monochromatic light rearing.** *Christopher Taylor[2], G. Lin[1], N. Watts[1], F. J. Rucker[1].* [1]Biomedical Science and Disease, New England College of Optometry; [2]Vision Science, New England College of Optometry

3161 — *B0209* **The association between outdoor time, serum vitamin D, and myopia in preterm children with or without history of retinopathy of prematurity.** *Hung Da Chou[1], W. Wu[1, 2].* [1]Ophthalmology Department, Chang-Gung Memorial Hospital; [2]School of Medicine, Chang Gung University

3162 — *B0210* **Objective Measurement of Photopic Illuminance Rate in Daily Life of Progressive Myopic Children.** *CAFER TANRIVERDI[1], B. NUROZLER TABAKCI[1], A. Kilic[1], M. C. Mrochen[2].* [1]Ophthalmology, Medipol University; [2]Vivior AG

West Exhibition Hall B0211-B0228

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Lens

335 Lens Physiology and Accommodation

Moderator: Julie C. Lim

3163 — *B0211* **Research on decrease of lens elasticity in mice and rats during aging.** *Hayato Nagashima[1], M. Hayano[1], S. Amano[1], A. Sakuma[2], T. Hishiki[3, 4], M. Suematsu[4], K. Tsubota[1].* [1]Department of Ophthalmology, Keio University School of Medicine; [2]Kyoto Institute of Technology; [3]Clinical and Translational Research Center, Keio University School of Medicine; [4]Department of Biochemistry, Keio University School of Medicine

3164 — *B0212* **Ex vivo simulated accommodation in human donor eyes with and without cortical cataract.** *Ralph Michael[1], J. C. D'Antin[1], L. Pinilla Cortés[1], B. Sheil[2], H. J. Burd[2], R. I. Barraquer[1].* [1]Centro de Oftalmologia Barraquer; [2]University of Oxford

3165 — *B0213* **Age-dependence of mouse lens viscoelasticity.** *Bianca Maceo Heilman[1, 2], K. Mote[1, 2], A. Gonzalez[1], C. Rowaan[1], E. Arrieta[1], J. Silgado[1, 2], E. Weisson[3], W. M. Batchelor[2], N. M. Ziebarth[2], M. Ruggeri[1], S. Cabrera-Ghayouri[4], M. Dibas[4], J. Parel[1, 5], F. Manns[1, 2].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Department of Biomedical Engineering, University of Miami College of Engineering; [3]Dr. Nasser Ibrahim Al Rashid Orbital Vision Research Center, University of Miami Miller School of Medicine; [4]Allergan; [5]Vision Cooperative Research Centre **CR*

3166 — *B0214* **In Vivo Observational Clinical Study of Lens Transparency using the Vision Index Pen.** *Azin Abazari[2], H. Dhadwal[3], J. Wittpenn[2, 1].* [1]Ophthalmic Consultants of Long Island; [2]Ophthalmology, Stony Brook University; [3]Electrical and Computer Engineering, Stony Brook University **CR*

3167 — *B0215* **Assessing the Effects of Postmortem Preservation Time on Mouse Lens Properties Using Atomic Force Microscopy and Optical Coherence Tomography.** *Wyndham M. Batchelor[1], B. Maceo Heilman[1, 2], E. Arrieta[2], M. Ruggeri[2], J. Parel[2, 3], F. Manns[1, 2], S. Cabrera-Ghayouri[4], M. Dibas[4], N. M. Ziebarth[1].* [1]Department of Biomedical Engineering, College of Engineering, University of Miami; [2]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Brien Holden Vision Institute, University of New South Wales; [4]Allergan **CR*

3168 — *B0216* **Age-related changes in lens biomechanics, cell morphology, refractive index and transparency.** *Velia M. Fowler[4, 5], C. Cheng[2], J. Parreno[1], R. Nowak[1], S. K. Biswas[3], W. Lo[3], K. Wang[4], B. Pierscionek[4].* [1]Cell and Molecular Biology MB 114, Scripps Research Institute; [2]School of Optometry, Indiana University; [3]Department of Neurobiology, Morehouse School of Medicine; [4]School of Science and Technology, Nottingham-Trent University; [5]Department of Biological Sciences, University of Delaware

3169 — *B0217* **Acoustic radiation force-based elastography of the crystalline lens.** *Kirill Larin, S. Aglyamov.* University of Houston

3170 — *B0218* **Quantifying spherical aberration of the human crystalline lens during simulated accommodation using ray-tracing aberrometry.** *Marco Ruggeri[1], S. Williams[1, 2], B. Maceo Heilman[1, 2], A. Mohamed[3, 4], Y. Chang[1, 2], N. Sravani[3], S. S. Durgam[3], A. Ho[1, 5], J. Parel[1, 6], F. Manns[1, 2].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Inst, Univ of Miami; [2]Department of Biomedical Engineering, University of Miami College of Engineering; [3]Ophthalmic Biophysics, L V Prasad Eye Institute; [4]School of Optometry and Vision Science, The University of New South Wales; [5]Brien Holden Vision Institute; [6]Vision Cooperative Research Centre

3171 — *B0219* **In Vitro Models of Lens Stiffening.** *Matthew A. Reilly[1, 2], S. T. Croarkin[1], N. Pennza[1].* [1]Biomedical Engineering, The Ohio State University; [2]Ophthalmology and Visual Science, The Ohio State University

3172 — *B0220* **Intraocular lens(IOL) movement after normal and flipped implantation.** *Manqiang Peng[1, 2], L. Zhao[1], M. Khan[1], D. Lin[1, 2].* [1]Central South University; [2]Changsha Aier Hospital

3173 — *B0221* **Analysis of property changes in *ex vivo* crystalline lenses during simulated accommodation while modified with fs-laser pulses for presbyopia treatment.** *Jan Hahn, M. R. Geggus, T. Roth, T. Laue, M. Zabic, R. Hohndorf, T. Ripken.* Laser Zentrum Hannover e.V.

3174 — *B0222* **Accommodative lags and Reduced Image Quality in Children viewing personal electronic devices.** *Raman Prasad Sah, M. T. Jaskulski, A. Bradley, P. S. Kollbaum.* School of Optometry, Indiana University Bloomington

3175 — *B0223* **Age-related changes in the organization of lipids in intact human eye lens fiber cell membranes.** *Laxman Mainali[1], W. J. O'Brien[2], W. K. Subczynski[1].* [1]Biophysics, Medical College of Wisconsin; [2]Ophthalmology and Visual Sciences, Medical College of Wisconsin

3176 — *B0224* **Eye lens fiber cell membrane structure and dynamics: A biophysical perspective.** *Witold K. Subczynski[1], N. Stein[1], L. Mainali[1], M. Pasenkiewicz-Gierula[2], W. J. O'Brien[3].* [1]Biophysics, Medical College on Wisconsin; [2]Computational Biophysics and Bioinformatics, Jagiellonian University; [3]Ophthalmology and Visual Sciences, Medical College of Wisconsin

3177 — *B0225* **TRPV1-dependent activation of NKCC1 in mouse lens epithelium.** *Mohammad Shahidullah[1], A. Mandal[1], D. Krizaj[2], S. Redmon[2], N. A. Delamere[1].* [1]Physiology, Univ of Arizona, College of Medicine; [2]Ophthalmology, University of Utah School of Medicine

3178 — *B0226* **Assessing the fluidity and heterogeneity of eye lens fiber cell membranes using the advanced stretched exponential approach.** *Natalia Stein, L. Mainali, J. Hyde, W. K. Subczynski.* Biophysics, Medical College of Wisconsin

3179 — *B0227* **Profiling Heparan Sulfate Proteoglycan Expression In The Lens.** *Tayler F. Wishart[1, 2], F. J. Lovicu[1, 3].* [1]Anatomy & Histology, University of Sydney; [2]Bosch Institute; [3]Save Sight Institute

3180 — *B0228* **Reversible Lens Opacity in long-term observation : a case report.** *Qianyin CHEN, J. ZHANG.* Retina, Aier Eye Hospital Group,Guangzhou Aier Eye Hospital

West Exhibition Hall B0355-B0376

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Physiology/Pharmacology

336 Aqueous humor Dynamics and IOP

Moderator: Nicholas A. Delamere

3181 — *B0355* **Elevated IOP increases Shear Stress in Schlemm's Canal.** *Fiona McDonnell[1], K. M. Perkumas[1], N. E. Ashpole[1], J. Kalnitsky[1], J. M. Sherwood[2], D. R. Overby[2], W. Stamer[1].* [1]Duke University; [2]Imperial College London **CR*

3182 — *B0356* **Changes in Pore Densities of the Inner Wall Endothelium of Schlemm's Canal with Increasing Pressures Using 3D Serial Block-Face Scanning Electron Microscopy.** *Thuy Duong Le[1], D. L. Swain[1, 2], J. Lai[1], C. Lam[1, 3], H. Gong[1, 2].* [1]Department of Ophthalmology, Boston University School of Medicine; [2]Department of Anatomy and Neurobiology, Boston University School of Medicine; [3]Bryn Mawr College

3183 — *B0357* **Caveolin-mediated mechanosensation in Schlemm's canal endothelia.** *Maria Gomez-Caraballo[1], K. M. Perkumas[1], J. Kalnitsky[1], M. H. Elliott[2], W. Stamer[1].* [1]Department of Ophthalmology/Duke Eye Center, Duke University; [2]Department of Ophthalmology/ Dean McGee Eye Institute

3184 — *B0358* **Imaging Post-Trabecular Outflow Pathways in Spontaneous Canine Glaucoma.** *Gillian J. McLellan[1, 2], M. Telle[2], J. Nilles[2], K. Snyder[2], K. Oikawa[1, 2], J. A. Kiland[1], L. B. Teixeira[3], A. Huang[4].* [1]Ophthalmology and Visual Sciences, University of Wisconsin - Madison; [2]Surgical Sciences, University of Wisconsin-Madison; [3]Pathobiological Sciences, University of Wisconsin-Madison; [4]Doheny Eye Institute **CR*

3185 — *B0359* **The *PEXpress* lncRNA/hnRNPL complex regulates signaling and morphology of human Schlemm's canal cells.** *Heather Schmitt, W. Johnson, S. Strickland, M. A. Hauser, W. Stamer.* Ophthalmology, Duke University

3186 — *B0360* **Abnormal Extracellular Matrix Homeostasis of Trabecular Meshwork Cells Isolated from Human Donor Eyes with Pseudoexfoliation Syndrome.** *Katy C. Liu[1], R. VijayKrishna[2], I. D. Navarro[1], M. A. Hauser[1], W. Stamer[1].* [1]Ophthalmology, Duke University; [2]College of Optometry, University of Houston

3187 — *B0361* **Aqueous Humor and Serum 25-Hydroxyvitamin D Levels in Patients with Cataracts.** *Woong-Sun Yoo[1], M. Cho[2], G. Kim[1], H. Kim[1], S. Seo[1], S. Kim[1].* [1]Department of ophthalmology, Gyeongsang National University Hospital; [2]Gyeongsang National University Hospital

3188 — *B0362* **Effects of a Soluble Guanylate Cyclase Activator (AL-EF-58-MF61) on IOP and Aqueous Humor Dynamics in Monkeys.** *Shan Fan[1], G. Prasanna[2], C. M. Adams[4], C. Towler[3], C. B. Toris[1, 5].* [1]Ophthalmology, Univ of Nebraska Medical Ctr; [2]Ophthalmology, Novartis Institutes for Biomedical Research; [3]Technical Research & Development, Novartis; [4]Global Discover Chemistry, Novartis; [5]Case Western Reserve University ***CR**

3189 — *B0363* **Human Scleral Fibroblast Steroid-Response and Cellular Migration Inhibition.** *Thania Bogarin[1], S. Saraswathy[2], E. Barron[2], E. Barron[2], J. J. Zheng[1], R. N. Weinreb[3], A. Huang[1, 2].* [1]Ophthalmology, UCLA; [2]Ophthalmology, Doheny Eye Institute; [3]Ophthalmology, Shiley Eye Institute ***CR**

3190 — *B0364* **Role of LOXL1 in conventional outflow function and behavior.** *Guorong Li[1], W. M. Johnson[2], H. Schmitt[1], I. D. Navarro[1], J. J. Cui[3], M. Groelle[1], H. Roberts[1], M. A. Hauser[1], W. Stamer[1].* [1]Ophthalmology, Duke Eye Center; [2]Cyagen Biosciences Inc; [3]East Chapel Hill High School

3191 — *B0365* **Relationship between episcleral venous pressure, intraocular pressure and trabecular meshwork resistance: a mathematical model.** *Sunu Mathew[1], A. Harris[1], A. Verticchio Vercellin[2, 3], B. Wirostko[4], B. Martin[1], G. Guidoboni[5].* [1]Ophthalmology, Indiana University School of Medicine; [2]Ophthalmology, University of Pavia; [3]IRCCS - Fondazione Bietti; [4]Moran Eye Center; [5]University of Missouri ***CR**

3192 — *B0366* **Evaluating the Short-Term Effects on Semi-automated Aqueous Flare Assessment After Fundus Fluorescein Angiography Imaging.** *Nam V. Nguyen[1, 2], M. Halim[3], M. Hassan[3], A. Segawa[4], M. Ertop[4], Z. Aktas[4], S. Ozdek[4], G. Gurelik[4], A. N. Tran[3], S. Mahajan[3], R. Afridi[3], M. A. Ibrahim[2], Y. Sepah[3], Q. D. Nguyen[3], M. Hasanreisoglu[3, 4].* [1]Department of Biochemistry, University of Nebraska-Lincoln; [2]Ocular Imaging Research and Reading Center; [3]Department of Ophthalmology, Byers Eye Institute Stanford University; [4]Department of Ophthalmology, Gazi University

3193 — *B0367* **Concomitant dosing of the NO-donor NCX 667 (1%) and Xalatan® (latanoprost ophthalmic solution 0.005%) results in robust and sustained IOP-lowering in ocular normotensive dogs.** *Michael V. Bergamini, T. Navratil, F. Impagnatiello, E. Bastia.* Nicox ***CR**

3194 — *B0368* **The effect of topical Atropine on episcleral venous pressure in rats.** *Clemens Strohmaier, S. Bartos, A. Ladek, H. Reitsamer.* Ophthalmology & Optometry, Paracelsus University

3195 — *B0369* **Intraocular pressure estimates measured using a novel hand held tonometer.** *Pinakin G. Davey[1], J. Maggiano[2, 1], L. C. Peterson[2], S. Maurath[2], P. Joson[3].* [1]College of Optometry, Western University of Health Sciences; [2]Orange County Retina; [3]Tayani Institute ***CR**

3196 — *B0370* **Intraocular pressure changes and corneal biomechanics after hyperopic small-incision lenticule extraction.** *Dan Fu, X. Zhou.* ophthalmology and vision science, Eye and ENT Hospital of Fudan University

3197 — *B0371* **Effects of Simulated High Altitude on Intraocular Pressure: The Beijing intracranial and intraocular (ICOP)study.** *Yuan Xie[1], D. Yang[1], Y. Sun[1], Y. Yang[1], G. Wang[2], N. Wang[1].* [1]Beijing Tongren Eye Center, Beijing Tongren Hospit; [2]Minhang general hospital ↗

3198 — *B0372* **Effects of posture changes on Intraocular Pressure measurements in Healthy Eyes - Goldman Applanation, Schoitz Indentation and PT100 Noncontact tonometers.** *Uchechukwu L. Osuagwu[1], A. TAIRI[5], D. Simmons[1, 2], M. King[4], H. Zafar[6, 7], K. C. Ogbuehi[3].* [1]Department of Medicine, Western Sydney University; [2]Head of Endocrinology Department, Campbelltown Hospital SWSLHD; [3]School of Medicine, University of Otago; [4]Department of Architecture, Building and Engineering, Otago Polytechnic; [5]Department of Optometry and Vision Sciences,College of Applied Medical Sciences, King Saud University; [6]Department of Rehabilitation Sciences & Rehabilitation Research Chair· King Saud University; [7]Department of Odontology Clinical Oral Physiology, Umea University

3199 — *B0373* **Angiotensin II receptor blockers in nanoparticle eye drops lower IOP in rabbits.** *Laura Lorenzo-Soler[1], Ó. B. Ólafsdóttir[1, 3], Í. M. Kristinsdóttir[2], P. Jansook[2], T. Loftsson[4, 2], E. Stefánsson[1, 2].* [1]Faculty of Medicine, University of Iceland; [2]Oculis ehf.; [3]Department of Ophthalmology, Landspitali University Hospital; [4]Faculty of Pharmaceutical Sciences, University of Iceland ***CR**

3200 — *B0374* **Intraocular Hypertension Due To Repeated Injections Of Intravitreal Dexamethasone For Macular Edema: A 3-Year Observational Study.** *fernanda PACELLA, E. PACELLA, l. taverniti, E. Trovato Battagliola, p. Turchetti, L. Pannarale.* Organs sense, Sapienza Roma ↗

3201 — *B0375* **Changes in ciliary body melanopsin: effect on melatonin levels in the aqueous humor.** *Jesus J. Pintor[1], H. Awad Akozi[1], J. Sanchez-Naves[2], M. perez de lara[1], A. Gaya[3], J. Calvo[3].* [1]Bioquimica y Biologia Molecular IV, E U de Optica UCM-Ocupharm Diagnostics SL; [2]Department of Ophthalmology, Balear Institut of Ophthalmology, Palma de Mallorca, Spain.; [3]Tissue Bank, Balearic Island Blood and Tissue Bank Foundation (FBSTIB), Cell Therapy and Tissue Engineering Group (TERCIT), Balearic Islands Institute of Health Research (IdISBa)

3202 — *B0376* **Electrochemical characterization of ciliary epithelium physiology: a theoretical approach.** *Giovanna Guidoboni[1], G. Bonifazi[2], R. Sacco[2], A. Layton[3], S. D. Olson[4], M. C. Brucal Hallare[5], B. A. Siesky[6], C. Bruttini[7], A. Verticchio Vercellin[7, 8], A. Harris[6].* [1]University of Missouri; [2]Politecnico di MIlano; [3]University of Waterloo; [4]Worchester Polytechnic Institute; [5]Norfolk State University; [6]Indiana University; [7]Ophthalmology, University of Pavia; [8]IRCCS - Fondazione Bietti ***CR**

West Exhibition Hall B0377-B0407

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Cornea

337 Corneal Epithelium Wound Repair and Healing

Moderators: Gudiseva Chandrasekher and Gauri Tadvalkar

3203 — *B0377* **Synthetic high-density lipoprotein nanoparticles (HDL NPs): a novel microRNA (miRNA) delivery system for ocular anterior epithelia.** *Robert M. Lavker, K. McMahon, N. Kaplan, A. Calvert, W. Yang, C. S. Thaxton, H. Peng.* Northwestern University

3204 — *B0378* **Amniotic membrane transplantation with bandage contact lens in the treatment of persistent epithelial defects. A novel sutureless technique.** *Jesus H. Davila Alquisiras, K. Vazquez-Romo, E. Hernandez-Quintela, G. De Wit-Carter, N. Ramos-Betancourt.* Cornea and Refractive Surgery, Asociación para Evitar la Ceguera en México

3205 — *B0379* **Deposition of Provisional Matrix Components in Corneas Exposed to Nitrogen Mustard Persists at Least 7 Days After Exposure.** *Marion K. Gordon, R. Hahn, P. Zhou, Y. Chang, D. Gerecke.* Pharmacology & Toxicology, Rutgers University

3206 — *B0380* **An engineered dimeric fragment of hepatocyte growth factor improves corneal epithelial wound healing in vitro.** *Kaylene Carter[1], A. Z. Ye[2], G. Fernandes-Cunha[1], J. R. Cochran[2, 3], D. Myung[1, 3].* [1]Ophthalmology, Stanford University School of Medicine; [2]Bioengineering, Stanford University; [3]Chemical Engineering, Stanford University ***CR**

3207 — *B0381* **The Effects of Ganoderma lucidum on Corneal Ulceration in Rabbits.** *Emmanuel E. Okenwa-Vincent[1], W. Yego[1], A. Ragot[1], E. Alabi[2].* [1]Department of Optometry and Vision Science, Masinde Muliro University of Science and Technology; [2]Department of Ophthalmology and Center for Visual Science, University of Rochester Medical Center

3208 — *B0382* **Organic lyophilized *aloe vera* membrane as a new technology for ocular surface alkali burn.** *josefina A. mejias smith, C. Maldonado, N. Canorio, R. Zuñiga, K. Ruiz-Montenegro, M. Camino, L. Izquierdo, M. A. Henriquez.* Instituto de ojos Oftalmosalud

3209 — *B0383* **Effects of Calcium-Enriched and Vitamin D-Deficient Diets on Corneal Epithelial Wound Healing and Nerve Density in Diabetic Vitamin D Receptor Knockout Mice.** *Xiaowen Lu, S. Vick, M. A. Watsky.* Cellular Biology and Anatomy, Augusta University

3210 — *B0384* **"Plexitome", a Novel, Microfabricated Device for the Treatment of Corneal Abrasions and Recurrent Corneal Erosions.** *Edward Chaum[1], C. Winborn[2].* [1]Ophthalmology, Vanderbilt University Medical Center; [2]University of Iowa **CR*

3211 — *B0385* **Sutureless Transplantation of Dialdehyde Starch-crosslinked Amniotic Membrane for the Treatment of Ocular Surface Disease.** *Jeongho Kim[1, 2], S. Yi[1, 2], S. Jung[1, 2], Y. Nam[1, 2], B. Park[1, 2], H. Kim[1, 2].* [1]Department of Ophthalmology, School of Medicine, Kyungpook National University; [2]Bio-Medical Institute, Kyungpook National University Hospital

3212 — *B0386* **Nanoconjugates for normalization of cultured human diabetic limbal epithelial cells and organ-cultured corneas by gene therapy.** *Andrei A. Kramerov[1, 2], R. Shah[1, 2], S. Turjman[1, 2], M. Tondar[1, 2], S. Ghiam[2, 3], H. Ding[4], J. Y. Ljubimova[4], M. Saghizadeh[1, 2], A. V. Ljubimov[1, 2].* [1]Biomedical Sciences, Cedars-Sinai Medical Center; [2]Regenerative Medicine Institute Eye Program, Cedars-Sinai Medical Center; [3]University of California; [4]Neurosurgery, Cedars-Sinai Medical Center **CR*

3213 — *B0387* **Protein Ubiquitination Promotes Corneal Epithelial Wound Healing.** *Peter Reinach, X. Ling, J. Tang, D. Yan.* Ophthalmology and Optometry, Wenzhou Medical University

3214 — *B0388* **Role of Neuropilin-1 in Impaired Sensory Nerve Regeneration and Wound Healing in the Diabetic Mouse Cornea.** *Patrick S. Lee, F. X. Yu.* Ophthalmology, Wayne State University School of Medicine

3215 — *B0389* **Identifying Surfaces for ex vivo expansion of conjunctiva.** *Kyle G. Doherty[1], S. Dixon[2], R. Williams[1].* [1]Eye and Vision Science, University of Liverpool; [2]Biomer Technology Limited **CR*

3216 — *B0390* **Effects of μ-Opioid Receptor Agonists on Wound Healing of Corneal Epithelium.** *Erdost YILDIZ[1], O. Gedar Totuk[2], A. Mollica[4], K. Kabadayi[5], A. Sahin[1, 3].* [1]Research Center for Translational Medicine, Koç University; [2]Department of Ophthalmology, Bahçesehir University; [3]Department of Ophthalmology, Koç University; [4]Department of Pharmacy, Università degli Studi G. d'Annunzio Chieti e Pescara; [5]Faculty of Medicine, Bahçesehir University

3217 — *B0391* **Expression of axon guidance proteins in the trigeminal ganglia and cornea and their recovery after cornea subbasal nerve injury.** *Victor H. Guaiquil, G. Dimailig, Q. Zhou.* University of Illinois-Chicago

3218 — *B0392* **Photobonded silk-fibroin films for corneal dressing.** *Andres De la Hoz[1], I. E. Kochevar[2], F. Omenetto[3], S. Marcos[1].* [1]Visual Optics and Biophotonics Group, Instituto de Optica, CSIC; [2]Wellman Center for Photomedicine, Massachusetts General Hospital; [3]Silk Lab, Tufts University

3219 — *B0393* **Ultrahigh-resolution anterior segment optical coherence tomography in corneal wound healing.** *Rene M. Werkmeister[1, 6], A. Pantalon[1, 2], M. Pfister[1, 6], V. Aranha dos Santos[1], G. Schmidinger[3], G. Garhofer[4], D. Schmidl[4], L. Schmetterer[1, 5].* [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]Department of Ophthalmology, Gr. T. Popa University of Medicine and Pharmacy; [3]Department of Ophthalmology, Medical University of Vienna; [4]Department of Clinical Pharmacology, Medical University of Vienna; [5]Singapore Eye Research Institute, Singapore National Eye Centre; [6]Christian Doppler Laboratory of Ocular and Dermal Effects of Thiomers, Medical University of Vienna ↗

3220 — *B0394* **Suppressed expression of ISG15 is associated delayed Corneal Wound Healing in C57BL/6 mice Suppressed expression of ISG15 is associated delayed Corneal Wound Healing in C57BL/6 mice.** *Nan Gao, F. X. Yu.* Ophthalmology, Wayne State Univ/Kresge Eye Inst

3221 — *B0395* **Chronic inflammation induces abnormal differentiation of corneal epithelial stem cells.** *Shangkun Ou[2, 1], J. Yu[2, 1], Y. Guo[2, 1], H. He[2], Y. Li[2, 1], S. Lin[2, 1], M. Liang[2, 1], Y. Mao[2, 1], Z. Liu[2, 1], W. Li[2, 1].* [1]Xiangan hospital of Xiamen university; [2]The Eye Institute of Xiamen University

3222 — *B0396* **Corneal denervation causes epithelial apoptosis through inhibiting NAD biosynthesis.** *Ya Li, Q. Zhou, W. Shi.* Shandong Eye Institute

3223 — *B0397* **Comparison of leukocyte-rich platelet-rich plasma and pure platelet-rich plasma eye drops for release of growth factors.** *Tatsuhiko Kobayashi, T. Suzuki, T. Itokawa, K. Kakisu, Y. Hori.* Toho University Omori Hospital **CR*

3224 — *B0398* **Pre-Clinical Evaluation of the Safety of Subconjunctivally Injected Bone Marrow Mesenchymal Stem Cells in Rodents and Rabbits.** *Ilham Putra[1], X. Shen[1], T. Nguyen[1], B. Rabiee[1], K. Anwar[1], N. Afsharkhamseh[1], S. Jabbehdari[1], G. Yazdanpanah[1], M. Eslani[1], C. Joslin[1], R. Dana[2], P. Hematti[3], A. R. Djalilian[1].* [1]Ophthalmology and Visual Sciences, University of Illinois- Chicago; [2]Ophthalmology, Harvard Medical School; [3]Division of Hematology/ Oncology, Department of Medicine, University of Wisconsin, School of Medicine and Public Health

3225 — *B0399* **Effects of a Rho kinase inhibitor on epithelial wound healing of a mouse cornea.** *Yukihisa Takada, O. Yamanaka, Y. Okada, T. Sumioka, T. Tamura, S. Saika.* Ophthalmology, Wakayama Medical University **CR*

3226 — *B0400* **Role of eosinophil-derived lipid mediators in controlling corneal wound healing.** *Mamoru Ogawa[2, 1], Y. Isobe[2], t. ishihara[2], Y. Uchino[1], K. Tsubota[1], M. Arita[2].* [1]Ophthalmology, Keio Univ School of Medicine; [2]Laboratory for Metabolomics, RIKEN

3227 — *B0401* **Human Platelet Lysate Delivered Via an Ocular Wound Chamber for the Treatment of Corneal Surface Defects.** *Jennifer McDaniel[1], A. Holt[1], A. J. Johnson[1], E. Eriksson[2], G. L. Griffith[1].* [1]Sensory Trauma, US Army Institute of Surgical Research; [2]Harvard Medical School

3228 — *B0402* **The OBSERV platform (Ophthalmic Bioreactor Specialized in Experimental Research & Valorisation): an innovative ex vivo model of human herpetic keratitis.** *Emilie COURRIER[1], V. LAMBERT[1, 2], C. MAURIN[1], T. BOURLET[3], P. VERHOEVEN[3], S. CHARAOUI-BOUKERZAZA[3], S. AL BOURGOL[1], E. CROUZET[1], C. PERRACHE[1], P. HERBEPIN[1], Z. HE[1], P. Gain[1, 2], G. Thuret[1, 2].* [1]Laboratory Biology, Engineering and Imaging of Corneal Grafts, Jean Monnet University; [2]University Hospital of Saint-Etienne, Department of Ophthalmology; [3]Groupe Immunité des Muqueuses et Agents Pathogènes, Jean Monnet University **CR*

3229 — *B0403* **Dioleoylphosphatidylglycerol (DOPG) inhibits heat shock protein B4 (HSPB4)/ toll-like receptor 2 (TLR2) axis inflammatory mediator expression in a macrophage cell line.** *Luke Y. Chang[1], V. Choudhary[2, 3], R. R. Patel[1], R. Patel[1], A. Estes[1], D. D. Bogorad[1], M. A. Watsky[4], W. B. Bollag[2, 3].* [1]Ophthalmology, Augusta University; [2]Charlie Norwood VA Medical Center; [3]Physiology, Augusta University; [4]Cellular Biology and Anatomy, Augusta University **CR*

3230 — *B0404* **A novel therapeutic approach for treating corneal alkaline burn injury by targeting Fidgetin-like 2, a microtubule regulator.** *Cheng Zhang[1], J. Yang[2], D. Anugo[2], B. O'Rourke[3], D. Sharp[4], S. Zhou[5], R. S. Chuck[1].* [1]Ophthalmology and Visual Sciences, Albert Einstein College of Medicine, Montefiore Medical Center; [2]Ophthalmology and Visual Sciences, Albert Einstein College of Medicine; [3]MicroCures, INC; [4]Department of Physiology and Biophysics, Albert Einstein College of Medicine; [5]Ophthalmology and Visual Sciences, Zhong-Shan Ophthalmic Center **CR*

3231 — *B0405* **Use of cyanoacrylate glue in corneal thinning and perforation associated with infectious keratitis.** *shuyan zhu[1, 2], J. Yin[1, 2], R. B. Singh[1, 2], R. Al Karmi[1, 2], A. Yung[1, 2], M. Yu[1, 2], R. Dana[1, 2].* [1]Ophthalmology, Massachusetts Eye and Ear Infirmary; [2]Harvard Medical School

3232 — *B0406* **Expression of lubricin in the human amniotic membrane.** *Jingyi Wang[1, 2], D. A. Sullivan[1], D. Chen[1, 2], H. Xie[1, 3], Y. Li[2], Y. Liu[1].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, HMS; [2]Ophthalmology, Peking Union Medical College Hospital; [3]Ophthalmology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology ***CR**

3233 — *B0407* **Tear Biomarkers in contact sports.** *Emilia Cantera[1, 2], M. Cortes[1, 3], B. O. Balzamino[4], C. Briamonte[2], G. Esposito[4], A. Micera[4].* [1]Israelitic Hospital; [2]Health and Sports Medicine Centre, University of Rome" Foro Italico"; [3]University Campus Bio Medico; [4]Research Laboratories in Ophthalmology, IRCCS GB Bietti Foundation

West Exhibition Hall B0476-B0486

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Cornea

338 Corneal neuropathy: Diabetic and other

Moderator: Mehrnoosh Saghizadeh

3234 — *B0476* **Elucidating the role of peroxisome proliferator-activated receptor alpha in diabetic keratopathy using novel *in vivo* and *in vitro* models.** *Amy Whelchel, G. Matlock, J. Ma, D. Karamichos.* University of Oklahoma Health Sciences Center

3235 — *B0477* **Soluble form TrkB, but not full-length TrkB, express in mouse cornea.** *Hironori Uehara, B. Archer, B. K. Ambati.* Moran Eye Center, University of Utah

3236 — *B0478* **Weak electric current stimulates corneal nerve regeneration after superficial lamellar keratectomy.** *SeRa Park[1], J. Kim[2], P. Kim[3], D. Kim[3], D. Lim[2], T. Chung[2].* [1]samsung biomedical research institute; [2]Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine; [3]Nu Eyne Co., Ltd

3237 — *B0479* **Corneal reinnervation after corneal neurotization using a great auricular nerve graft: an in vivo confocal microscopy study.** *Nacim Bouheraoua, O. Levy, I. Goemaere, V. Borderie, L. Laroche, H. Benkhatar.* ophthalmology, Quinze national ophthalmology center

3238 — *B0480* **Upregulated expression of substance P in regenerating corneal nerves.** *Yong-Soo Byun, J. Mok, C. Joo.* Ophthalmology and Visual Science, Catholic University of Korea, College of Medicine

3239 — *B0481* **Liquid jet aesthesiometer repeatability and sex differences in corneal sensitivity.** *Blanka Golebiowski[1], K. Ehrmann[2, 1], J. Chen[1], B. Truong[1], F. Stapleton[1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]Brien Holden Vision Institute ***CR**

3240 — *B0482* **Corneal Nerve Fractal Dimension Analysis Detects A Distinct Pattern Of Loss Between Peripheral Neuropathies Of Different Etiology.** *Ioannis Nikolaos Petropoulos[1], X. Chen[2], M. Ferdousi[3], H. Kemp[4], S. Hau[7], M. Stettner[5], T. Bharani[1], A. Al Mohamedi[1], G. Ponirakis[1], J. Graham[6], A. Rice[4], R. A. Malik[1].* [1]Research, Weill Cornell Medicine Qatar; [2]School of Computer Science, University of Nottingham; [3]Institute of Cardiovascular Sciences, University of Manchester; [4]Faculty of Medicine, Department of Surgery and Cancer, Imperial College London; [5]Neurology, Essen University Hospital; [6]Division of Informatics, Imaging and Data Sciences, University of Manchester; [7]Institute of Ophthalmology, University College London

3241 — *B0483* **Changes to corneal sensitivity precede symptoms of peripheral neuropathy in diabetes.** *Alexis Ceecee Zhang[1], J. P. Craig[2], L. E. Downie[1].* [1]Department of Optometry & Vision Sciences, University of Melbourne; [2]Department of Ophthalmology, New Zealand National Eye Centre, University of Auckland

3242 — *B0484* **Corneal sensory nerve fiber swelling in streptozotocin-diabetic rats.** *Nils Wendel, W. Wang, A. Barber.* Ophthalmology, Pennsylvania State College of Medicine

3243 — *B0485* **The effect of topical NGF, EGF, IGF-1 administration on healing of corneal epithelial defect in a mouse model of neurotrophic keratopathy.** *Yuka Okada, S. Saika.* Ophthalmology, Wakayama Medical University

3244 — *B0486* **Corneal ultrastructural modifications after therapy with Cenegermin eye drops for the treatment of moderate-severe neurotrophic keratopathy.** *Luca Napoli, E. Forbice, F. Semeraro.* Ophthalmology Clinic, Department of Medical and Surgical Specialties, Radiological Specialties and Public Health, University of Brescia, Brescia, Italy

Tuesday Posters
8:45 am – 10:30 am

West 211

Tuesday, April 30, 2019 10:45 AM-11:30 AM

339 General Business Meeting

Welcome - ARVO President, Dr. Steven J. Fliesler, PhD, FARVO

Presentation of ARVO Distinguished Service Awards -ARVO President, Dr. Steven Fliesler, PhD, FARVO

-Dr. Claude F. Burgoyne, MD, FARVO

-Dr. Raymond A. Applegate, OD, PhD, FARVO

-Dr. Andrew D. Dick, MBBS, MD, FMedSci, FARVO

Presentation of the Joanne G. Angle Award to Dr. Thomas Yorio, PhD, FARVO

- ARVO President Dr. Steve Fliesler, PhD, FARVO

Presentation of Membership Update and Election Results: -Membership and Annual Meeting attendance update - ARVO Executive Vice President, Dr. Justine R. Smith, FRANZCO, PhD, FARVO

-Introduction of Incoming Officers - ARVO Executive Vice President, Dr. Justine R. Smith, FRANZCO, PhD, FARVO

-2019 Achievement Award recipients - ARVO Executive Vice President, Dr. Justine R. Smith, FRANZCO, PhD, FARVO

-2020 Achievement Award nominees - ARVO Executive Vice President, Dr. Justine R. Smith, FRANZCO, PhD, FARVO

Conclude Meeting - ARVO Executive Vice President, Dr. Justine R. Smith, FRANZCO, PhD, FARVO

East 2/3

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Physiology/Pharmacology

340 Retina/RPE New drugs, Mechnisms of action, and Toxicility

Moderators: Filippo Drago and Thomas Yorio

3245 — *11:45* **Expanded clinical spectrum of pentosan polysulfate sodium-associated pigmentary maculopathy.** *Adam M. Hanif[5], S. Taylor[2], S. Armenti[3], R. Shah[1], A. Igelman[2], M. E. Pennesi[2], T. Jayasundera[3], P. Yang[2], T. S. Hwang[2], C. J. Flaxel[2], R. Khurana[4], J. D. Stein[3], N. Jain[1].* [1]Ophthalmology, Emory University; [2]Casey Eye Institute - OHSU; [3]Kellogg Eye Center - University of Michigan; [4]Northern California Retina Vitreous Associates; [5]Emory University School of Medicine **CR*

3246 — *12:00* **Designing topical VEGF-A inhibitors with high retinal bioavailability using *ex vivo* permeability modelling.** *David O. Bates[2, 1], S. Liddell[2], H. Toop[3], E. A. Stewart[2], A. Murphy[2], A. Habgood[2], J. Daubney[2], C. Gutierrez-Caballero[2], K. McKechnie[2], J. Morris[3, 2], J. Batson[2].* [1]Division of Cancer and Stem Cells, University of Nottingham; [2]Exonate Ltd; [3]UNSW **CR*

3247 — *12:15* **A new short blunt-ended double strand RNA-dsRNA-184-U- inhibits retinal neovascularization through dissociating F_0F_1-ATP synthase.** *yueqiu luo, s. liu.* Eye Center of the Second Affiliated Hospital, School of Medicine, Zhejiang University **CR*

3248 — *12:30* **Association between a newly described pigmentary maculopathy and pentosan polysulfate sodium.** *Rachel Shah[1], A. M. Hanif[2], J. Yan[1], B. Cribbs[1], G. O'Keefe[1], S. Yeh[1], A. Hendrick[1], J. Shantha[1], G. Hubbard[1], P. Patel[1], P. Rao[1], N. Jain[1].* [1]Ophthalmology, Emory University; [2]Ophthalmology, Emory University **CR*

3249 — *12:45* **Variable nonsense mediated decay in choroideremia patients points to a prognostic indicator for nonsense suppression therapy.** *Mariya Moosajee[1, 2], A. Mitsios[1], V. Kalatzis[3], P. J. Coffey[1], A. M. Dubis[1, 2], A. Webster[1, 2], H. Sarkar[1].* [1]UCL Institute of Ophthalmology; [2]Genetics, Moorfields Eye Hospital; [3]INSERM

3250 — *1:00* **QR-421a, an antisense oligonucleotide, for the treatment of retinitis pigmentosa due to *USH2A* exon 13 mutations.** *Hester van Diepen[1], K. Dulla[1], H. Chan[1], I. Schulkens[1], W. Beumer[1], L. Vorthoren[1], C. den Besten[1], L. Buil[1], J. Turunen[1], J. Miao[1], S. Broekman[2], E. de Vrieze[2], M. Dona[2], S. Albert[2], E. van Wijk[2], P. S. Adamson[1].* [1]ProQR Therapeutics; [2]Radboudumc **CR*

3251 — *1:15* **Topical OT-717 confers superior retinal protection compared to intravitreal anti-VEGF in mouse retinal vein occlusion model.** *Maria I. Avrutsky[1], Y. Y. Jean[1], C. K. Colon Ortiz[1], J. Lawson[1], C. Chen[1], A. M. Potenski[1], F. Morales[1], S. Snipas[2], G. S. Salvesen[2], C. M. Troy[1].* [1]Pathology and Cell Biology, Columbia University; [2]Sanford Burnham Prebys Medical Discovery Institute **CR*

East 8&15

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Retina

341 Update on endophthalmitis

Moderators: Vishali Gupta and Glenn Yiu

3252 — *11:45* **Endophthalmitis Prophylaxis Study (EPS) - Comparison of intracameral cefuroxime and intracameral moxifloxacin in prophylaxis of post cataract surgery endophthalmitis in rural centers of L V Prasad Eye Institute, India.** *Varsha M. Rathi[1], S. Sharma[2], T. Das[3], R. C. Khanna[1].* [1]Gullapalli Pratibha Rao International Center for Advancement of Rural Eye care, L V Prasad Eye Institute; [2]Jhaveri Microbiology Centre, L V Prasad Eye Institute; [3]Kannuri Santhamma Center for Vitreo - Retina Services, L V Prasad Eye Institute ↗

3253 — *12:00* **Towards immediate intravitreal antibiotic treatment of postoperative endophthalmitis employing PCR-based diagnostics.** *Adriaan Heineken[1], R. Jansen[2], M. Meester[1], T. Ossewaarde[3], J. van Meurs[1].* [1]Ophthalmology, Rotterdam Eye Hospital; [2]Regional Laboratory Kennemerland; [3]Medical Microbiology, Maasstad Ziekenhuis

3254 — *12:15* **PCR versus Conventional Culture for Identification of Endophthalmitis Pathogens.** *Scott D. Walter[1, 2], V. J. Stoj[2], N. Saba[2].* [1]Retina Consultants, P.C.; [2]University of Connecticut School of Medicine **CR*

3255 — *12:30* **Genomic and gene expression analyses of pathogens in post-surgical endophthalmitis.** *Cecilia S. Lee[1], S. Kasi[2, 3], B. Hong[2, 4], F. Ali[2], L. Akleswaran[1], A. Lee[1], S. Garg[2, 5], R. N. Van Gelder[1].* [1]University of Washington; [2]Wills Eye Hospital; [3]The Retina Group of Washington; [4]Vitreo Retinal Associates; [5]Mid Atlantic Retina **CR*

3256 — *12:45* **Rapid Pathogen Identification with Matrix Assisted Laser Desorption-Ionization Time-of-Flight Mass Spectrometry and Rapid Antimicrobial Susceptibility Testing with Vitek 2 in *In-Vitro E*ndophthalmitis without Prior Culture.** *Lindsay Chun[1, 2], L. Dolle-Molle[3], D. Missiakas[4], O. Schneewind[4], K. Beavis[3, 5], D. Skondra[2].* [1]University of Chicago Pritzker School of Medicine; [2]Department of Ophthalmology and Visual Science, University of Chicago Medical Center; [3]Clinical Microbiology Laboratory, University of Chicago Medical Center; [4]Department of Microbiology, University of Chicago; [5]Department of Pathology, University of Chicago Medical Center

3257 — *1:00* **Genotypic and phenotypic antibiotic resistance in *Staphylococcus epidermis* endophthalmitis.** *Diana Laura, N. L. Scott, K. C. Fan, D. Miller, H. Flynn.* Bascom Palmer Eye Institute

East 11/12

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Retinal Cell Biology

342 Retinal Angiogenesis and Related Mechanisms in Vascular Biology

Moderators: Andreas Ohlmann and Jennifer L. Wilkinson-Berka

3258 — *11:45* **Targeting neurovascular injury: Arginase 1 promotes angiogenic repair and limits neurodegeneration.** *Ruth B. Caldwell[1, 2], A. Y. Fouda[1, 5], Z. Xu[1, 5], J. Suwanpradid[1], M. Rojas[1, 5], E. Shosha[1, 5], C. Patel[1], J. Xing[1], S. Narayanan[3, 5], R. W. Caldwell[4, 5].* [1]Vascular Biology Center, Medical College of Georgia; [2]Charlie Norwood VA Medical Center; [3]Clinical Pharmacy, University of Georgia; [4]Pharmacology & Toxicology, Medical College of Georgia; [5]Vision Discovery Institute, Medical College of Georgia

3259 — *12:00* **Endomucin and galectin-3 modulate VEGFR2-mediated endothelial functions.** *Michelle LeBlanc, I. Cano, Z. Hu, k. Saez-Torres, M. Saint-Geniez, Y. Ng, P. Argueso, P. A. D'Amore.* Schepens Eye Research Institute/ Mass Eye and Ear

3260 — *12:15* **$1,25(OH)_2D_3$ Attenuates Retinal Angiogenesis by Inhibiting Proangiogenic Activity of Pericytes.** *Nader Sheibani[1, 2], N. Jamali[1], C. M. Sorenson[3].* [1]Ophthalmology and Visual Sciences, Univ of Wisconsin-Madison; [2]Cell and Regenerative Biology, University of Wisconsin; [3]Pediatrics, University of Wisconsin

3261 — *12:30* **MicroRNA-143 plays a protective role in ischemia-induced retinal neovascularization.** *Guei-Sheung Liu[1, 6], J. Wang[3, 6], J. Chen[2, 1], L. Tu[2], V. Singh[1], M. Riaz[4], F. Li[1, 5], A. W. Hewitt[1, 3], P. van Wijngaarden[3, 6], G. Dusting[3, 6].* [1]Menzies Institute for Medical Research, University of Tasmania; [2]Department of Ophthalmology, the First Affiliated Hospital of Jinan University; [3]Centre for Eye Research Australia; [4]Public Health Genomics, School of Public Health and Preventive Medicine, Monash University; [5]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Centre, Sun Yat-sen University; [6]Ophthalmology, Department of Surgery, University of Melbourne

3262 — *12:45* **Co-operative Activities of VEGF and SDF-1 in Retina.** *DA LONG[1], J. Shen[1], S. Hackett[1], L. Lu[1], Z. Hafiz[1], Q. Gong[2], P. A. Campochiaro[1], J. Yu[2], J. Wang[2], S. Ferguson[2], W. Chou[2], Q. Yang[2], H. Kang[2].* [1]Wilmer Eye Institute; [2]Aptitude Medical Systems **CR*

3263 — *1:00* **RUNX3 regulates PHD2-HIF1α-VEGF signal axis and plays a vital role in the retinal neovascularization.** *Xi Lu, Y. Xu, X. Liang.* Zhongshan Ophthalmic Center

3264 — *1:15* **A Long-acting GLP-1R Agonist Ameliorates Retinal Angiogenesis in the Oxygen-induced Retinopathy Model.** *Lingli Zhou[1, 2], Z. Xu[1], Y. Oh[1], S. Lee[1], E. J. Duh[1].* [1]Wilmer Eye Institute, Johns Hopkins University of Medicine; [2]Zhongshan Ophthalmic Center, Sun Yat-sen University **CR*

East Ballroom A

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Immunology/Microbiology / Anatomy and Pathology/Oncology / Cornea / Retina

343 Innate immune memory and the eye - Minisymposium

Innate immune memory is defined as the effects of a tissue microenvironment or infection on innate cells that influence subsequent immune responses mediated by the programed innate immune cells.

Moderators: Martine J. Jager and Andrew W. Taylor

— *11:45* **Introduction**

3265 — *11:47* **M1 and M2 programing in ocular HSV-1 infectivity.** *Homayon Ghiasi.* Surgery/Ophthalmology, Cedars-Sinai Medical Center

3266 — *12:07* **Macrophages and eye diseases in the elderly.** *Martine J. Jager.* Ophthalmology, Leiden University Med Center

3267 — *12:27* **Ocular immune privilege programs monocytes to mediate innate memory-tolerance.** *Andrew W. Taylor.* Ophthalmology, Boston University School of Medicine **CR*

3268 — *12:42* **Homeostasis of innate immune cells in the retina: contributions by microglia and monocytes.** *Wai T. Wong.* Unit on Neuron-Glia Interactions in Retinal Disease, National Eye Institute

3269 — *1:02* **Dysregulation of Innate Receptor Responses in Ocular Autoimmunity.** *Holly L. Rosenzweig.* Dept. Immunology-OHSU, OHSU/ Portland VA Medical Center

— *1:22* **Discussion**

East Ballroom B

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Retina

344 AMD Translational studies

Moderators: Timothy W. Olsen and Dimitra Skondra

3270 — *11:45* **Beta-adrenergic receptor antagonism reduces choroidal sprouting angiogenesis *ex vivo*.** *Jeremy Lavine[1], H. Perlman[2].* [1]Ophthalmology, Northwestern University; [2]Rheumatology, Northwestern University **CR*

3271 — *12:00* **Topical application of a Runx1 inhibiting nanoemulsion curbs choroidal neovascularization in a laser injury model.** *Santiago Delgado-Tirado, D. Amarnani, J. Arboleda-Velasquez, L. A. Kim.* Schepens Eye Research Institute/MEEI

3272 — *12:15* **AIBP suppresses choroidal neovascularization (CNV) by enhancing cholesterol efflux.** *Yingbin Fu[1], M. Parker[1], L. Zhu[2], Q. Yan[2], N. Enemchukwu[1], J. Kim[2], L. Fang[2].* [1]Ophthalmology, Baylor College of Medicine; [2]Cardiovascular Sciences, The Methodist Hospital Research Institute

3273 — *12:30* **Gnotobiotic Animal Model of Laser-Induced Choroidal Neovascularization in Germ-Free Mice.** *Dimitra Skondra MD,PhD[1], A. Movahedan[1], M. Spedale[2], N. Deng[1, 3], V. Leone[4], E. Chang[4], B. Theriault[2, 5].* [1]Department of Ophthalmology, The University of Chicago; [2]Animal Resources Center, Gnotobiotic Research Animal Facility, The University of Chicago; [3]Department of Ocular Fundus Diseases and Refraction, FangChengGang Aier Eye Hospital; [4]Department of Medicine, The University of Chicago; [5]Department of Surgery, The University of Chicago

3274 — *12:45* **Comparison of CRISPR-based Genome Editing of VEGF-A as Treatment Strategy for Choroidal Neovascularization.** *Sook Hyun Chung, I. N. Mollhoff, U. T. Nguyen, A. Nguyen, N. Stucka, E. Tieu, J. Fong, G. Yiu.* Ophthalomology and vision science, University of California ↗

3275 — *1:00* **Transplantation of Bio-Printed Choroid-RPE Tissue into The Subretinal Space of Rats.** *Céline Koster[1], F. Barone[2], A. Maminishkis[3], M. Song[2], R. Quinn[2], C. F. Lewallen[4], J. van Meurs[5, 6], K. Bharti[2], A. A. Bergen[1, 7].* [1]Clinical Genetics, AUMC; [2]Unit on Ocular Stem Cell and Translational Research, NEI; [3]Section on Epithelial and Retinal Physiology and Disease, NEI; [4]G.W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology; [5]Rotterdam Oogziekenhuis; [6]Erasmus MC; [7]NIN

3276 — *1:15* **A Pharmacokinetic Analysis of a Biodegradable Suprachoroidal Sustained Drug Delivery Device for the Bile Acid Tauroursodeoxycholic Acid in the Porcine Model.** *Timothy W. Olsen[1, 2], T. Wiedmann[3], R. Dyer[4], D. Paley[3], K. Wabner[3], J. Schmit[3], J. Sellers[2], J. B. Chae[5], R. Singh[4], M. A. Chrenek[2], J. H. Boatright[2].* [1]Ophthalmology, Mayo Clinic; [2]Ophthalmology, Emory University; [3]University of Minnesota; [4]Mayo Clinic; [5]Ophthalmology, Chungbuk National University **CR*

East Ballroom C

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Multidisciplinary Ophthalmic Imaging Group

345 Highlights of OCT angiography

Moderators: Ruikang K. Wang, Carol Y. Cheung and Marinko V. Sarunic

3277 — *11:45* **4D OCTA: Time-resolved OCTA to image chorioretinal hemodynamics in the human eye.** *Oscar Carrasco-Zevallos[1], E. Moult[1], A. Alibhai[2], B. Lee[1], S. Chen[1], N. Mehta[2, 5], B. Potsaid[3], V. Jayaraman[4], A. Cable[3], N. K. Waheed[2], J. G. Fujimoto[1].* [1]MIT; [2]New England Eye Center, Tufts Medical Center; [3]Thorlabs, Inc.; [4]Praevium Research; [5]The Warren Alpert School of Brown University **CR*

3278 — *12:00* **Detection of Clinically Unsuspected Retinal Neovascularization with Wide-Field Optical Coherence Tomography Angiography.** *Qisheng You, Y. Guo, J. Wang, X. Wei, A. Camino, P. Zang, C. J. Flaxel, S. T. Bailey, D. Huang, T. S. Hwang, Y. Jia.* Casey Eye Institute, OHSU **CR*

3279 — *12:15* **En-face OCT feature analysis enables objective artery-vein differentiation in OCT angiography.** *Minhaj Nur Alam[1], D. Le[1], J. I. Lim[2], X. Yao[1, 2].* [1]Department of Bioengineering, University of Illinois at Chicago; [2]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago **CR*

3280 — *12:30* **Ultra-wide field optical coherence tomography angiography for evaluation of retinal venous occlusion.** *Qinqin Zhang[1], K. Attaran-Rezaei[2], R. K. Wang[1, 2].* [1]Department of Bioengineering, University of Washington; [2]Department of Ophthalmology, University of Washington **CR*

3281 — *12:45* **Progressive Ganglion Cell Complex Thickness and Vessel Density Loss in Healthy, Pre-perimetric Glaucoma and Primary Open Angle Glaucoma Eyes.** *Huiyuan Hou, S. Moghimi, L. M. Zangwill, J. Proudfoot, R. Penteado, E. Ghahari, H. Kyung, C. Bowd, A. Li, J. H. Lee, D. Yang, R. N. Weinreb.* Viterbi Family Department of Ophthalmology, Shiley Eye Institute, UCSD **CR*,↗

3282 — *1:00* **Age-Dependent Changes in the Macular Choriocapillaris of Normal Eyes Imaged with Swept-Source OCT Angiography.** *Giovanni Gregori[1], F. Zheng[2], Q. Zhang[3], Y. Shi[1], J. Russell[1], J. Banta[1], Z. Chu[3], H. Zhou[3], N. Patel[1], W. Feuer[1], M. K. Durbin[4], L. De Sisternes[4], R. K. Wang[3], P. J. Rosenfeld[1].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]Ophthalmology, Second Affiliated Hospital of Zhejiang University; [3]Bioengineering, University of Washington; [4]Carl Zeiss Meditec **CR*

3283 — *1:15* **The Relationship of Optical Coherence Tomography Angiography (OCTA) Metrics to Progression of Diabetic Retinopathy: A 2-Year Prospective Study.** *Zihan Sun[1], F. Tang[1], R. Wong[2, 1], K. Lok[2], K. Szeto[2], J. Chan[2], S. Ng[1], C. Y. Cheung[1].* [1]Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong; [2]Hong Kong Eye Hospital

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West 211

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Cornea

346 Lacrimal gland biology in homeostasis, disease, and repair - Minisymposium

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This minisymposium will include discussion about normal processes and also disease processes of lacrimal gland biology. The planned talks span novel findings regarding lacrimal gland tear secretion, mechanistic biological studies in animal models of Sjogren Syndrome, and use of tear biomarkers as diagnostic tools. It also brings forth the state-of-the-art knowledge about lacrimal gland reconstruction and identification of lacrimal gland specific stem cells.

Moderators: Cintia S. De Paiva, Driss Zoukhri and Vinay K. Aakalu

3284 — *11:45* **Overview of mechanisms of lacrimal gland secretion.** *Darlene A. Dartt[1, 2].* [1]Schepens Eye Research Institute/MEEI; [2]Ophthalmology, Harvard Medical School

3285 — *12:02* **The Science of Tearing.** *Kazuo Tsubota.* Ophthalmology, Keio Univ School of Medicine **CR*

3286 — *12:19* **Etiopathogeneses of Lacrimal Gland Autoimmune and Chronic Inflammatory Phenotypes.** *Austin K. Mircheff.* Physiology & Neuroscience, University of Souther California

3287 — *12:36* **Tear biomarkers for Sjögren Syndrome.** *Sarah F. Hamm-Alvarez[1, 2].* [1]Ophthalmology, Univ of Southern California; [2]Pharmacology and Pharmaceutical Sciences, University of Southern California

3288 — *12:53* **Advances in lacrimal gland organ regeneration.** *Masatoshi Hirayama[1, 2].* [1]Ophthalmology, Keio University School of Medicine; [2]Ophthalmology, Tokyo Dental College Ichikawa General Hospital

3289 — *1:10* **Lacrimal Gland Stem cells: New Research and Therapeutic Implications.** *Helen P. Makarenkova.* Cell and Molecular Biology, The Scripps Research Institute

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West 212-214

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Anatomy and Pathology/Oncology / Biochemistry/Molecular Biology / Clinical/ Epidemiologic Research / Physiology/ Pharmacology / Retina / Visual Neuroscience / Visual Psychophysics/Physiological Optics

347 Unresolved issues in myopia - Minisymposium

Half of the world population will be myopic by 2050, onefifth of which will have a significantly increased risk of myopia-associated blindness. Despite the confluence of experimental and clinical research offering exciting new treatment possibilities, unresolved questions remain. This symposium aims to address unresolved issues in myopia by combining the expert opinion of both basic and clinical international myopia researchers in current hot myopia topics.

Moderators: Alexandra Benavente-Perez, Regan S. Ashby and Xiaoying Zhu

— *11:45* **Introduction**

3290 — *11:46* **Can manipulation of the retinal ON- OFF-pathways prevent myopia? Basic Research.** *Frank Schaeffel.* Section Neurobiology of Eye, Ophthalmic Research Institute

3291 — *11:53* **Can manipulation of the retinal ON- OFF-pathways prevent myopia? Clinical Research/Applications.** *Earl L. Smith.* College of Optometry, University of Houston **CR*

— *12:00* **Q&A**

3292 — *12:03* **How does the eye detect visual signals controlling eye growth?** *David Troilo.* SUNY College of Optometry

3293 — *12:10* **How does the eye detect the myopia go-grow-signal? Clinical Research/Applications.** *Daniel I. Flitcroft[1, 2].* [1]Ophthalmology, Childrens University Hospital; [2]Dublin Institute of Technology

— *12:17* **Q&A**

3294 — *12:20* **How does atropine inhibit myopia development? Evidence from animal studies.** *William K. Stell.* Cumming School of Medicine, University of Calgary **CR*

3295 — *12:27* **Does low-dose atropine slow myopic eye elongation - Observations from humans?** *Christine F. Wildsoet.* UC Berkeley Myopia Research Group, Univ of California, Berkeley **CR*

— *12:34* **Q&A**

3296 — *12:37* **Does bright light exposure inhibit myopia progression or only onset? Basic Research.** *Ian G. Morgan.* Research School of Biology, Australian National University

3297 — *12:44* **The role of time outdoors in myopia onset and progression in schoolchildren from ROCT study.** *Pei-Chang Wu.* Ophthalmology, Chang Gung Memorial Hospital - Kaohsiung

— *12:51* **Q&A**

3298 — *12:54* **Can disruptions in diurnal/ circadian rhythms explain the current myopia epidemic? Basic Research.** *Debora L. Nickla.* Biosciences, New England College of Optometry

3299 — *1:01* **Can disruptions in diurnal/ circadian rhythms explain the current myopia epidemic? Clinical Research/Applications.** *Kathryn Saunders.* Ulster University

— *1:08* **Q&A**

— *1:11* **Discussion**

West 217-219

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Lens

348 Lens Development

Moderators: Rupalatha Maddala and Ales Cvekl

3300 — *11:45* **Chromatin Dynamics, Promoters, Enhancers, And Lens Differentiation.** *Ales Cvekl, Y. Zhao, D. Zheng.* Ophthalmology & Vis Sci & Genetics, Albert Einstein Coll of Medicine

3301 — *12:00* **S100A4 deficiency-induced aberrant gene expression during lens differentiation is epigenetically regulated through altered Histone 3 lysine methylation marking.** *Rupalatha Maddala[3], S. K. Murphy[2], V. Rao[1].* [1]Ophthalmology, Pharmacology, Duke University Medical Center; [2]Division of Reproductive Sciences, Duke University Medical Center; [3]Ophyhalmology, Duke University Medical Center

3302 — *12:15* **The RNA-binding protein Celf1 post-transcriptionally controls Pax6 and Prox1 in lens development.** *Sandeep Aryal[1], J. Viet[2], A. D. Siddam[1], C. Gautier-Courteille[2], B. Weatherbee[1], L. Paillard[2], S. A. Lachke[1, 3].* [1]Biological Sciences, University of Delaware; [2]Institut de Génétique et Développement de Rennes, Université de Rennes; [3]Center for Bioinformatics and Computational Biology, University of Delaware

3303 — *12:30* ***Pten*** **Deletion Rescues Fiber Cell Differentiation in FGFR-Deficient Lens Epithelial Explants.** *Stephanie Padula[1], E. Sidler[1], F. J. Lovicu[2], M. L. Robinson[1].* [1]Biology, Miami University; [2]The University of Sidney

3304 — *12:45* **Regulating lens regenerative potential through Eph receptor signaling.** *Anthony Sallese[1], G. Tsissios[1, 3], V. Barker[1], A. Crothers[1], A. Miller[1], P. Tsonis[2], K. Del Rio-Tsonis[1].* [1]Biology, Center for Visual Sciences, Miami University; [2]Biology, Center for Tissue Regeneration and Engineering, University of Dayton; [3]Cell, Molecular, and Structural Biology, Miami University

3305 — *1:00* **Identifying the mechanisms of centripetal movement of lens placodal cells during invagination.** *Timothy F. Plageman, N. Houssin.* College of Optometry, The Ohio State University

3308 — *12:15* **The Effects of Feedback on Eye Movement Control Training.** *William H. Seiple[1, 2], I. Babaeva[1], P. Kilbride[3], A. R. Morse[1, 4].* [1]Research, Lighthouse Guild; [2]Ophthalmology, New York University School of Medicine; [3]Cythor Inc.; [4]Ophthalmology, Harkness Eye Institute, Columbia University

3309 — *12:30* **Digital Glasses for Visual Rehabilitation of Glaucoma Patients suffering from Visual Fields Defects.** *Ahmed M. Sayed[1, 2], R. Kashem[3], M. Abdel-Mottaleb[3], V. Roongpoovapatr[1], R. K. Parrish II[1], M. Abdel-Mottaleb[3], M. Abou Shousha[1, 3].* [1]Ophthalmology, Bascom Palmer Eye Institute, University of Miami; [2]Biomedical Engineering, Helwan University; [3]Electrical and Computer Engineering, University of Miami ***CR**

3310 — *12:45* **The variable spatial resolution is compensated by tip of the tongue tracing in pattern recognition.** *Zahide Pamir, M. Canoluk, J. Jung, E. Peli.* Ophthalmology, Schepens Eye Research Institute

3311 — *1:00* **Comprehensive Visual and Mobility Training in Argus II Patients Using Computer Assisted Rehabilitation System.** *Meghan J. DeBenedictis[1], S. Davidson[3], M. Streicher[2], A. Rosenfeldt[2], J. Alberts[2], A. Yuan[1], A. Rachitskaya[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Biomedical Engineering, Cleveland Clinic; [3]Concussion Center, Cleveland Clinic ↗

West 221/222

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Low Vision Group

349 Visual Training and Rehabilitation

Moderators: Russell L. Woods and Aurelie Calabrese

3306 — *11:45* ***Making Sense of Reading*****: The Impact of Presentation Format on Reading Comprehension for Sighted and Blind Individuals.** *Natalie N. Stepien-Bernabe[1, 2], D. Lei[3], A. McKerracher[4], D. A. Orel-Bixler[1].* [1]Vision Science Program, School of Optometry, University of California, Berkeley; [2]Smith-Kettlewell Eye Research Institute; [3]Cognitive Psychology, Pennsylvania State University; [4]Vancouver Island University

3307 — *12:00* **Anodal transcranial direct current stimulation reduces crowding in peripheral vision.** *Rajkumar Nallour Raveendran[1, 2], K. Tsang[2], D. Tiwana[2], A. Chow[2], B. Thompson[2].* [1]Envision Research Institute; [2]School of Optometry and Vision Science, University of Waterloo

West Exhibition Hall A0001-A0032

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Retinal Cell Biology

350 Stem Cells and Retinal Organoids: Development

Moderators: Trevor J. McGill and Brian G. Ballios

3312 — *A0001* **An in-vitro retina aggregate system to investigate the effects of environment on photoreceptor neurite outgrowth.** *En Leh Samuel Tsai[1, 2], A. Ortin-Martinez[1], A. Gurdita[1, 2], L. Comanita[1], N. Yan[1, 2], S. Smiley[1], P. Nickerson[1], V. Delplace[3], M. Shoichet[3, 4], V. Wallace[1, 5].* [1]Donald K Johnson Eye Institute, Krembil Research Institute; [2]Department of Laboratory Medicine and Pathobiology, University of Toronto; [3]Department of Chemical Engineering & Applied Chemistry, University of Toronto; [4]Institute of Biomaterials and Biomedical Engineering, University of Toronto; [5]Department of Ophthalmology and Vision Sciences, University of Toronto

3313 — *A0002* **Pre-transplantation analysis of intrinsic fluorophores by 2-photon microscopy to validate suitability of retinal organoids.** *Tej Kalakuntla[1], Y. Xue[2], A. Browne[4, 2], B. McLelland[3], G. Nistor[3], H. Keirstead[3], W. Tang[2], M. J. Seiler[5, 1].* [1]Stem Cell Research Center, University of California, Irvine; [2]Biomedical Engineering, University of California, Irvine; [3]Aivita Biomedical; [4]Ophthalmology, University of California, Irvine; [5]Physical Medicine and Rehabilitation, University of California, Irvine ***CR**

3314 — *A0003* **Presence of functional ion channels in human iPSC-derived retinal pigment epithelium.** *Vasiliki Kalatzis, D. Mamaeva, M. Di Francesco, Z. Jazouli, N. Erkilic, S. Torriano, M. O. Pequignot, C. Hilaire, I. A. Meunier, H. Boukhaddaoui.* Inserm U1051, INM

3315 — *A0004* **Laminin-521 promotes the formation of a planar retinal organoid.** *XIAOYU CHEN, D. Singh, L. J. Rizzolo.* Surgery, Yale University

3316 — *A0005* **Customized rotating wall vessel bioreactors produce improved retinal organoids with reduced opertaional costs and less frequent experimental failure.** *Michael Phelan[1, 2], P. Lelkes[1], A. Swaroop[2].* [1]Bioengineering, Temple University; [2]Neurobiology Neurodegeneration & Repair Laboratory, National Eye Institute ***CR**

3317 — *A0006* **Human Retina-on-a-Chip: Merging retinal organoids with Organ-on-a-Chip technology.** *Kevin Achberger[1], C. Probst[2], J. Haderspeck[1], S. Bolz[3], V. Cora[1], J. Chuchuy[2, 4], L. Antkowiak[1], W. Haq[3], M. Ueffing[3], P. Loskill[2, 4], S. Liebau[1].* [1]Institute of Neuroanatomy and Developmental Biology, University Tuebingen; [2]Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB; [3]Institute for Ophthalmic Research, University of Tuebingen; [4]Department of Women's Health, University Tuebingen

3318 — *A0007* **Investigation of photoreceptor segment development in a microphysiological Retina-on-a-Chip.** *Lena Antkowiak[1], K. Achberger[1], C. Probst[2], J. Haderspeck[1], J. Chuchuy[2, 3], P. Loskill[2, 3], S. Liebau[1].* [1]Institute of Neuroanatomy and Developmental Biology, University of Tübingen; [2]Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB; [3]Research Institute for Women's Health, Department of Women's Health

3319 — *A0008* **Automated cell culture for the differentiation of induced pluripotent stem cells into retinal pigment epithelial cells by LabDroid.** *Naohiro Motozawa[2, 1], A. Tsujikawa[1], M. Takahashi[2].* [1]Department of Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine; [2]Laboratory for Retinal Regeneration, RIKEN ***CR**

3320 — *A0009* **Studying the biocompatibility and 3D cell-scaffold interaction of photoreceptor precursors in a microwells array.** *Amos Markus[1], Y. Chemla[1], G. Shpun[1], I. Henn[2], N. Farah[1], Y. Mandel[1, 3].* [1]Optometry and Visual Science, Faculty of Life Science, Bar Ilan University; [2]Mina and Everard Goodman Faculty of Life Sciences, Israel, Bar Ilan University; [3]Institute for Nanotechnology and Advanced Materials (BINA), Bar Ilan University

3321 — *A0010* **Semi-automated approach for 3D retinal organoids differentiation.** *Evgenii Kegeles[1, 2], P. Y. Baranov[1].* [1]The Schepens Eye Research Institute of Massachusetts Eye and Ear, an affiliate of Harvard Medical School; [2]School of Biological and Medical Physics, Moscow Institute of Physics and Technology (State University)

3322 — *A0011* **Decellularised extracellular matrix from neural retina and retinal pigment epithelium enhance the expression of synaptic markers and light responsiveness of human pluripotent stem cell derived retinal organoids.** *Majlinda Lako[1], B. Dorgau[1], M. Felemban[1], G. Hilgen[2], M. Kiening[1], D. Hallam[1], N. C. Hunt[1], Y. Ding[4], N. Krasnogor[4], J. Al-Aama[3], H. Z. Asfour[3], E. Sernagor[2].* [1]Institute of Genetic Medicine, Newcastle University; [2]Institute of Neuroscience, Newcastle University; [3]PACER; [4]School of Computing

3323 — *A0012* **Enrichment and characterization of self-forming RPE Spheroids concurrently generated with Retinal Organoids from hiPSCs.** *Xiufeng Zhong, S. Liu, B. Xie, X. Song, D. Zheng, L. HE, G. Gao.* Zhongshan Ophthalmic Center, Sun Yat-sen University

3324 — *A0013* **Transcriptomic analysis of retinal organoid development and molecular dynamics.** *Zekai Cui[1, 4], J. Chen[1, 2], Y. Guo[2], X. Yan[1, 3], S. Mao[1, 3], Y. Zhou[1, 3], S. Tang[1, 3].* [1]Aier Eye Institute; [2]Key Laboratory for Regenerative Medicine, Ministry of Education, Jinan University; [3]Aier School of Ophthalmology, Central South University; [4]The second Xiangya Hospital, Central South University

3325 — *A0014* **Molecular specific imaging of human induced pluripotent stem cell derived retina organoids.** *Omid Masihzadeh, M. Flores-Bellver, S. Aparicio-Domingo, K. Li, V. Canto Soler.* The Sue Anschutz-Rodgers Eye Center, University of Colorado Denver ***CR**

3326 — *A0015* **Comparing mouse retinal organoid differentiation to mouse retina development.** *Adam Miltner[1], S. Kwong[1], S. Cheema[1], Y. Mercado-Ayon[1], R. Dixon[2], A. La Torre[1].* [1]Cell Biology and Human Anatomy, University of California-Davis; [2]Physiology and Membrane Biology, University of California-Davis

3327 — *A0016* **Screening for RPE to Neural Retina Reprogramming using CRISPR Edited *VSX2*-specific fluorescent reporter hiPSC.** *Phuong T. Lam[1, 2], C. Gutierrez[1, 2], N. G. Burns[1, 2], B. J. Smucker[4], K. Bharti[3], K. Del Rio-Tsonis[1, 2], M. L. Robinson[1, 2].* [1]Biology, Miami University; [2]Center for Visual Sciences, Miami University; [3]National Eye Institute; [4]Statistics, Miami University

3328 — *A0017* **3D hydrogels protect human retinal progenitor cells from stress exerted during transplantation.** *PIERRE COLOMBE[1, 3], D. Singh[3], M. Spector[2, 3], M. J. Young[3].* [1]Material Sciences and engineering, Massachusetts Institute of Technology; [2]Material Sciences and engineering, Harvard Medical School; [3]Schepens Eye research Institute, Harvard Medical School

3329 — *A0018* **Adipose tissue derived stem cell concentrated conditioned medium alters the expression pattern of glutamate regulatory proteins and aquaporin-4 in retina after mild traumatic brain injury.** *Kumar Abhiram Jha[1], J. Gentry[1], A. Reiner[1, 2], R. Gangaraju[1, 2].* [1]Department of Ophthalmology, University of Tennessee Health Science Center; [2]Anatomy and Neurobiology, Neuroscience Institute, University of Tennessee Health science center ***CR**

Tuesday Posters
11:45 am – 1:30 pm

3330 — *A0019* **Notch signaling pathway inhibition in the specification of human retinal ganglion cells from induced pluripotent stem cell derived retinal organoids.** *Zenith Acosta Torres[1, 2], T. Kelley[3], S. Schurer[3, 4], D. Pelaez[2, 1].* [1]Biomedical Engineering, University of Miami; [2]Opthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Molecular and Cellular Pharmacology, University of Miami Miller School of Medicine; [4]Center for Computational Science, University of Miami **CR*

3331 — *A0020* **The role of microRNAs in human retinogenesis.** *Melissa K. Jones[1], M. Chow[1], N. K. Kambli[1, 2], K. J. Wahlin[1].* [1]Shiley Eye Institute, Department of Ophthalmology, University of California San Diego; [2]Department of Biotechnology, California State University San Marcos

3332 — *A0021* **Analyses of Early Stage Neurogenesis in Human ES Cell-Derived 3D Retinal Organoids by Single Cell RNA Sequencing.** *Kevin H. Nguyen, X. Zhang, X. Yang.* Ophthalmology, Stein Eye Institute

3333 — *A0022* **Temporal resolution of alternative splicing in the developing human retina using 3D retinal organoids.** *Daniele Ottaviani, A. Lane, D. A. Parfitt, K. Jovanovic, P. E. Sladen, J. C. Gardner, A. J. Hardcastle, M. E. Cheetham.* UCL Institute of Ophthalmology

3334 — *A0023* **RNAseq analysis of *in vitro* retinal organoids shows comparable pathway expression to developing eye *in vivo*.** *Philip Wagstaff[1], A. ten Asbroek[1], V. Lo Faro[2], A. Jongejan[3], C. Boon[4, 7], C. van Karnebeek[5], F. Wijburg[5], R. Wanders[6], E. Meijers-Heijboer[1], N. M. Jansonius[2], A. A. Bergen[1, 4].* [1]Department of Clinical Genetics, Amsterdam University Medical Center; [2]Department of Ophthalmology, University Medical Center Groningen; [3]Department of Clinical Epidemiology, Biostatistics and Bioinformatics, Amsterdam University Medical Center; [4]Department of Ophthalmology, Amsterdam University Medical Center; [5]Department of Pediatric Metabolic Diseases, Amsterdam University Medical Center; [6]Department of Genetic Metabolic Diseases, Amsterdam University Medical Center; [7]Department of Ophthalmology, Leiden University Medical Center

3335 — *A0024* **The peripheral retina as a stem cell niche: evidence of human adult neurogenesis.** *Isabel Ortuño Lizarán[1], D. A. Peterson[2], N. Cuenca[1].* [1]Physiology, Genetics and Microbiology, University of Alicante; [2]Rosalind Franklin University of Medicine and Science

3336 — *A0025* ***Pigment Epithelium Derived Factor (PEDF) expression and upregulation in retinal tissue differentiated from mouse embryonic stem cells.*** *Tatiana Perepelkina[1, 2], P. Y. Baranov[1, 2].* [1]Schepens Eye Research Institute; [2]Ophthalmology, Harvard Medical School

3337 — *A0026* **Imaging retinal organoid subcellular dynamics non invasively with Full-Field OCT.** *Kassandra Groux[1], J. Scholler[1], S. Reichman[2], M. Paques[2], O. Goureau[2], J. A. Sahel[2, 3], M. Fink[1], C. Boccara[1], K. Grieve[2].* [1]Institut Langevin, ESPCI Paris, PSL Research University; [2]Vision Institute, Quinze Vingts National Ophthalmology Hospital; [3]Department of Ophthalmology, University of Pittsburgh School of Medicine

3338 — *A0027* **Stem cell-derived retinal ganglion cell differentiation and its transplantation.** *Kun-Che Chang[1], S. Wu[1], L. Li[1], C. Sun[1], X. Xia[1], C. Knasel[1], M. Nahmou[1], M. Wernig[2], J. L. Goldberg[1].* [1]Ophthalmology, Stanford University; [2]Pathology, Stanford University

3339 — *A0028* ***Characterization of interphotoreceptor matrix proteins expressed by human pluripotent stem cell derived retinal cells.*** *Steven Mayerl[1, 2], E. E. Capowski[3], D. Sinha[2, 3], J. Phillips[2, 3], K. L. Edwards[3], D. M. Gamm[2, 4].* [1]Cellular and Molecular Pathology, University of Wisconsin-Madison; [2]McPherson Eye Research Institute, University of Wisconsin-Madison; [3]Waisman Center, University of Wisconsin-Madison; [4]Ophthalmology and Visual Sciences, University of Wisconsin-Madison

3340 — *A0029* **Human Pluripotent Stem Cell-Derived Retinal Ganglion Cells Display Extensive Neurite Outgrowth With Target Recognition.** *Clarisse Fligor[1], P. K. Shields[1], K. B. VanderWall[1], J. S. Meyer[1, 2].* [1]Biology, IUPUI; [2]Stark Neurosciences Research Institute, Indiana University

3341 — *A0030* **Rat ONLR-Neural progenitor cell characterization using AAV technology.** *Zara Mehrabyan, Y. Guo, S. L. Bernstein.* Ophthalmology, University of Maryland, Baltimore **CR*

3342 — *A0031* **Exploring effect of culture condition on human retinal progenitor cells.** *Deepti Singh[2], P. Colombe[1, 2], M. J. Young[2].* [1]Material science and engineering, Massachusetts Institute of Technology; [2]Schepens Eye Research Institute, Harvard Medical School

3343 — *A0032* **Mesenchymal stem cells conditioned medium produced on nicotinamide and/or vasoactive intestinal peptide action improve antioxidative/neuroprotective properties in vitro.** *Ivan Fernandez-Bueno[1, 2], M. L. Alonso-Alonso[1], M. Garcia-Gutierrez[1], G. K. Srivastava[1, 2], J. Pastor[1, 3].* [1]Instituto Universitario de Oftalmobiologia Aplicada (IOBA), University of Valladolid; [2]Centro en Red de Medicina Regenerativa y Terapia Celular de Castilla y León; [3]Red Temática de Investigación Cooperativa en Salud (RETICS), Oftared, Instituto de Salud Carlos III

West Exhibition Hall A0114-A0154

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Physiology/Pharmacology

351 Drug delivery, drug and gene delivery system, implant delivery

Moderators: Brian C. Gilger and Peter F. Kador

3344 — *A0114* **Recovery of retinal oxygenation after MEMS implant activation.** *Juan Carlos Martinez[1, 2], N. Scianmarello[3], C. A. Cook[3], A. Gonzalez-Calle[1, 2], Y. Tai[3], M. S. Humayun[1, 2].* [1]Ophthalmology, University of Southern California; [2]Opththalmology, USC Ginsburg Instutue for Biomedical Therapeutics; [3]Medical Engineering, California Institute of Technology

3345 — *A0115* **Effect of OTX-TIC, a Sustained Release Travoprost Intracameral Implant on Central Corneal Thickness in Beagles.** *Arthur Driscoll, C. D. Blizzard, A. Desai, J. Langh, N. Buff, J. Metzinger, M. H. Goldstein, A. Gelormini.* R&D, Ocular Therapeutix **CR*

3346 — *A0116* **In vitro biocompatibility analysis of 3D printed diatom-inspired polymer-based prototypes for intraocular drug delivery.** *Brenda Salvador[1], J. Valdez-García[1], J. Zavala[1], L. Dávila[2], G. Guerrero-Ramirez[1].* [1]Tecnologico de Monterrey; [2]Material Science and Engineering, University of California, Merced

3347 — *A0117* **Measurement of drug release from silicone oil in a range of *in vitro* and *ex vivo* models.** *Victoria R. Kearns[1], A. Davies[1], H. Cauldbeck[2, 1], S. Rannard[2], R. Williams[1], Y. Chan[3], H. Shum[3].* [1]Department of Eye and Vision Science, University of Liverpool; [2]Department of Chemistry, University of Liverpool; [3]Department of Mechanical Engineering, University of Hong Kong **CR*

3348 — *A0118* **Sub-tenon sustained controllable delivery of dexamethasone in the treatment of severe acute experimental uveitis.** *Libei Zhao[2, 1], M. Peng[2, 1], W. Lin[2, 1], D. Lin[1, 2].* [1]Changsha Aier Hospital; [2]Aier school of ophthalmology, Central South University

3349 — *A0119* **Effect of external surface terminal sterilization of prefilled syringes (PFS) with ethylene oxide (EO) on the concentration and stability of ranibizumab (RBZ).** *Nikolas London[1], S. Ranade[2], I. Stoilov[2], J. Lin[2], M. Bowen[2].* [1]Retina Consultants; [2]Genentech, Inc. **CR*

3350 — *A0120* **In vitro and Computational Modelling of the Eye for Evaluating the Delivery of Therapeutics in the Treatment of Retinal Pathologies.** *Alys Davies[1], S. Pop[2], R. Williams[1], V. R. Kearns[1].* [1]Department of Eye and Vision Science, University of Liverpool; [2]Department of Computer Science, University of Chester **CR*

3351 — *A0121* **The ocular pharmacokinetics of an assembled oil-in-water emulsion with 14C labeled core-oil versus its core-oil as a solo component.** *Muhammad Abdulrazik.* Innovative Therapeutic Algorithms, East-Jerusalem Biomedical Institute

3352 — *A0122* **Preliminary study on continuous controllable subtenon cyclophosphamide drug delivery to the posterior ocular segment in rabbit model.** *Wenxiang Lin[1, 2], L. Zhao[1, 2], D. Lin[1, 2].* [1]Changsha Aier Hospital; [2]Aier school of ophthalmology, Central South University

3353 — *A0123* **Anterior ocular segment distribution characteristic and safety of cyclophosphamide following Sub-tenon Sustained Controllable Infusion system in rabbit model.** *Tan Qian[1, 2], L. Zhao[1, 2], M. Peng[1, 2], D. Lin[1].* [1]ophthalmology, Changsha aier eye hospital; [2]aier school of ophthalmology, Central south university

3354 — *A0124* **An Injectable Collagen Depot for Subconjunctival Drug delivery.** *Saja Muwaffak[1, 2], P. T. Khaw[2], R. A. Eiferman[3], S. Brocchini[1, 2], D. P. DeVore[4].* [1]Pharmaceutics, The School of Pharmacy, University College London; [2]National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [3]Ophthalmology, University of Louisville; [4]Sanova Biosciences Inc

3355 — *A0125* **PCL Nanoparticles for Retinal Drug Delivery of a Small Molecule Inhibitor of RUNX1.** *Daniela Isaacs-Bernal, D. Amarnani, S. Delgado-Tirado, H. Whitmore, L. A. Kim, J. Arboleda-Velasquez.* Schepens Eye Research Institute

3356 — *A0126* **Episcleral Dye Movement In-Vivo: Chemical Parameters Determining Efficiency of Retinal Penetration.** *Karl G. Csaky, T. Nguyen, A. Gilfoyle, T. Catchpole.* Ophthalmology, Retina Foundation of the Southwest

3357 — *A0127* **Obtaining a stable large pupil using a drug combination in patients between the ages of 30 – 50.** *Rebecca K. Zoltoski[1], J. Ashtiana-Zarandi[1], M. Bannon[1], A. Beachnau[1], R. Lake[1], P. Pourhosseini[1], M. Roa[1], T. Ruiz[1], N. Sammak[1], G. McArdle[2].* [1]Didactic Education, Illinois College of Optometry; [2]Lenticular Research Group **CR*

3358 — *A0128* **Injectable in-situ gelling hydrogel for protein delivery to the retina.** *Naveed Yasin, T. Rambarran, H. Sheardown.* Chemical Engineering, McMaster University **CR*

3359 — *A0129* **The Effect of IVMED-80 Eye Drops on Lysinonorleucine (LNL) Amounts In Vivo for treatment of keratoconus.** *Santosh Kumar Muddana[1], H. Hauritz[2], M. Burr[2], B. Ambati[2], S. Molokhia[2].* [1]OPTHAMOLOGY, Moran Eye Center,; [2]iVeena Delivery Systems

3360 — *A0130* **A Prospective, Multicenter, Open-Label First-in-Human Study to Evaluate the Safety, Tolerability and Efficacy of OTX-TIC (travoprost) Implant in Subjects with Primary Open-Angle Glaucoma or Ocular Hypertension: Preliminary Findings**. *Michael H. Goldstein[2, 1], T. Walters[3], D. F. Goldberg[4], D. Day[5], E. Braun[2], J. Metzinger[2].* [1]Ophthalmology, New England Eye Center; [2]Ocular Therapeutix; [3]Texan Eye Care; [4]Wolstan & Goldberg Eye Associates; [5]Woolfson Eye Institute **CR*

3361 — *A0131* **Combining dilating drops in different solutions can provide a larger dilation.** *Michael Bannon[1], J. Ashtiana-Zarandi[1], A. Beachnau[1], P. Bista[1], R. Lake[1], P. Pourhosseini[1], M. Roa[1], N. Sammak[1], G. McArdle[2], R. K. Zoltoski[1].* [1]Illinois College of Optometry; [2]Lenticular Research Group **CR*

3362 — *A0132* **Thermo-responsive injectable microgel is able to achieve controlled drug release in the vitreous environment.** *Siyin Liu[1, 3], T. McDonald[2], R. Van 'T Hof[4], V. Kearns[1].* [1]Department of Eye and Vision Science, University of Liverpool; [2]Department of Chemistry, University of Liverpool; [3]College of Life Science, University of Leicester; [4]Department of Musculoskeletal Biology, University of Liverpool

3363 — *A0133* **A collapsable hyaluronic acid hydrogel to prolong protein release in the vitreous.** *Sahar Awwad[1, 2], P. T. Khaw[2], S. Brocchini[1, 2].* [1]Pharmaceutics, The School of Pharmacy, UCL; [2]National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology

3364 — *A0134* **The PK-PD study of tropicamide and phenylephrine after a triple ocular instillation in rabbits.** *Xin Zhao, X. Wang, X. Shen, Q. Yang.* Shenyang Xingqi Pharmaceutical Company

3365 — *A0135* **Intracameral Administration of AAV Serotypes and their Ocular Tissue Tropism.** *Anabel Doumad, B. Cooper, K. Mathias, S. Moller-Tank, A. Ligocki, C. Romano.* Regeneron **CR*

3366 — *A0136* **Role of Vitreoretinal Interface on the Penetration of Liposomes and CNTF into Retina.** *Shirin Tavakoli[1], K. Peynshaert[2], T. Lajunen[1], J. Itkonen[1], J. Devoldere[2], K. Remaut[2], A. Urtti[1].* [1]Department of Pharmaceutical Biosciences, University of Helsinki; [2]Lab of General Biochemistry and Physical Pharmacy, Faculty of Pharmacy, Ghent University

3367 — *A0137* **Targeted delivery of dendrimer-triamcinolone acetonide modulates neuroinflammation and attenuates neovascularization in oxygen-induced retinopathy.** *Hongkwan Cho, S. Kambhampati, M. Lai, G. Lee, L. Zhou, K. Rangaramanujam, E. J. Duh.* Ophthalmology, Johns Hopkins University **CR*

3368 — *A0138* **An Injectable Formulation of a Beta-Adrenergic Antagonist Prodrug for Sustained Reduction of Intraocular Pressure (IOP).** *Bryan Hoang[1], J. Chisholm[1], T. Young[1], M. Holland[1], Q. Lu[1], W. Yu[1], T. T. Lam[1], L. Zhong[2], S. Vasanth[2], J. Bauman[1], C. Semba[1], R. Mohabir[1], M. Yang[1], J. Zhang[1].* [1]Graybug Vision Inc.; [2]Toxicon Corporation **CR*

3369 — *A0139* **Evaluation of Incorporation Efficiency of Dexamethasone in a Polymer Matrix for Sustained Release Implant Manufacturing.** *Tyler Pegoraro, J. Tully, L. Trevino, J. Haley, S. Campbell, M. Sandahl, T. Shepard, C. Kopczynski.* Aerie Pharmaceuticals **CR*

3370 — *A0140* **Intraocular Forward-Imaging B-scan Optical Coherence Tomography Probe with Integrated Light Source to Guide Subretinal Injections.** *Jin H. Shen, T. A. Moreno, K. M. Joos.* Vanderbilt Eye Institute, Vanderbilt University Medical Center **CR*

3371 — *A0141* **A Clinical Study Evaluating the Safety and Efficacy of a Punctal Plug Delivery System of Nepafenac (N-PPDS) in Controlling Post-Operative Ocular Pain and Inflammation in Subjects Undergoing Routine Unilateral Cataract Surgery.** *Deepank Utkhede, R. Williams.* Mati Therapeutics Inc. **CR*, ↗

3372 — *A0142* **Engineering of locked nucleic acids with small molecule ligands for ocular surface diseases.** *Kilchrist V. Kilchrist[1], A. Jayagopal[2], F. Drawnel[2].* [1]Biomedical Engineering, Vanderbilt University; [2]Ophthalmology Discovery and Biomarkers, F. Hoffmann-La Roche Ltd **CR*

3373 — *A0143* **Differences in ocular tissue metabolism of WP-1303 (H-1129, a novel antiglaucoma agent) by species.** *Ayako Suzuki, M. Kimura, M. Yoda, S. Muratani, R. Arakawa, A. Naito.* Wakamoto Pharmaceutical Co., Ltd **CR*

3374 — *A0144* **Safety of IVMED-10 & IVMED-20 in a Pilot Clinical Trial for Post-Cataract Inflammation.** *Michael Burr[1], S. Molokhia[1, 3], A. Chayet[4], B. Ambati[1, 2].* [1]iVeena; [2]Pacific ClearVision Institute; [3]University of Utah; [4]Codet Vision Institute **CR*

3375 — *A0145* **Phenylboronic Acid Based Mucoadhesive Polymeric Micelles for Anterior Drug Delivery.** *Jennifer J. Tian, H. Sheardown, N. Yasin, T. Rambarran, L. Liu.* Chemical Engineering, McMaster

3376 — *A0146* ***In situ* forming photocrosslinked biodegradable implants for sustained delivery of proteins.** *Raghu Raj Thakur[2, 1], Y. Wang[2, 1], K. Soliman[2, 1], R. Sonawane[2, 1], D. Jones[2, 1].* [1]School of Pharmacy, Queens University Belfast; [2]School of Pharmacy, Re-Vana Therapeutics Ltd **CR*

3377 — *A0147* **Novel biodegradable photocrosslinked implants for sustained ocular delivery of triamcinolone acetonide.** *Yujing Wang[1, 2], R. Sonawane[1, 2], K. Soliman[1, 2], D. Jones[1, 2], R. Thakur[1, 2].* [1]Pharmacy, Queen's Univerity Belfast; [2]School of Pharmacy, Re-Vana Therapeutics Ltd **CR*

3378 — *A0148* **Spherical Nucleic Acids Exhibit Enhanced Distribution and Persistence Compared to Linear Oligonucleotides in Rat Eyes Following Intravitreal Administration.** *Bart R. Anderson[1], S. Nallagatla[1], R. Kang[1], M. L. Hawes[2], E. R. Kandimalla[1].* [1]R&D, Exicure; [2]Charter Preclinical Services **CR*

3379 — *A0149* **Controlled Delivery of a Protein to the Ocular Surface.** *Thomas Rowe[1], A. Goode[1], E. Mayville[2], A. Thomas[1], E. Rustin[1].* [1]Formulation, Encompass Pharmaceutical Services; [2]University of Georgia **CR*

3380 — *A0150* **Efficient Corneal Gene Delivery Following Subconjunctival Administrations of AAV Vectors.** *Elizabeth Crabtree[1], L. Song[2, 3], T. Llanga[2, 3], L. Conatser[2, 3], B. C. Gilger[1], M. Hirsch[2, 3].* [1]Department of Ophthalmology, North Carolina State University; [2]Department of Ophthlamology, University of North Carolina at Chapel Hill; [3]Gene Therapy Center, University of North Carolina at Chapel Hill

3381 — *A0151* **Poly (oligo ethylene glycol methacrylate) hydrogels for controlled release of protein-based therapeutics.** *Ben B. Muirhead, E. Hicks, H. Sheardown.* Chemical Engineering, McMaster University

3382 — *A0152* **Selective and Sustained Episcleral Delivery of Dexamethasone: Pre-clinical Safety and Pharmacokinetics.** *Ricardo A. De Carvalho, P. P. Ko, G. C. Matstutani, R. Brito, M. V. Dougherty, J. P. Manders.* 3T Ophthalmics **CR*

3383 — *A0153* **A Comparison in Precision and Accuracy of the Conventional Syringe to the Suh Precision Syringe.** *Devin DeLuna[1], A. Netzel[2], J. Dietze[1], B. A. Begley[1], J. Ndulue[3], D. Suh[3, 4].* [1]College of Medicine, University of Nebraska Medical Center; [2]School of Medicine, Creighton University; [3]Ophthalmology, University of Nebraska Medical Center; [4]Ophthalmology, Childrens Hospital & Medical Center

3384 — *A0154* **Surface modified Econazole solid lipid nanoparticles: preparation, characterization, ex vivo and in vivo studies.** *Junjie Zhang[1, 2], Z. Liang[1], Z. Zhang[1], J. Li[1], T. Zhou[1], L. Wang[1].* [1]Dpt of Pharmaceutical Science, Henan Eye Institute, Henan Eye Hospital; [2]Henan Provincial People's Hospital

West Exhibition Hall A0156-A0197

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Biochemistry/Molecular Biology

352 Gene therapy for ocular disorders

Moderators: Katya Lobanova, Jillian N. Pearring and Jianhai Du

3385 — *A0156* **Gene Therapy for eAMD by Lentiviral Delivery of Dicer-Independent shRNAs Providing Increased Specificity and Safety.** *Sidsel Alsing[1], T. Bjerg[1], L. Aagaard[1], T. Corydon[1, 2].* [1]Department of Biomedicine, Aarhus University; [2]Department of Ophthalmology, Aarhus University Hospital

3386 — *A0157* **OXR1 (oxidation resistance gene 1) Reduces Oxidative Stress and Prolongs Photoreceptor Survival in Retinal Degeneration.** *Ramesh Periasamy[1], W. Zhang[1], H. Khanna[1], M. Volkert[2].* [1]Department of Ophthalmology, UMASS Medical School; [2]Dept of Microbiology and Physiological Systems, UMASS Medical School

3387 — *A0158* **A promising non-viral gene therapy approach for retinitis pigmentosa.** *Karine Bigot[1], P. Gondouin[1], P. Montagne[1], R. Benard[1], E. Picard[2], Y. G. Courtois[2], R. BUGGAGE[1], T. Bordet[1], F. F. Behar-Cohen[2].* [1]Eyevensys; [2]Sorbonne University CRC Inserm UMR1138 **CR*

3388 — *A0159* **Impact of Voretigene Neparvovec on Legal Blindness in Germany in Patients with *RPE65* Mutation-Associated Inherited Retinal Dystrophy − Post Hoc Analysis of Phase III Trial Data.** *Sue Lacey[1], C. Aouadj[1], D. C. Chung[2], K. Z. Reape[2], K. A. High[2], D. Viriato[1].* [1]Novartis Pharma AG; [2]Spark Therapeutics, Inc **CR*, ↗

3389 — *A0160* **The shorter the better?: Assessing novel therapeutic strategies for *CRB1*-associated retinal disease.** *Alex Garanto[1, 2], A. Hoogendoorn[1], J. J. Lurvink[1], R. W. Collin[1, 2].* [1]Human Genetics, Radboudumc; [2]Donders Institute for Brain, Cognition and Behaviour

3390 — *A0161* **Gene therapies differentially rescue disease phenotype in patient-specific hiPSC-RPE models of Best disease.** *Divya Sinha[1, 2], B. Steyer[3], P. K. Shahi[2, 4], R. Valiauga[1], K. L. Edwards[1], C. Bacig[1], B. R. Pattnaik[2, 4], K. Saha[2, 3], D. M. Gamm[2, 5].* [1]Waisman Center, University of Wisconsin-Madison; [2]McPherson Eye Research Institute, University of Wisconsin-Madison; [3]Wisconsin Institute for Discovery, University of Wisconsin-Madison; [4]Department of Pediatrics, University of Wisconsin-Madison; [5]Department of Ophthalmology and Visual Sciences, University of Wisconsin-Madison

3391 — *A0162* **Photoreceptor-specific AAV gene replacement enhanced by the adjunctive use of hydroxychloroquine *in vivo*.** *Laurel C. Chandler, M. E. McClements, A. R. Barnard, M. I. Patricio, R. E. MacLaren, K. Xue.* University of Oxford **CR*

3392 — *A0163* **A destabilized domain-based approach to control protein abundance in aged mice and models of retinal degeneration.** *Shyamtanu Datta[1], B. Chen[1], M. Renwick[1], H. Peng[1], R. Ufret-Vincenty[1], J. Hulleman[2].* [1]Ophthalmology, UT Southwestern Medical Center; [2]Ophthalmology and Pharmacology, UT Southwestern Medical Center

3393 — *A0164* **Versatile, non-antibiotic control of an ocular DHFR-based destabilizing domain.** *John Hulleman, V. Q. Chau, S. Datta, H. Peng, M. Renwick.* Ophthalmology and Pharmacology, Univ of Texas Southwestern Med Center

3394 — *A0165* **Effective arrest of retinal degeneration depends on the timing of gene restoration in a BBS17 mouse model.** *Poppy Datta, B. Hendrickson, S. Seo.* Ophthalomology and Visual Sciences, University of Iowa

3395 — *A0166* **Effect of Simvastatin on REP-1 Replacement Therapy in a Mouse Model of Choroideremia.** *Elena Posse de Chaves[2, 3], S. Samuelson[1, 3], D. Ordoñez[1, 3], Q. Wang[1, 3], C. St. Laurent[4], I. M. MacDonald[4, 3], Y. Sauve[4, 3].* [1]Pharmacology, University of Alberta; [2]Pharmacology, University of Alberta; [3]Neuroscience and Mental Health Institute, University of Alberta; [4]Ophthalmology and Visual Sciences, University of Alberta

3396 — *A0167* **Germline CRISPR/Cas9-mediated Gene Editing Prevents Vision Loss in a Novel Mouse Model of Aniridia.** *Seyedeh Zeinab Mirjalili Mohanna[1, 2], T. C. Lengyell[2], S. Lam[2], T. W. Johnson[2], E. M. Simpson[1, 2].* [1]Department of Medical Genetics, University of British Columbia; [2]Center for Molecular Medicine and Therapeutics at BC Children's Hospital Research Institute, University of British Columbia

3397 — *A0168* **Early post-approval results of gene therapy for RPE65-mediated retinal dystrophy with Luxturna (voretigene neparvovec) at Massachusetts Eye and Ear.** *Noam Rudnick, D. Terrell, C. Weigel-DiFranco, J. Comander.* Ophthalmology, Massachusetts Eye & Ear Infirmary **CR*

3398 — *A0169* **Long-term Effect of Voretigene Neparvovec on the Full-Field Light Sensitivity Threshold Test of Patients with *RPE65* Mutation-Associated Inherited Retinal Dystrophy – Post Hoc Analysis of Phase I trial data.** *Daniel C. Chung[1], K. Lee[2], K. Z. Reape[1], K. A. High[1], S. Lacey[3], D. Viriato[3].* [1]Spark Therapeutics, Inc; [2]Novartis Ireland Limited; [3]Novartis Pharma AG **CR*, ↗

3399 — *A0170* **Identification of a new Kozak consensus in genes expressed in photoreceptors.** *Anum Butt[1, 2], M. E. McClements[1, 2], R. E. MacLaren[1, 2].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Oxford Eye Hospital

3400 — *A0171* **Aniridia and PAX6: The foundations for an RNA therapy.** *Athanasios Papadimitropoulos[1], L. N. Roux[3], D. C. Blakey[4], D. Aberdam[3], C. Willoughby[1, 2], K. Hamill[1].* [1]Eye and Vision Science, University of Liverpool, IACD; [2]Genomic Medicine Group, Ulster University, Biomedical Sciences Research Institute; [3]Hôpital Saint-Louis; [4]MiNA Therapeutics **CR*

3401 — *A0172* **Splice modulation therapy for a variety of *ABCA4* mutations underlying Stargardt disease.** *Rob W. Collin[1], M. Khan[1], R. Sangermano[1], S. Naessens[2], M. Bauwens[2], C. C. Hoyng[1], F. Coppieters[2], S. Albert[1], M. E. Cheetham[3], E. De Baere[2], F. P. Cremers[1], A. Garanto[1].* [1]Radboud University Medical Centre; [2]Ghent University; [3]University College London **CR*

3402 — *A0173* **Dual Adeno-Associated Virus Vector mediated gene therapy for autosomal recessive Stargardt Disease.** *Frank M. Dyka[1], L. L. Molday[2], V. A. Chiodo[1], R. S. Molday[2], W. Hauswirth[1].* [1]Ophthalmology, University of Florida; [2]Biochemistry and Molecular Biology, University of British Columbia **CR*

3403 — *A0174* **Treatment of a *BBS1* splice site mutation applying a combination of designed U1snRNA and antisense oligonucleotides.** *John P. Neidhardt[1], M. Vorm[1], A. Bräuer[2], S. Breuel[1].* [1]Human Genetics, University of Oldenburg; [2]Anatomy, University of Oldenburg

3404 — *A0175* **Overexpression of Nrf2 in the retinal pigment epithelium of *rd1* mice improves RPE morphology.** *David M. Wu[1], M. Ivanchenko[4], X. Ji[1], H. Xu[1], S. Zhao[2], W. Xiong[5], C. Cepko[2, 3].* [1]Retina Service, Massachusetts Eye and Ear Infirmary; [2]Genetics, Harvard Medical School; [3]HHMI; [4]Neurobiology, Harvard Medical School; [5]Biomedical Sciences, City University of Hong Kong **CR*

3405 — *A0176* **Gene augmentation therapy for *NMNAT1*-associated retinal degeneration: Promise and challenges.** *Scott H. Greenwald[1], B. S. Pawlyk[1], E. Hennessey[1], M. J. Scandura[1], R. Xiao[1, 2], L. H. Vandenberghe[1, 2], E. A. Pierce[1].* [1]Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School; [2]Grousbeck Gene Therapy Center, Massachusetts Eye and Ear, Harvard Medical School

3406 — *A0177* **Discovery of a Hammerhead Ribozyme with Enzyme Kinetics comparable to Protein Enzymes.** *Jason Myers, J. M. Sullivan.* Ophthalmology, SUNY at Buffalo, VA Western NY **CR*

3407 — *A0178* **Genetic strategies to treat vision loss in a murine model of Usher syndrome Type 1C.** *Katelyn N. Robillard, M. Hathaway, N. G. Bazan, J. J. Lentz.* Neuroscience Center, LSU Health Sciences Center - New Orleans

3408 — *A0179* **Characterizing the immune response to helper-dependent adenovirus in the rat retina.** *Luke A. Wiley, E. E. Kaalberg, C. Jiao, R. F. Mullins, E. M. Stone, B. Tucker, I. Han.* Institute for Vision Research, Ophthalmology & Visual Sciences, University of Iowa

3409 — *A0180* **Rescue of mouse RPGR function *in vivo* using CRISPR/Cas9 gene editing.** *Jessica Gumerson, A. Alsufyani, W. Yu, X. Sun, J. Lei, Z. Wu, L. Dong, T. Li.* National Eye Institute, National Institutes of Health

3410 — *A0181* **Adeno-associated viral (AAV) vector tropism in the young Brown Norway rat retina.** *Nanda Boon, C. Alves, J. Wijnholds.* Ophthalmology, LUMC **CR*

3411 — *A0182* **Enhanced antiangiogenic activity of PlGF silencing in combination with PEDF overexpression in ocular neovascular diseases.** *Rute S. Araújo[1, 2], G. A. Silva[1].* [1]CEDOC, NOVA Medical School, Universidade Nova de Lisboa; [2]Bioengineering-Cell Therapies and Regenerative Medicine PhD Program, NOVA Medical School, Universidade Nova de Lisboa

3412 — *A0183* **Facilitated Hammerhead Ribozymes- A New Therapeutic Modality for Inherited Retinal Degenerations.** *Jack M. Sullivan[1], J. Myers[1], A. Trujillo[1], M. C. Butler[1], Z. Fayazi[1], J. A. Punnoose[2], K. A. Halvorsen[2].* [1]Ophthalmology, SUNY at Buffalo, VA Western NY; [2]RNA Institute, University at Albany- SUNY **CR*

3413 — *A0184* **Nogo-A expression silencing impairs the function and survival of retinal neurons in physiological conditions.** *Julius B. Mdzomba[1], L. Rodriguez[1], S. Joly[1], D. Dalkara[2], V. Pernet[1].* [1]Universite Laval- CHUL; [2]institute de la vision

3414 — *A0185* **Rapid Preclinical Validation of PTGS Therapeutic Agents for Inherited Retinal Degenerations.** *Mark C. Butler[1, 2], Z. Fayazi[1, 2], J. M. Sullivan[1, 2].* [1]Ophthalmology, VA WNY at Buffalo; [2]Ophthalmology, Ross Eye Institute **CR*

3415 — *A0186* **Gene therapy strategies for hypoxia-mediated gene expression in retinal pigment epithelium cells.** *Helder Andre, Y. Lu, S. Alatar, E. Svensson, M. Hertzman, A. Kristiansson, J. Ruohonen, A. P. Kvanta.* Clinical Neurosciences, St Erik Eye Hospital

3416 — *A0187* ***In vitro* expression model for AAV2.VMD2.BEST1 gene therapy vectors.** *Cristina Martinez-Fernandez dela Camara[1, 2], R. Truran[3], G. Robinson[3], R. E. MacLaren[1, 2].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Oxford Eye Hospital, Oxford University Hospitals NHS Trust; [3]Nightstar Therapeutics **CR*

3417 — *A0188* **Intrastromal Delivery of rAAV *PAX6* Transiently Rescues Corneal Defects in a Mouse Model of Aniridia.** *Elizabeth M. Simpson[1, 2], A. J. Korecki[1], S. Lam[1], J. W. Hickmott[1, 2].* [1]Centre for Molecular Medicine and Therapeutics at BC Children's Hospital, University of British Columbia; [2]Department of Medical Genetics, University of British Columbia

3418 — *A0189* **Retinal preservation following lateral ventricle injection of AAV9-Cln6 into mouse model for Batten disease.** *Bin Lu[1], B. Meyerink[2], K. White[2], J. Weimer[2, 3], C. Svendsen[1, 4], S. Wang[1, 4].* [1]Board of Governors Regenerative Medicine Institute, Biomedical Sciences, Cedars Sinai Medical Center; [2]Pediatrics and Rare Diseases Group, Sanford Research; [3]Pediatrics of Sanford School of Medicine, University of South Dakota; [4]David Geffen School of Medicine, University of California Los Angeles

3419 — *A0190* **Successful rescue of M-cone function in aged M-opsin knock-out mice, a model for blue cone monochromacy.** *Wen-Tao Deng[1], J. Li[1], P. Zhu[1], W. Baehr[2], W. Hauswirth[1].* [1]University of Florida; [2]University of Utah **CR*

3420 — *A0191* **Validation of *in vitro* gene therapy for Bietti crystalline dystrophy.** *Jiang-Hui Wang[1], D. Hickey[1], M. E. McClements[2], T. Colgan[1], T. Edwards[1].* [1]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [2]Department of Clinical Neurosciences, Nuffield Laboratory of Ophthalmology, University of Oxford

3421 — *A0192* **Electrolyte quantification in aqueous and vitreous humor of common preclinical species.** *Christian Li.* Study Management, Citoxlab North America Inc.

3422 — *A0193* **Development of new topical preparations for external ophthalmomyiasis treatment.** *Giuseppe D'Amico Ricci[3, 1], A. Pinna[5], G. Garippa[4], S. Cortese[2], R. Serra[2], E. Giancipoli[3], F. Boscia[3].* [1]Ospedale Oftalmico, Asl Città di Torino; [2]A.O.U. Sassari; [3]Department of Biomedical Sciences, University of Sassari; [4]Department of Veterinary Medicine, University of Sassari; [5]Department of Clinical, Surgical and Experimental Sciences, University of Sassari

3423 — *A0194* **A novel antisense oligonucleotide approach to treat eye diseases by increasing target gene expression.** *Jacob Kach, K. Lim, S. Weyn-Vanhentenryck, A. Venkatesh, I. Aznarez, G. Liau.* Stoke Therapeutics **CR*

3424 — *A0195* **Cell-Penetrable and in vivo activatable mini-chaperones for stabilizing misfolded proteins.** *Puttur Santhoshkumar, K. Sharma.* Ophthalmology, University of Missouri-Columbia

3425 — *A0196* **Inhibition of pterygium fibroblasts viability by a Siempre viva plant extract partitioned in Aqueous-Two Phase Systems.** *Daniela Enriquez-Ochoa, C. Sánchez-Trasviña, K. Mayolo-Deloisa, P. Lopez, J. Zavala, M. Rito-Palomares, J. Valdez-García.* ITESM

3426 — *A0197* **Development and efficacy assessment of AAV2/8-hG1.7p.coCNGA3, a *CNGA3* gene therapy vector.** *Tassos Georgiadis[1, 2], T. Matsuki[2], J. Hoke[2], M. Rizzi[2], A. Gonzalez-Cordero[2], R. Sampson[2], J. W. Bainbridge[2, 1], A. Smith[2, 1], R. R. Ali[2, 1].* [1]MeiraGTx Ltd; [2]UCL Institute of Ophthalmology **CR*

West Exhibition Hall A0198-A0209

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Biochemistry/Molecular Biology

353 Genome, chromatin structure and functional genomics

Moderator: Eric A. Pierce

3427 — *A0198* **Interplay between piRNAs and miRNAs modulate specific targets in retina and RPE.** *Subbulakshmi Chidambaram[1, 2], R. Arora[3], L. Dohadwala[3], s. Sivagurunathan[2], J. Arunachalam[4], K. Muthuramalingam[1].* [1]Biochemistry and Molecular Biology, Pondicherry Central University; [2]Biochemistry and Cell Biology, Vision Research Foundation; [3]National Centre for Biological Sciences; [4]Central Inter-Disciplinary Research Facility

3428 — *A0199* **Identification of the ocular aging signature using RNA-Seq.** *Angela Banks[1], A. Chen[1], N. Li[1], N. Vo[1], M. Morris[2], Y. Wang[2], C. Ball[2], L. Mansur[2].* [1]Ophthalmology, Novartis Institutes for Biomedical Research; [2]Novartis Institutes for Biomedical Research **CR*

3429 — *A0200* **Cytokines associated with uveal melanoma induce expression of ICAM-1 and the lncRNA ICR in a tumor and stimulus specific manner.** *Binoy Appukuttan[1], A. L. Waterman[1], L. M. Ashander[2], Y. Ma[2], J. R. Smith[2].* [1]Clinical & Molecular Medicine, Flinders Univ of South Australia - FU; [2]Eye and Vision Health, Flinders University

3430 — *A0201* **Development and epigenetic plasticity of murine Müller glia.** *Dmitry V. Ivanov[1, 2], R. Seemungal[1], G. Dvoriantchikova[1].* [1]Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine; [2]Department of Microbiology and Immunology, University of Miami Miller School of Medicine

3431 — *A0202* **MicroRNAs as potential regulators of fibrosis in retinal pigment epithelial cells.** *Patricia Sanchez-Diaz[1], W. Greene[2], T. Burke[2], H. H. Wang[2].* [1]Rosenberg School of Optometry, University of the Incarnate Word; [2]Sensory Trauma, United States Army Institute of Surgical Research, Fort Sam Houston

3432 — *A0203* **The signature of the healthy trabecular meshwork.** *Ilona Liesenborghs[1, 2], L. M. Eijssen[4, 3], M. Kutmon[4, 2], C. T. Evelo[4, 2], T. G. Gorgels[1, 3], W. H. Hubens[1, 3], H. J. Beckers[1], C. A. Webers[1], J. S. Schouten[5].* [1]University Eye Clinic Maastricht, Maastricht University Medical Centre; [2]Maastricht Centre of Systems Biology, MaCSBio, Maastricht University; [3]School for Mental Health and Neuroscience, Department of Psychiatry and Neuropsychology, Maastricht University; [4]Department of Bioinformatics - BiGCaT, Maastricht University; [5]Department of Ophthalmology, Canisius Wilhelmina Hospital

3433 — *A0204* **Lens-PaTrNing: an interactive web resource for interrogating signal Pathways and Transcriptional Networking during lens and cataract formation.** *Michael O'Connor[1], J. Monks[1], M. Kabir[1], J. W. Ho[2], L. Liyanage[1].* [1]Western Sydney University; [2]The University of Hong Kong

3434 — *A0205* **Comprehensive genetic analysis of IgG4-related ophthalmic diseases by RNA sequencing.** *Masaki Asakage[1], Y. Usui[1], M. Ogawa[1], N. Yamakawa[1], K. Umazume[1], R. Nemoto[1], H. Goto[1], N. Nezu[1], M. Kuroda[2].* [1]Ophthalmology, Tokyo Medical University Hospital; [2]Molecular Pathology, Tokyo Medical University Hospital

3435 — *A0206* **Identification of ocular regulatory functions of core histone variant H3.2 in mouse.** *Sharmilee Vetrivel[1], J. Graw[1], F. Giesert[2].* [1]Institute of Developmental Genetics, IDG; Eye Disease Group; [2]Helmholtz Zentrum Munich, Institute of Developmental Genetics

3436 — *A0207* **The sequence variants in the novel lncRNAs, *ROBO1-AS* and *ROBO2-AS*, correlate with phenotype severity in canine RPGR-XLPRA1.** *Tatyana Appelbaum, L. Murgiano, D. Becker, E. Santana, G. D. Aguirre.* Clinical Studies, U of Penn School Vet Med

3437 — *A0208* **Evaluating methods for differential gene expression and alternative splicing using internal synthetic controls.** *Sudeep Mehrotra[1], R. Bronstein[1], D. Navarro-Gomez[1], A. Segre[1, 2], E. A. Pierce[1, 2].* [1]Mass. Eye and Ear; [2]Harvard Medical School

3438 — *A0209* **m^{6}A RNA Modification Regulates Corneal Epithelial Wound Healing.** *Guangying Luo[1, 2], Y. Zhao[1, 2], P. Reinach[1, 2], D. Yan[1, 2].* [1]School of Ophthalmology and Optometry, Eye Hospital, Wenzhou Medical University; [2]State Key Laboratory of Ophthalmology, Optometry and Visual Science

West Exhibition Hall A0282-A0341

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Retina

354 AMD Imaging

Moderator: Barbara A. Blodi

3439 — *A0282* **Rod and cone visual pigment synthesis rates are abnormal in iAMD and dependent on underlying pathology.** *Tom H. Margrain[1], N. Cassels[1], A. M. Binns[2], A. Wood[1].* [1]Cardiff Centre for Vision Sciences, Cardiff University; [2]School of Health Sciences, City, University of London **CR*

3440 — *A0283* **Effect of Age-related Macular Degeneration on changes in choroidal thickness induced by retinal defocus.** *John R. Phillips[1, 2], T. Chen[3], S. T. Chiang[2, 4].* [1]School of Optometry and Vision Science, The University of Auckland; [2]Department of Optometry, Asia University; [3]Department of Optometry, Mackay Junior College of Medicine, Nursing & Management; [4]Department of Medical Research, China Medical University Hospital

3441 — *A0284* **Association of treatment response with quantitative changes in choroidal neovascularization and outer choroidal vessel in neovascular age-related macular degeneration.** *Hyungwoo Lee[1, 2], M. Lee[1, 2], M. Kim[1, 2], H. Chung[1, 2], H. Kim[1, 2].* [1]Ophthalmology, Konkuk university medical center; [2]Konkuk university school of medicine

3442 — *A0285* **Subretinal fibrosis detection using polarization sensitive optical coherence tomography.** *Joy Willemse[1], M. Grafe[1], A. van de Kreeke[2], F. D. Verbraak[2], Y. de Jong[2], J. de Boer[1, 2].* [1]Biophotonics and medical imaging, VU Amsterdam; [2]Ophthalmology, Amsterdam VUmc **CR*

3443 — *A0286* **Quantity and morphology of inner retinal vasculature is reduced in intermediate Age-Related Macular Degeneration.** *Lisa Nivison-Smith[1, 2], M. Trinh[1], M. Kalloniatis[2, 1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]Centre for Eye Health

3444 — *A0287* **Quantification of two dimensional progression velocity in geographic atrophy and its relationship with autofluorescence at the borders.** *Giovanni Ometto[1, 2], G. Montesano[1, 2], J. H. Terheyden[3], D. P. Crabb[1].* [1]Ophtalmology, City University of London; [2]Moorffields Eye Hospital; [3]Department of Ophthalmology, University of Bonn **CR*

Tuesday Posters
11:45 am – 1:30 pm

3445 — *A0288* **Distinguishing Polypoidal Choroidal Vasculopathy from Typical Age-related Macular Degeneration, Type 3 Neovascularization, and Chronic Central Serous Chorioretinopathy Using Swept Source Optical Coherence Tomography Angiography.** *Ai Fujita, K. Kataoka, Y. Nakano, J. Takeuchi, Y. Ito, H. Terasaki.* Ophthalmology, Nagoya Univiersitiy Graduate School of Medicine **CR*

3446 — *A0289* ***Remodeling*** **of choroidal vessels in geographic atrophy secondary to nonexudative age-related macular degeneration.** *Vittorio Capuano[1], A. Miere[1], E. Borrelli[2], R. Sacconi[2], L. Todisco[1], O. Semoun[1], F. Bandello[2], E. H. Souied[1], G. Querques[2, 1].* [1]Service Universitaire d' Ophtalmologie, Centre hospitalier Intercommunal de Creteil; [2]University Vita Salute IRCCS Ospedale San Raffaele

3447 — *A0290* **A longitudinal analysis of changes in en-face optical coherence tomography and fundus autofluorescence in Stargardt disease.** *Vivienne C. Greenstein[1], C. L. Xu[1], S. Tsang[1, 3], R. Allikmets[1, 3], J. Sparrow[1, 3], D. C. Hood[1, 2].* [1]Ophthalmology, Columbia University; [2]Psychology, Columbia University; [3]Pathology and Cell Biology, Columbia University **CR*

3448 — *A0291* **Genesis of cholesterol crystals in eyes with drusenoid pigment epithelial detachment secondary to non-neovascular age-related macular degeneration.** *Serena Fragiotta[1, 2], P. Fernandez Avellaneda[1], B. Leong[1], K. Kato[1], Y. Sakurada[3, 1], L. Yannuzzi[1], C. A. Curcio[4], K. Freund[1].* [1]Vitreous Retina Macula Consultants of New York; [2]Sapienza University of Rome; [3]University of Yamanashi; [4]University of Alabama at Birmingham **CR*

3449 — *A0292* **Volume rendering of choroidal neovascularization complicating age related macular degeneration: qualitative and quantitative characterization.** *Diogo Cabral[1, 5], F. Coscas[2], T. Pereira[4], C. Brás-Geraldes[3], R. Laiginhas[6, 7], S. Barrão[1], G. Coscas[2], E. H. Souied[2].* [1]Instituto de Oftalmologia Dr Gama Pinto; [2]Department of Ophthalmology, Centre Hospitalier Intercommunal de Creteil, University Paris Est Creteil XII; [3]Centre of Statistics and its Applications, University of Lisbon; [4]Microscopy Facility, CEDOC, NOVA Medical School, Universidade NOVA de Lisboa; [5]CEDOC, NOVA Medical School, Universidade NOVA de Lisboa; [6]Ophthalmology, Centro Hospitalar de Entre o Douro e Vouga; [7]PDICSS, Faculty of Medicine of Porto University

3450 — *A0293* **Comparison of the visualization and measurement of choroidal neovascularization using fluorescein angiography and two spectral domain optical coherence tomography angiography devices.** *Chris Or[1, 2], M. Bonini Filho[2], N. K. Waheed[2].* [1]Ophthalmology, LSU; [2]Tufts Medical Center, New England Eye Center **CR*

3451 — *A0294* **An association between RPE disruption and fibrotic scar formation after aflibercept therapy for neovascular age-related macular degeneration.** *Keijiro Ishikawa[1], S. Shiose[1], M. Akiyama[1], K. Kano[1], Y. Kaizu[1], I. Wada[1], S. Nakao[1], Y. Oshima[2, 1], K. Sonoda[1].* [1]Ophthalmology, Kyushu University; [2]Fukuoka University Chikushi Hospital **CR*

3452 — *A0295* **RNA biomarker discovery in Polypoidal Choroidal Vasculopathy (PCV): Pharmacogenomics approach.** *Mathavan Sinnakaruppan[1], L. Alagappan[1], S. K[1], P. TM[2], S. N.N[1], M. Bhende[2].* [1]SN ONGC Department of Genetics and Molecular Biology, Vision Research Foundation; [2]Vitreo Retina, Medical Research Foundation

3453 — *A0296* **Migration patterns of intraretinal retinal pigment epithelium (RPE) in non-neovascular age-related macular degeneration (nnAMD).** *Belinda Leong[1, 2], K. R. SLOAN[3], J. D. Messinger[3], K. Freund[1], C. A. Curcio[3].* [1]Vitreous Retina Macula Consultants of New York; [2]Retina Associates; [3]Ophthalmology, University of Alabama **CR*

3454 — *A0297* **Longitudinal and spatial analysis of ellipsoid zone reflectivity by optical coherence tomography in eyes at high risk for development of late AMD.** *Sarah Thiele[1], B. Isselmann[1], M. Pfau[1], J. Nadal[2], M. Fleckenstein[1], M. Schmid[2], F. G. Holz[1], S. Schmitz-Valckenberg[1].* [1]University of Bonn, Department of Ophthalmology; [2]University of Bonn, Institute for Medical Biometry, Informatics and Epidemiology **CR*

3455 — *A0298* **Annotation of choroidal neovascularization components in age-related macular degeneration using polarization-sensitive optical coherence tomography with optical coherence tomography angiography.** *Noriko Miyamoto[2, 1], K. Totani[3], M. Mandai[2, 4], M. Matsuzaki[2, 1], S. Sugiyama[3], M. Yamanari[3], S. Takagi[2], Y. Hirami[2, 1], S. Oshima[3], M. Takahashi[2, 4], Y. Kurimoto[2, 1].* [1]Dept of Ophthalmology, Kobe City Eye Hospital/Kobe City Med Ctr Gen Hosp; [2]Kobe City Eye Hospital; [3]Tomey Corporation; [4]Riken Center for Developmental Biology **CR*

3456 — *A0299* **Associations between variation in retinal thickness and visual function.** *Rebecca N. Evans[1], U. Chakravarthy[2], B. Reeves[1].* [1]Bristol Medical School, University of Bristol; [2]Institute of Clinical Science, The Queen's University of Belfast **CR*, ↗

3457 — *A0300* **SD-OCT « subretinal evanescent hyporeflectivity » in age-related macular degeneration.** *Polina Astroz Evtouchenko[1], f. amoroso[1], O. Semoun[1], M. Srour[1], A. Mouallem-Beziere[1], G. Querques[1, 2], E. H. Souied[1].* [1]Centre Hospitalier Intercommunal de Créteil; [2]University Vita-Salute

3458 — *A0301* **Retinal function, vasculature and oxygen parameters in patients with macular degenerations.** *Rebekka Heitmar.* Optometry and Vision Sciences, Aston University

3459 — *A0302* **Spectral and Lifetime Autofluorescence Characteristics of Soft Drusen and Hyperpigmentation in Patients with Age-Related Macular Degeneration (AMD).** *Martin Hammer[1], L. Zweifel[1], L. Kreilkamp[1], L. Sauer[2], R. Schultz[1], R. Augsten[1], D. Meller[1].* [1]Dept of Ophthalmology, University Hospital Jena; [2]Moran Eye Center, Univ. of Utah **CR*

3460 — *A0303* **Fluorescence Lifetime Imaging Ophthalmoscopy (FLIO) in Patients with Pigment Epithelial Detachment (PED) due to Age-related Macular Degeneration (AMD).** *Lydia Sauer, C. B. Komanski, A. Vitale, P. S. Bernstein.* Department of Ophthalmology, John A Moran Eye Center **CR*

3461 — *A0304* **Feature analysis of the choroid in optical coherence tomography images – limitations and opportunities.** *Louise Terry[1], D. Ravenscroft[2], J. Deng[2], X. Xie[2], N. White[1], T. H. Margrain[1], R. V. North[1], A. Wood[1].* [1]Cardiff University; [2]Swansea University

3462 — *A0305* **Flavoprotein Fluorescence is a Marker of AMD Progression.** *Jessica Hsueh[1, 3], R. Raimondi[2, 3], G. Hom[2, 3], T. Conti[2, 3], R. P. Singh[2, 3].* [1]Case Western Reserve University School of Medicine; [2]Cole Eye Institute, Cleveland Clinic; [3]Center for Ophthalmic Bioinformatics, Cleveland Clinic **CR*

3463 — *A0306* **Characterizing Spectra from Hyperspectral Autofluorescence (AF) of Human Eyes with and without Age-related Macular Degeneration (AMD).** *Taariq Mohammed[1], Y. Tong[2], A. Al-Obeidi[1], N. Challa[2], T. Ach[3], C. A. Curcio[4], R. Smith[2].* [1]New York University School of Medicine; [2]New York Eye and Ear Infirmary of Mount Sinai; [3]University Hospital Würzburg; [4]University of Alabama at Birmingham School of Medicine

3464 — *A0307* **Association between spectral profile from Hyperspectral Autofluorescence (AF) with localization of Melanin-containing Organelles in Human RPE in eyes with and without AMD.** *Arshed Al-Obeidi[1], T. Mohammed[1], Y. Tong[2], N. Challa[2], T. Ach[3], C. A. Curcio[4], R. Smith[2].* [1]New York University; [2]Department of Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai; [3]Department of Ophthalmology, University Hospital of Würzburg; [4]Department of Ophthalmology, University of Alabama at Birmingham School of Medicine

3465 — *A0308* **Adaptive Optics OCT-Based Drusen Grading for Assessing Severity of Dry Age-Related Macular Degeneration.** *Stacey S. Choi[1, 2], E. Wells-Gray[1], H. Xu[3], B. Vohnsen[4], M. Chen[3], L. T. Sinnott[1], L. Jordan[1], M. Ohr[2], C. M. Cebulla[2], N. Doble[1, 2].* [1]Optometry, The Ohio State University; [2]Ophthalmology, The Ohio State University; [3]Queen's University Belfast; [4]University College Dublin

3466 — *A0309* **Infusion labeling and FLIM imaging of hydroxyapatite spherules in human sub-RPE deposits.** *Richard Thompson[1], K. R. Hegde[2], H. Szmacinski[1], K. Pugh[3], A. Puche[3], I. Lengyel[4].* [1]Dept of Biochemistry and Molecular Biolo, University of Maryland School of Medicine; [2]Coppin State University; [3]Dept Anatomy Neurobiology, University of Maryland School of Medicine; [4]Queens University Belfast

3467 — *A0310* **Selective differentiation of RPE, fibrosis and choroidal neovascularization (CNV) – a multimodal imaging study.** *Philipp K. Roberts[1], M. Schranz[1], S. Desissaire[2], M. Pircher[2], G. Mylonas[1], M. Baratsits[1], S. Sacu[1], C. K. Hitzenberger[2], U. Schmidt-Erfurth[1].* [1]Department of Ophthalmology and Optometry, Medical University of Vienna; [2]Center for Medical Physics and Biomedical Engineering **CR*

3468 — *A0311* **Detection of reduced retinal vessel density in eyes with geographic atrophy secondary to age-related macular degeneration using projection-resolved optical coherence tomography angiography.** *Steven T. Bailey, Q. You, J. WANG, C. J. Flaxel, T. S. Hwang, D. Huang, Y. Jia.* Ophthalmology, Casey Eye Institute, OHSU **CR*

3469 — *A0312* **Relationship Between Geographic Atrophy Expansion Rate and Density of Choriocapillaris Flow Voids Using OCT Angiography.** *Yining Dai[1], k. nattagh[2], H. Zhou[1], N. Rinella[2], Q. Zhang[1], K. G. Foote[3], C. Keiner[2], M. Deiner[2], J. L. Duncan[2], R. K. Wang[1, 4], D. Schwartz[2].* [1]Department of Bioengineering, University of Washington; [2]University of California San Francisco; [3]University of California, Berkeley; [4]Department of Ophthalmology, University of Washington **CR*

3470 — *A0313* **Quantitative Fundus Autofluorescence (qAF) levels of two subtypes of geographic atrophy (GA) secondary to age-related macular degeneration (AMD).** *R Theodore Smith[1], M. Mazzola[2, 3], D. Wang[4], W. Wei[2], K. Freund[5].* [1]Ophthalmology, Icahn School of Medicine of Mount Sinai; [2]New York Eye and Ear Infirmary of Mount Sinai; [3]Department of Medicine and Surgery, University of Insubria Varese-Como; [4]New York University School of Medicine; [5]Ophthalmology, Vitreous Retina Macula Consultants

3471 — *A0314* **Topographic detection and characterization of drusen and subretinal drusenoid deposits: contribution of retromode modality in a multimodal imaging approach.** *Davide Monteduro, M. Cozzi, S. Parrulli, G. Staurenghi.* Eye Clinic, Luigi Sacco Hospital **CR*

3472 — *A0315* **Volumetric characteristics quantification of choroidal neovascularization secondary to exudative age-related macular degeneration in swept source OCT angiographyduring the monthly loading dose of anti-VEGF therapy.** *Ala'a EL AMEEN[1], L. De Sisternes[2], O. Semoun[1], A. Mouallem-Beziere[1], E. H. Souied[1].* [1]Ophtalmology, Centre Hospitalier Intercommunal de Creteil; [2]Carl Zeiss Meditec, Inc.

3473 — *A0316* **Incidence of outer retinal tubulations in patients diagnosed with neovascular AMD according to type of choroidal neovascular membrane at presentation.** *Ernestus Janse van Rensburg[1], C. L. Ryu[2], N. Vila[3], E. Chan[1], E. Rampakakis[4], J. Chen[1].* [1]Department of Ophthalmology, McGill University; [2]Minneapolis VA Health Care System; [3]St. Paul's Eye Unit - Royal Liverpool University Hospital; [4]JSS Medical Research

3474 — *A0317* **Longitudinal Analysis of Metamorphopsia Measurement and its Relation to Change in Drusen Size and Volume in Intermediate Age-Related Macular Degeneration.** *Daniela Claessens[1], A. K. Schuster[2].* [1]Augenheilkunde Lindenthal; [2]Opthalmologie, Universitätsmedizin Mainz **CR*

3475 — *A0318* **Regional growth of Geographic Atrophy and Visual Acuity: A longitudinal analalysis.** *You Jong In[2], K. Kim[1], E. Kim[1], S. Yu[1].* [1]Ophthalmology, KyungHee university hospital; [2]Ophthalmology, KyungHee university hospital

3476 — *A0319* **Role of the OCT-A Flow Index in neovascular AMD.** *Maninee Purohit[1, 2], N. Rai[2], N. Patel[2].* [1]Birmingham Midland Eye Centre; [2]Department of Ophthalmology, William Harvey Hospital

3477 — *A0320* **Acceptability of OCT Angiography: A multicentre OCT Angiography NEtwork (OCTANE) study.** *Faruque Ghanchi[1, 2], C. Fulcher[1], S. Sivaprasad[3], K. Balaskas[3], R. P. Gale[7, 8], G. De Salvo[4], J. S. Talks[5], A. Lotery[4], I. A. Pearce[6].* [1]Ophthalmology, Bradford Teaching Hospitals; [2]University of Bradford; [3]NIHR Moorfields Biomedical Research Centre; [4]University Hospital Southampton; [5]Royal Victoria Infirmary; [6]St Paul's Eye Unit, Royal Liverpool University Hospital; [7]York Teaching Hospital; [8]University of York **CR*

3478 — *A0321* **Prognostic OCTA Factors on Visual Acuity after Loading Phase in Patients with neovascular AMD.** *Reinhard Told[1], G. S. Reiter[1], F. G. Schlanitz[1], L. Wassermann[1], T. J. Mittermüller[1], E. Pablik[2], G. Weigert[1], S. Sacu[1], A. Pollreisz[1], U. Schmidt-Erfurth[1].* [1]Department of Ophthalmology and Optometr, Medical University of Vienna; [2]CeMSIIS Section for Medical Statistics, Medical University of Vienna **CR*, ↗

3479 — *A0322* **Repeatability and reproducibility of automated macular perfusion density measurements using optical coherence tomography angiography.** *Jyotsna Maram, T. Tepelus, S. Balasubramanian, M. Nassisi, T. Hirano, M. Nittala, S. R. Sadda.* Doheny Eye Institute **CR*

3480 — *A0323* **Spatial analysis of choriocapillaris flow deficits in staged dry AMD using swept-source OCTA.** *Phillip Braun[2, 1], N. Mehta[3, 1], I. Gendelman[1], A. Alibhai[1], E. Moult[4], A. Ishibazawa[5, 1], O. Sorour[6, 1], C. R. Baumal[1], A. J. Witkin[1], J. G. Fujimoto[4], J. S. Duker[1], N. K. Waheed[1].* [1]New England Eye Center, Tufts Medical Center; [2]Yale University; [3]Brown University; [4]Electrical Engineering and Computer Science, Massachusetts Institute of Technology; [5]Ophthalmology, Asahikawa Medical University; [6]Ophthalmology, Tanta University **CR*

3481 — *A0324* **Choroidal neovascularization detection using optical coherence tomography angiography versus dye based imaging modalities in geographic atrophy.** *Lucia Pace, F. Corvi, M. Cozzi, G. Staurenghi.* Ophtalmology, Hospital L. Sacco, Milan **CR*

3482 — *A0325* **Detection of choroidal neovascular membranes using OCT Angiography: Learnings from the PROCON Study.** *Sabin Dang[1], N. K. Waheed[3], D. S. Boyer[4], D. M. Brown[5], S. Shah[6], J. Heier[2].* [1]The Retina Institute; [2]Ophthalmic Consultants of Boston; [3]Tufts Medical Center; [4]Retina-Vitreous Associates; [5]Retina Consultants of Houston; [6]New Jersey Retina **CR*, ↗

3483 — *A0326* **Quantitative Assessment of Choriocapillaris Flow Voids Surrounding Choroidal Neovascular Membranes.** *Ahmed Roshdy R. Alagorie[1, 2], A. Verma[1], M. Nassisi[1], M. G. Nittala[1], s. velaga[1], S. R. Sadda[1].* [1]Doheny Eye Institute; [2]Ophthalmology Department, Tanta University **CR*

3484 — *A0327* **Subclinical choroidal neovascularizations in fellow-eyes of exudative age-related macular degeneration patients show a decrease in retinal sensitivity over time**. *Thomas Johannes Heesterbeek[1], Y. Lechanteur[1], A. de Breuk[1], A. I. Den Hollander[1, 2], J. Klevering[1], T. Theelen[1], C. C. Hoyng[1].* [1]Ophthalmology, Radboudumc; [2]Human Genetics, Radboudumc

3485 — *A0328* **Choriocapillaris Flow Voids around Geographic Atrophy in Patients with and without Outer Retinal Tubulation, measured with Swept-Source Optical Coherence Tomography Angiography.** *Sandrine A. Zweifel.* Ophthalmology Department, University Hospital of Zurich

3486 — *A0329* **Morphologic features of the retinal pigment epithelium and associated chorioretinal characteristics in eyes with early age-related macular degeneration and reticular pseudodrusen.** *Cheolmin Yun, S. Jang, S. Ahn, K. Nam, B. Lee, S. Kim, J. Oh.* Ophthalmology, Korea University College of Medicine

3487 — *A0330* **Automated volumetric choroidal neovascularization segmentation and quantification in swept-source OCT angiography using machine learning.** *Luis De Sisternes[1], H. Bagherinia[1], K. Makedonsky[1], A. El Ameen[2], G. Gregori[3], P. Rosenfeld[3], M. K. Durbin[1].* [1]Carl Zeiss Meditec Inc.; [2]Créteil University Hospital; [3]Ophthalmology, Bascom Palmer Eye Institute **CR*

3488 — *A0331* **Histologic correlates of optical coherence tomography signatures in geographic atrophy (GA) secondary to age-related macular degeneration (AMD).** *Christine A. Curcio[1], M. Li[1, 2], R. Dolz-Marco[3], C. Huisingh[1], J. Messinger[1], R. Feist[1], D. Ferrara[4], K. B. Freund[5, 6].* [1]Univ of Alabama at Birmingham; [2]Sun Yat-sen University, State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center; [3]Unit of Macula, Oftalvist Clinic; [4]Genentech; [5]Vitreous Retina Macula Consultants of New York; [6]Ophthalmology, New York University Langone School of Medicine **CR*

3489 — *A0332* **Why Are They Hidden–Multimodel Imaging of Non-visualized Polyps on Optical Coherence Tomography Angiography in Patients with Polypoidal Choroidal Vasculopathy.** *Limei Sun, X. Ding.* State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

3490 — *A0333* **Local retinal morphology prior to the onset of advanced AMD: A topographic analysis using machine learning.** *Hrvoje Bogunovic[1], S. M. Waldstein[1], W. Vogl[1], S. Klimscha[1], A. Sadeghipour[1], C. Grechenig[1], B. Gerendas[1], A. Osborne[2], U. Schmidt-Erfurth[1].* [1]Department of Ophthalmology, Medical University of Vienna; [2]Genentech **CR*

3491 — *A0334* **Polypoidal choroidal vasculopathy with age-related scattered hypofluorescent spots on late-phase indocyanine green angiography, a candidate correlate of lipid accumulation.** *Ling Chen, F. Wen.* Zhongshan Ophthalmic center, sun yat-sen university

3492 — *A0335* **Clinicopathologic Correlation of Aneurysmal Type 1 Neovascularization (AT1-NV) Secondary to Age-Related Macular Degeneration (AMD).** *Miaoling Li[2, 1], R. Dolz-Marco[3], J. D. Messinger[1], K. R. SLOAN[1], D. Ferrara[4], C. A. Curcio[1], K. Freund[5].* [1]Ophthalmology, University of Alabama at Birmingham; [2]Zhongshan Ophthalmic Center; [3]FISABIO Ophthalmology Medicine; [4]Genentech; [5]Vitreous Retina Macula Consultants of New York **CR*

3493 — *A0336* **Outer Plexiform Layer Remodeling in Aging and Age-related Macular Degeneration.** *Brian M. Shafer[1], W. Pan[1], W. J. Kheir[2], E. M. Lad[2], G. Ying[1], K. B. Ebrahimi[1].* [1]Ophthalmology, Scheie Eye Institute; [2]Ophthalmology, Duke University

3494 — *A0337* **Comparison of Optical Coherence Tomography Angiography and Indocyanine Green Angiography in diagnosis for Polypoidal Choroidal Vasculopathy.** *Yukari Takasago, C. Shiragami, R. Osaka, A. Ono, Y. Nakano, A. Yamashita, S. Manabe, K. Suzuma.* Kagawa University Faculty of Medicine **CR*

3495 — *A0338* **Proposal for the Pathophysiology of Type 3 Neovascularization as Based on Multimodal Imaging Findings.** *Richard F. Spaide.* Vitreous Retina Macula Consultants NY **CR*

3496 — *A0339* **Detecting subclinical abnormal choroidal vascular complexes using spectral domain optical coherence tomography in intermediate age-related macular degeneration.** *Callum Narita[1, 2], Z. Wu[1, 2], R. H. Guymer[1, 2].* [1]Centre for Eye Research Australia; [2]Ophthalmology, University of Melbourne **CR*

3497 — *A0340* **The effect of age-related macular degeneration on visual function as measured on microperimetry.** *Ting Fang Tan[1, 2], J. Chua[2], L. Schmetterer[2], T. Wong[2], C. Tan[2].* [1]National University of Singapore; [2]Singapore National Eye Centre

3498 — *A0341* **Optical coherence tomography predictors of best-corrected visual acuity in avascular pigment epithelium detachments. 1-year results of a prospective observational study.** *Arnt-Ole Tvenning[1, 2], T. Morken[1, 2], D. Austeng[1, 2].* [1]Department of Neuromedicine and Movement Science, Norwegian University of Science and Technology; [2]Department of Ophthalmology, St. Olavs Hospital

West Exhibition Hall A0540-A0576

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Immunology/Microbiology

355 Uveitis and scleritis - clinical therapeutics and checkpoint inhibitors

Moderators: Lyndell L. Lim and Eric B. Suhler

3499 — *A0540* **The Efficacy of 0.1% Tacrolimus Ophthalmic Suspension in the Treatment of Scleritis.** *HIROYUKI YAZU[1, 2], D. Miyazaki[3], H. Fujishima[1].* [1]Ophthalmology, Tsurumi University School of Dental Medicine; [2]Ophthalmology, Keio University School of Medicine; [3]Ophthalmology and Visual Science, Faculty of Medicine Tottori University **CR*, ↗

3500 — *A0541* **Management of CAPN5 ADNIV with intensive combination anti-VEGF and corticosteroid therapy.** *Deepak Mangla, G. Par, D. Saggau, K. Alliman, J. Nielsen.* Retina, Wolfe Eye Clinic

3501 — *A0542* **Clinical Outcomes for Intravenous Immunoglobulin Treatment in Autoimmune Retinopathy with Comparison to Natural History Controls.** *Caroline Minkus, L. Sobrin, L. Stanwyck.* Massachusetts Eye and Ear

3502 — *A0543* **Comparative analysis of different treatment schedules in the course of Vogt-Koyanagi-Harada disease (VKHD).** *Joyce H. Yamamoto[1], M. M. Lavezzo[1], V. M. Sakata[1, 2], E. E. Rodriguez[1], C. Kanenobu[1], S. F. Abdallah[1], C. Morita[1], M. Oyamada[1], C. Hirata[1].* [1]Ophthalmology, Faculdade de Medicina FMUSP, Universidade de Sao Paulo; [2]Ophthalmology, Universidade Federal do Parana ↗

3503 — *A0544* **Impact of immunosuppression on inflammatory signs in Vogt-Koyanagi-Harada disease (VKHD) – a 24-mo follow-up.** *Marcelo M. Lavezzo, V. M. Sakata, E. E. Rodriguez, C. Morita, C. Kanenobu, S. F. Abdallah, M. Oyamada, C. Hirata, J. H. Yamamoto.* Ophthalmology, University of Sao Paulo Medical School ↗

3504 — *A0545* **Clinical course and treatment of prolonged cases in Vogt-Koyanagi-Harada disease.** *Ayaka Takeda[1], N. Shiratori[1], S. Yui[1], J. Hori[2].* [1]Nippon Medical School; [2]Nippon Medical School, Tama-nagayama Hospital

3505 — *A0546* ***The possibility of discontinuation of biologics and bioholiday in the management of Vogt-Koyanagi-Harada disease.*** *Noriyasu Hashida, K. Asao, K. Nakai, K. Maruyama, K. Nishida.* Dept of Ophthalmology, Osaka University Graduate School of Medicine **CR*, ↗

3506 — *A0547* **Birdshot Chorioretinitis: Treatment & Remission Outcomes.** *Eric L. Crowell[1], R. France[2], P. Majmudar[2], D. A. Jabs[2], J. E. Thorne[1].* [1]Ophthalmology, Johns Hopkins University; [2]Ophthalmology, Icahn School of Medicine at Mount Sinai

3507 — *A0548* **Sensitivity and Predictive Value of Radiography and ACE Levels in the Diagnosis of Sarcoid Uveitis.** *Jawad Arshad[1], D. Culver[2], K. Baynes[2], S. Sharma[2], S. K. Srivastava[2].* [1]Case Western Reserve University School of Medicine; [2]Cleveland Clinic

3508 — *A0549* **Treatment Outcomes of Ocular Sarcoidosis with Subcutaneous Repository Corticotropin Gel.** *Arjun M. Singh, D. Oh, L. Kanu, A. Lobo, P. MacIntosh, P. Bhat.* Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago

3509 — *A0550* **An old therapy to treat a current problem: use of adrenocorticotrophic hormone in non-infectious panuveitis.** *Yasmin Islam, G. Khurshid.* Ophthalmology, University of Florida

3510 — *A0551* **Modified Anterior Sub-Tenon's Periocular Steroid Injection for Treatment of Intraocular Inflammation and Cystoid Macular Edema.** *Kenneth McKay[1], D. S. Borkar[1, 2], D. Sevgi[1], G. Papaliodis[1], L. Sobrin[1].* [1]Ophthalmology, Massachusetts Eye and Ear Infirmary; [2]Ophthalmology, Wills Eye Hospital

3511 — *A0552* **Treatment response analysis of visual acuity and central subfield retinal thickness following suprachoroidal CLS-TA.** *Christopher R. Henry[1, 2], N. Teuscher[3], C. Comisar[3], D. Taraborelli[4], B. Kapik[4], G. Noronha[4].* [1]Retina Consultants of Houston; [2]Ophthalmology, Houston Methodist Hospital; [3]Certara; [4]Clearside Biomedical **CR*, ↗

3512 — *A0553* **Dexamethasone Intravitreal Implantation To Treat Uveitic Macular Edema.** *Grace Levy-Clarke[1], J. Wipfli[2], N. N. Patel[3], M. Benitez Cartaya[1], J. H. Kempen[4].* [1]Clinical Research, Tampa Bay Uveitis Center, LLC; [2]St Luke's Cataract and Laser Institute; [3]Orlick, Berger, Kasper and Patel; [4]Massachusetts Eye and Ear **CR*

3513 — *A0554* **Minimizing Recurrences of Ocular Inflammation and Need for Adjunctive Treatment of Non-infectious Posterior Uveitis (NIPU) during the 2 Years Following Treatment with a Single 0.18 mg Fluocinolone Acetonide Intravitreal Insert (FAi).** *Quan D. Nguyen[1], K. Patel[2], D. A. Paggiarino[2], E. Investigators[2].* [1]Byers Eye Institute, Stanford University; [2]EyePoint Pharmaceuticals **CR*, ↗

3514 — *A0555* **Pharmacokinetics of Intravitreal Sirolimus in a Subset of Subjects With Non-infectious Uveitis of the Posterior Segment of the Eye.** *David Chu[1, 2], S. Mudumba[3].* [1]Metropolitan Eye Research and Surgery Institute; [2]Institute of Ophthalmology and Visual Science, New Jersey Medical School, Rutgers University; [3]Santen Inc **CR*, ↗

3515 — *A0556* **Long-term results of therapy with interferon alpha in chronic uveitic macular edema.** *Christoph M. Deuter, J. Fausel, D. Doycheva, M. Zierhut.* Centre for Ophthalmology, University of Tuebingen

3516 — *A0557* **Drug Retention Rate of Tocilizumab in Uveitis. Real-World Data from the Spanish Biotherapies in Uveitis (BioÚvea) Study Group.** *Alfredo Adan Civera[1, 2], V. Llorens[1], M. Cordero-Coma[3], L. Martínez-Costa[16], A. Blanco-Esteban[4], M. Losada-Castillo[5], C. Hernando-Hernandez[6], E. Judez-Navarro[14], A. Garcia-Aparicio[7], L. Rodriguez Melian[8], M. Jodar-Marquez[9], O. Garcia Garcia[10], A. Fonollosa-Calduch[11], L. Cocho[15], J. Solana-Fajardo[12], M. Hernandez-Garfella[13].* [1]Ophthalmology, Hospital Clinic Barcelona; [2]IDIBAPS; [3]Ophthalmology, Complejo Hospitalario Leon; [4]Ophthalmology, Hospital Donostia; [5]Ophthalmology, Hospital Universitario de Tenerife; [6]Rheumatology, Hospital De La Princesa; [7]Rheumatology, Hospital Virgen de la Salud; [8]Ophthalmology, Hospital Insular de Gran Canaria; [9]Ophthalmology, Hospital Regional de Málaga; [10]Ophthalmology, Hospital Universitario de Bellvitge; [11]Ophthalmology, Hospital de Cruces; [12]Ophthalmology, Hospital Perpetuo Socorro; [13]Ophthalmology, Hospital General de Valencia; [14]Ophthalmology, Complejo Hospitalario Universitario de Albacete; [15]Ophthalmology, IOBA; [16]Ophthalmology, Hospital Dr Peset **CR*

3517 — *A0558* **Correlation of an Objective Fluorescein Angiography Inflammatory Scoring System with Visual and Anatomical Outcomes in Eyes with Non-Infectious Uveitis treated with Intravenous Tocilizumab.** *Mohammad A. Sadiq[1], M. Hassan[2], R. Afridi[2], M. Halim[2], S. C. Baluyot[3], M. A. Ibrahim[3], D. V. Do[2], y. sepah[2], Q. D. Nguyen[2].* [1]University of Louisville; [2]Ophthalmology, Byers Eye Institute; [3]Ocular Imaging Research and Reading Center ↗

3518 — *A0559* **Intravitreal Adalimumab for Noninfectious Uveitis: Clinical Trial Preliminary Data.** *Rola N. Hamam, R. Istambouli, A. M. Mansour, M. Abdul Fattah, C. Mehanna, J. Torbey, N. El Salloukh, H. I. Salti, S. Allam, A. Bou Ghannam.* Ophthalmology, American University of Beirut ↗

3519 — *A0560* **EYS606 for the Treatment of Non-Infectious Uveitis (NIU).** *Ronald BUGGAGE, F. F. Behar-Cohen.* Eyevensys SAS **CR*, ↗

3520 — *A0561* **Evolution of intraocular inflammation after the end of the ADJUVITE study.** *Delphine Lam[1], C. Fardeau[1], I. Koné-Paut[2], I. Marie[2], F. Mouriaux[3], V. Despert[3], M. Weber[4], C. Couret[4], P. Lehoang[1], P. Quartier[5], B. Bodaghi[1].* [1]Ophthalmology, Hopital Pitie-Salpetriere; [2]Hopital Kremlin-Bicetre; [3]Hopital de Rennes; [4]Hopital de Nantes; [5]Hopital Necker

3521 — *A0562* **Efficacy of infliximab and adalimumab for macular edema associated with uveitis.** *Keiko Fujii, Y. Usui, C. Maehara, K. Tsubota, R. Mitsuhashi, A. Umazume, T. Kezuka, J. Sakai, H. Goto.* Tokyo Medical University Hospital

3522 — *A0563* **Long term outcomes of infliximab in patients with Behcet's disease–related uveitis.** *Satoshi Yamana[1], E. Hasegawa[1], A. Takeda[2, 1], N. Yawata[3, 1], K. Sonoda[1].* [1]Ophthalmology, Kyushu University; [2]Clinical Research Center, National Hospital Organization, Kyushu Medical Center; [3]Ophthalmology, Fukuoka Dental College **CR*

3523 — *A0564* **The frequency of adverse events in non-infectious uveitis patients treated with TNF inhibitors.** *Chisato Agata[1], T. Kaburaki[1], R. Tanaka[1], K. Komae[1], H. Izawa[1], H. Nakahara[1], H. Kawashima[2], M. Aihara[1].* [1]Ophthalmology, The University of Tokyo Hospital; [2]Ophthalmology, Jichi Medical University Hospital

3524 — *A0565* **Rate of Remission after Immunomodulatory Therapy for Uveitis.** *Deep Parikh[1], S. Menon[1], M. Fabrykowski[1], T. Truong[2], J. Chua[3], C. Samson[1].* [1]Ophthalmology, Manhattan Eye, Ear & Throat Hospital, Northwell Health System; [2]New York Medical College; [3]Epidemiology, Mailman School of Public Health, Columbia University

3525 — *A0566* **Inflammation Relapse and Remission in Patients with Non-infectious Ocular Inflammation by Etiology and Treatment.** *Saanwalshah S. Saincher[1, 2], C. Gottlieb[3, 2].* [1]Health-Sciences, University of Bristol; [2]The Ottawa Eye Institute, The Ottawa Hospital Research Institute; [3]Department of Ophthalmology, University of Ottawa **CR*

3526 — *A0567* **Changing biological disease modifying treatment for paediatric uveitis in the real world.** *Sophia Zagora[2, 3], L. Oh[2, 3], C. Nguyen[3], K. Phan[3], E. Wong[3], D. Singh-Grewal[1, 3], J. Chaitow[1, 3], J. R. Grigg[2, 3], P. J. McCluskey[2, 3].* [1]Paediatric Rheumatology, Children's Hospital Westmead and Sydney Children's Hospital, Randwick; [2]Sydney Eye Hospital; [3]Save Sight Institute, University of Sydney

3527 — *A0568* **Oral immunosuppression practice for inflammatory eye disease: A one-year analysis of prescriptions at Moorfields Eye Hospital.** *Tasanee Braithwaite[1, 4], J. Delisser[2], J. Virgo[4], E. Hindle[2], W. Tucker[4], H. Petruskin[4], A. L. Rees[4], D. Thomas[4], M. C. Westcott[4], P. Addison[4], C. Pavesio[4], R. W. Lee[3, 4], A. K. Denniston[1], N. Okhravi[4].* [1]Ophthalmology, University Hospitals Birmingham NHS Foundation Trust; [2]Pharmacy, Moorfields Eye Hospital NHS Foundation Trust; [3]NIHR Moorfields Biomedical Research Centre; [4]Uveitis, Moorfields Eye Hospital NHS Foundation Trust **CR*

3528 — *A0569* **Collaborative Ocular Tuberculosis Study (COTS) Consensus guidelines on initiating antitubercular therapy in patients with granulomatous anterior uveitis.** *Aniruddha Agarwal[1], R. V. Agrawal[2], I. Testi[3], S. Mahajan[4], D. V. Gunasekeran[5], D. Raje[8], J. H. Kempen[6], Q. D. Nguyen[4], C. Pavesio[7], V. Gupta[1].* [1]Ophthalmology, Post Graduate Institute of Medical Education and Research (PGIMER); [2]Ophthalmology, Tan Tock Seng Hospital; [3]Ophthalmology, University of Padova; [4]Ophthalmology, Byers Eye Institute, Stanford University; [5]Ophthalmology, Tan Tock Seng; [6]Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School; [7]Ophthalmology, Moorfields Eye Hospital; [8]Statistics, MDS Bio-Analytics Pvt. Ltd.

3529 — *A0570* **Effective treatment in patients with latent tuberculosis-associated uveitis–is there a need for classical anti-tuberculosis therapy?** *Eileen E. Bigdon, B. Fuisting, M. Schultheiß, N. Stuebiger.* Ophthalmology, University Hospital Hamburg Eppendorf

3530 — *A0571* **Initial intravitreal injection of high-dose ganciclovir for cytomegalovirus retinitis in HIV-negative patients.** *zhuyun qian[1], H. Li[2], Y. Tao[3], W. Li[1, 4].* [1]Department of Ophthalmology, Shanghai Aier Eye Hospital; [2]Department of Ophthalmology, the First Hospital of Peking University; [3]Department of Ophthalmology, Beijing Chaoyang Hospital; [4]Aier School of Ophthalmology, Central South University

3531 — *A0572* **New candidate treatment for clearing precipitate from the intraocular lens.** *Kazuichi Maruyama[1], H. Sakaguchi[1], N. Hashida[1], S. Koh[1], N. Maeda[2], K. Nishida[1].* [1]Ophthalmology, Osaka University Graduate School of Medicine; [2]Kosaki Eye Clinic

3532 — *A0573* **Local Therapy for Cancer Immunotherapy-Associated Uveitis.** *Arthi Venkat[1], S. Arepalli[2], S. Sharma[1], N. Karthik[1], C. Lowder[1], S. K. Srivastava[1].* [1]Ophthalmology - Retina and Uveitis, Cleveland Clinic Foundation - Cole Eye Institute; [2]Ophthalmology, Casey Eye Institute - Oregon Health and Sciences University

3533 — *A0574* **Risk Factors for Poor Visual Outcomes in Patients That Develop Uveitis After Treatment with Checkpoint Inhibitors.** *Marez Megalla[1], H. Kluger[2], S. Weiss[2], R. Pointdujour-Lim[1], N. Kombo[1].* [1]Yale Ophthalmology and Visual Sciences; [2]Yale Smilow Cancer Center

3534 — *A0575* **Ophthalmic Implications of Immune Checkpoint Inhibitors: External Manifestations.** *Heather Tamez, R. Longmuir, C. Shieh, S. J. Kim, S. Gangaputra.* Ophthalmology, Vanderbilt Eye Institute

3535 — *A0576* **Ocular complications of checkpoint inhibitors and immunotherapy medications: a case series.** *Ruby Parikh, J. E. Thorne, M. Berkenstock.* Uveitis, Wilmer Eye Institute

West Exhibition Hall A0577-A0594

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Anatomy and Pathology/Oncology

356 Non-Melanoma, Non-Retinoblastoma Intraocular Pathology & Retinopathy

Moderator: Matthew W. Wilson

3536 — *A0577* **Multimodal imaging including optical coherence tomography angiography of tamoxifen retinopathy: A comparison with macular telangiectasia type 2.** *Suhwan Lee[1], H. Kim[2], Y. Yoon[2].* [1]Kangwon National University Hospital; [2]Asan Medical Center

3537 — *A0578* **Paraneoplastic retinopathy analyzed in unusual cancers.** *Thanh-Tin Nguyen, K. Bhavsar, E. B. Suhler.* School of Medicine, Oregon Health & Science University **CR*

3538 — *A0579* **Prevalence of tamoxifen retinopathy and its risk factors.** *Hyun-Ah Kim[1], S. Lee[2], Y. Yoon[1].* [1]Ophthalmology, Asan Medical Center, University of Ulsan College of Medicine; [2]Ophthalmology, Kangwon National University Hospital, Kangwon National University Graduate School of Medicine

3539 — *A0580* **Clinical findings of paraneoplastic retinopathy with retinal ON bipolar cell dysfunction in Japanese cohort.** *Satoshi Okado, S. Ueno, A. Nakanishi, D. Inooka, H. Terasaki.* Nagoya University Graduate School of Medicine

3540 — *A0581* **Ocular Adverse Events with Immune Check Point Inhibitors.** *Mahyar Etminan, T. Fang, D. Maberley.* Ophthalmology and Visual Sciences, University of British Columbia

3541 — *A0582* **Distribution of retinal amyloid deposits in association with Alzheimer's disease.** *Melanie C. Campbell[1], J. Ren[1], E. Mason[1], R. Redekop[1], L. Emptage[1], V. Hirsch-Reinshagen[2], R. Hsiung[2], I. Mackenzie[2].* [1]Physics & Astronomy/Sch of Optom, University of Waterloo; [2]University of British Columbia **CR*

3542 — *A0583* **Morphology of Retinal Pathologic Prion Protein (PrP) Deposits in Sporadic Creutzfeldt-Jakob Disease (sCJD) Patients.** *Adeleh Yarmohammadi[1], V. Goodwill[2], C. sigurdson[2], M. H. Goldbaum[1], P. Savino[1], J. H. Lin[1, 2].* [1]Ophthalmology, UC San Diego Shiley Eye Institute; [2]Pathology, University of California San Diego

3543 — *A0584* **Survival Times in Patients with Vitreoretinal Lymphoma.**
Analysis of 95 Patients at a Single Ocular Oncology Center. *Lauren A. Dalvin[1, 2], L. S. Lim[2], D. Ancona-Lezama[2], M. Mazloumi[2], M. Chang[2], A. Mashayekhi[2], C. L. Shields[2].* [1]Mayo Clinic; [2]Ocular Oncology Service, Wills Eye Hospital

3544 — *A0585* **Recommendations for the Diagnostic of vitreoretinal Lymphoma (VRL).** *Manfred Zierhut[1], R. V. Agrawal[3], D. Carbonell[4], S. Mahajan[6], T. Berger[2], B. Sobolewska[1], V. Gupta[5], S. Chee[4].* [1]Centre for Ophthalmology, University of Tuebingen; [2]Institue for Medical Statistics, University of Aachen; [3]Ophthalmology, National Healthcare Institute; [4]OPhthalmology, SingHealthCenter; [5]Ophthalmology, PGI Chandigarh; [6]Ophthalmology, Stanford University

3545 — *A0586* **Comparing Liquid Biopsy Fixatives for Preservation of DNA and RNA integrity: Identifying the optimum fixative for Primary Vitreoretinal Lymphoma diagnostics.** *Mona M. Wang[1], W. Tan[3], P. Ricciardi-Castagnoli[3], T. Lim[3], A. S. Chan[1, 2].* [1]Translational Ophthalmic Pathology, Singapore Eye Research Institute; [2]Singapore National Eye Centre; [3]A. Menarini Biomarkers Singapore Pte Ltd **CR*

3546 — *A0587* **Vitreoretinal Lymphoma: Optimizing Diagnostic Yield and Accuracy.** *Matthew Santos, A. Jiang, P. K. Rao, B. Wilson, G. Harocopos.* Washington University in St. Louis School of Medicine

3547 — *A0588* **Retinal hemangioblastomas in von Hippel-Lindau germline mutation carriers: progression, complications and treatment outcome.** *Anass Hajjaj[1], K. van Overdam[2], R. Oldenburg[3], A. de Klein[3], E. Kilic[1].* [1]Ophthalmology, Erasmus Medical Center; [2]Vitreoretinal Surgery, The Rotterdam Eye Hospital; [3]Clinical Genetics, Erasmus Medical Center

3548 — *A0589* **Transpupillary thermotherapy vs Photodynamic therapy in Circumscribed choroidal hemangioma.** *Vikas Khetan, H. Vaidya, S. Ganesan.* Ocular Oncology & Vitreoretina, Sankara Nethralaya

3549 — *A0590* **Outcome of vitrectomy for retinal hemangioma.** *Kazuhiko Umazume, Y. Wakabayashi, Y. Usui, H. Goto.* Ophthalmology & Visual Sciences, Tokyo Medical University

3550 — *A0591* **Adenoma and adenocarcinoma of the retinal pigment epithelium: clinical and imaging characteristics, treatment options and histopathologic findings in 51 consecutive patients.** *Luis Acaba-Berrocal[1], B. K. Williams[2], M. Di Nicola[2], J. Lucio-Alvarez[2], J. A. Shields[2], C. L. Shields[2].* [1]Sidney Kimmel Medical College; [2]Wills Eye Hospital

3551 — *A0592* **Photodynamic therapy for the treatment of choroidal metastasis: a retrospective study.** *Giulia Midena, M. M. Pagliara, m. sammarco, A. Scupola, M. Maceroni, C. G. Caputo, M. A. Blasi.* Catholic University

3552 — *A0593* **Optical Coherence Tomography (OCT) characteristics of the choroid underlying congenital hypertrophy of the retinal pigment epithelium (CHRPE).** *Ethan Sobol[1, 2], J. H. Francis[2, 4], M. Greenberg[2], R. Folberg[3], D. H. Abramson[2, 4].* [1]Ophthalmology, Icahn School of Medicine at Mount Sinai; [2]Ophthalmic Oncology, Memorial Sloan Kettering Cancer Center; [3]Ophthalmology, Oakland University William Beaumont School of Medicine; [4]Ophthalmology, Weill-Cornell Medical Center **CR*

3553 — *A0594* **Clinical features and Optical Coherence Tomography findings of Retinal Astrocytic Hamartomas in Chinese Tuberous Sclerosis Complex Patients.** *Chenxi Zhang[1], Z. Zhang[1], K. Xu[2], Q. Long[1], Z. Yang[1], R. Dai[1], H. Du[1], D. Li[1].* [1]Department of Ophthalmology, Peking Union Medical College Hospital,Peking Union Medical College and Chinese Academy of Medical Sciences; [2]Department of Respiratory Medicine, Peking Union Medical College Hospital, Peking Union Medical College and Chinese Academy of Medical Sciences

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West Exhibition Hall A0595-A0627

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Anatomy and Pathology/Oncology

357 Tumors: Eyelids, Orbit, Ocular Surface, Conjunctiva, and Ocular Adnexa

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Moderators: Vivian Lee and Shahar Frenkel

3554 — *A0595* **Whole Exome Profiling and Mutational Analysis of Ocular Surface Squamous Neoplasia.** *Nallely Ramos Betancourt[4], F. G. Matthew[1], G. Wang[1, 2], C. L. Karp[2], J. Dávila-Alquisiras[4], L. Hernandez-Zimbrón[5], R. García-Vazquez[4], K. A. Vazquez Romo[4], E. Hernandez-Quintela[4], J. Fromow-Guerra[5], A. Galor[2, 3].* [1]Institute for Human Genomics, University of Miami, Miller School of Medicine; [2]Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Ophthalmology, Miami Veteran Affairs Medical Center; [4]Cornea and Refractive Surgery, Asociación para Evitar la Ceguera en México; [5]Research Unit, Asociación para Evitar la Ceguera en México

3555 — *A0596* **Melanocytic Ocular Tumors: A 12-Year Clinicopathological Review.** *Ana Carolina Horita[2, 1], M. Botelho[2], J. Coblentz[2], S. Bergeron[2], M. N. Burnier[2], J. Portela Passos[2], E. B. Abreu[2].* [1]Universidade Sao Francisco; [2]The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

3556 — *A0597* **The incidence of residual tumor and recurrence after staged excision of small periocular basal cell carcinoma.** *Saaquib Bakhsh, J. M. Kim, A. Gomez, G. Gladstone.* Beaumont

3557 — *A0598* **Epidemiological and histopathological analysis of ocular vascular tumors: a 12 years study of 86 patients.** *Thiago Figueiredo, S. Bergeron, J. Coblentz, M. MacDonald, E. B. Abreu, M. N. Burnier.* The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

3558 — *A0599* **Analysis on conjunctival vasculature using anterior segment optical coherence tomography angiography in patients with ocular surface squamous neoplasia.** *Kanako Nampei, Y. Oie, S. Kiritoshi, M. Morota, S. Sato, R. Kobayashi, S. Kawasaki, T. Nakao, T. Soma, S. Koh, K. Maruyama, M. Tsujikawa, N. Maeda, K. Nishida.* Ophthalmology, Osaka University Graduate School of Medicine **CR*

3559 — *A0600* **A large series of tumors of the caruncle: a clinicopathological study.** *Mariana Souza, T. C. Figueiredo, J. Burnier, M. N. Burnier, S. Bergeron, E. B. Abreu.* The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

3560 — *A0601* **Trends in benign and pre-malignant eyelid tumors: A 10-year analysis in an ocular pathology centre.** *Thiago José D. Delfraro Carmo, J. R. Braga, M. MacDonald, J. Burnier, E. B. Abreu, M. N. Burnier.* The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

3561 — *A0602* **Delayed onset Scleromalacia following intraoperative Mitomycin C application for Conjunctival Melanoma.** *Syed Shahid[1], S. N. Ahmed[2], M. Nanavaty[3].* [1]Ophthalmology, Moorfields Eye Hospital; [2]Ophthalmology, East Sussex Healthcare Trust; [3]Ophthalmology, Brighton and Sussex University Hospital NHS Trust

3562 — *A0603* **5 Fluorouracil 2.5% for the treatment of isquamous cell carcinoma according to characteristics by optical coherence tomography.** *Elisa Alegria, R. Velasco, s. arellano.* Cornea, Hospital de la Luz IAP

3563 — *A0604* **Frequency and causes of visual impairment and blindness in patients with Xeroderma Pigmentosum in Brazil.** *Arthur Fernandes, A. Affonso, H. L. Filho, R. Santana, E. E. Rodriguez, J. Barros, M. Lowen, R. M. Hazarbassanov, N. Nunes Ferraz, P. Y. Sacai, M. Morales, J. Gomes, R. Belfort Neto.* Universidade Federal de Sao Paulo

3564 — *A0605* **Conjunctival Keratoacanthoma: A Clinicopathologic Case Series.** *Sander R. Dubovy[1, 2], N. Venkateswaran[1], J. Matthews[1], G. AlBayyat[1], G. W. Elgart[3], C. L. Karp[1].* [1]Ophthalmology, Bascom Palmer Eye Institute/ University of Miami; [2]Florida Lions Ocular Pathology Laboratory; [3]Dermatology and Cutaneous Surgery, University of Miami

3565 — *A0606* **Primary or metastatic: The usefulness of p63 to assess mucinous carcinoma of the eyelid.** *Sabrina Bergeron[1], J. Coblentz[1], B. Arthurs[2], P. Daigle[1], M. MacDonald[1].* [1]The MUHC - McGill Ocular Pathology & Translational Research Laboratory; [2]Ophthalmology, McGill University

3566 — *A0607* **A 10-year study of melanocytic lesions of the conjunctiva.** *Andreise Martins Paro[2, 1], G. Feltrin de Barros[2], J. Portela Passos[2], J. Burnier[2], E. Abreu[2, 1], M. N. Burnier[2, 1].* [1]Ophthalmology, Institute Penido Burnier; [2]Ocular Pathology, The MUHC-McGill University Ocular Pathology & Translational Research Laboratory.

3567 — *A0608* **Is Elafin Part of a Protective System in Basal Cell Carcinomas of the Eyelid?** *Myriam MacDonald, S. Bergeron, R. Darwich, P. Daigle, J. Burnier, M. N. Burnier.* The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

3568 — *A0609* **Immunohistochemistry Features of Melanotic Lesions within Pterygia.** *Ari Brandsdorfer[1], M. Abadi[2], R. Weiss[1], A. Herzlich[3], J. MBEKEANI[3].* [1]Montefiore Medical Center; [2]Pathology, Jacobi Medical Center; [3]Ophthalmology, Jacobi Medical Center

3569 — *A0610* **A unique recurrent bilateral presentation of oncocytomas of the caruncle.** *Cameron Oliver[2, 1], S. Bergeron[2], J. Coblentz[2], A. T. Dias[2], J. Burnier[2], M. N. Burnier[2].* [1]University of British Columbia; [2]The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

3570 — *A0611* **Interleukin-1β expression is positively correlated with cyclooxygenase-2 expression in basal cell carcinoma of the eyelid.** *Patrick Daigle[1, 2], M. MacDonald[2], A. T. Dias[2], S. Bergeron[2], R. Darwich[2], M. N. Burnier[2, 3].* [1]Ophthalmology, Centre hospitalier universitaire de Sherbrooke; [2]The MUHC - McGill Ocular Pathology Laboratory; [3]Ophthalmology, McGill Academic Eye Centre

3571 — *A0612* **Changes in T staging prevalence for eyelid carcinoma after AJCC 2018 guidelines.** *Claudia Zepeda-Palacio[1], A. Perez-Ortiz[2], K. Rodriguez-Villuendas[3], G. Graue Moreno[1], D. Capiz Correa[1].* [1]Orbita, Fundacion Hospital nuestra senora de la Luz; [2]Massachusetts General Hospital; [3]Escuela Superior de Medicina, Instituto Politécnico Nacional.

3572 — *A0613* **A Retrospective clinical review of Periocular Basal Cell carcinoma outcomes in Glasgow: A 5 year study.** *Olayinka A. Williams[2], O. C. Erikitola[1], C. Diaper[2].* [1]Ophthalmology department, NHS Greater Glasgow and Clyde; [2]NHS Greater Glasgow and Clyde

3573 — *A0614* **Is pterygium an indicator of an increased risk of developing cutaneous melanoma? – Retrospective study in the UK.** *Jia Yu Y. Ng[1], A. Chilinska[1], S. Pradhan[1], M. Althaus[1], N. Gopee[3], D. Brass[3], J. Langtry[3], T. Oliphant[3], E. Barnes[1], F. C. Figueiredo[1, 2].* [1]Ophthalmology, Royal Victoria Infirmary; [2]Newcastle University; [3]Dermatology, Royal Victoria Infirmary

3574 — *A0615* **Atypical Fibroxanthoma Affecting the Ocular Surface and Adnexa: A Case Series.** *Pedro Monsalve[1, 3], A. L. Garcia[1, 3], X. Zhou[1, 3], G. W. Elgart[2], C. L. Karp[1], T. E. Johnson[1], A. Galor[1, 4], S. Dubovy[1, 3].* [1]Ophthalmology, Bascom Palmer Eye Institute. University of Miami Miller School of Medicine; [2]Dermatopathology, University of Miami Miller School of Medicine; [3]Bascom Palmer Eye Institute, University of Miami, Miami, Florida; Florida Lions Eye Bank, Florida.; [4]Ophthalmology, Bascom Palmer Eye Institute, University of Miami, Miami, Florida; Department of Ophthalmology, Miami Veterans Administration Medical Center, Miami, Florida.

3575 — *A0616* **Ocular surface squamous neoplasia, a now medically treatable disease spectrum?** *Matthew H. Ip[1, 2], M. T. Coroneo[1, 2].* [1]Department of Ophthalmology, Prince of Wales Hospital; [2]The University of New South Wales **CR*

3576 — *A0617* **Clinical and Histopathological Discrepancy of Sebaceous Cell Carcinoma: a 12-year review.** *Juliana Portela Passos, M. Botelho, A. Horita, A. Martins Paro, C. Mastromonaco, M. N. Burnier.* Ocular Pathology & Translational Research Laboratory, MUHC-McGill University

3577 — *A0618* **Clinicopathologic Features of IgG4-related Idiopathic Orbital Inflammatory Pseudotumor.** *Jingqiao Chen, H. Ye, R. Chen, H. Yang.* State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-Sen University

3578 — *A0619* **Characteristics and treatment outcomes of orbital lymphangioma in Taiwanese patients.** *Ho-Min Chen[1], Y. Tsai[2].* [1]Ophthalmology, Chang Gung Memorial Hospital, Keelung, Taiwan; [2]Ophthalmology, Chang Gung Memorial Hospital, Linkou, Taiwan

3579 — *A0620* **Extranodal Rosai-Dorfman disease of the eye and ocular adnexa: A clinicopathologic series of 8 cases.** *Armando L. Garcia[1, 2], P. Monsalve[2], S. T. Wester[1], W. Lee[1], D. T. Tse[1], C. L. Karp[1], A. Galor[1], S. Dubovy[2, 1].* [1]Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Florida Lions Ocular Pathology Laboratory, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine

3580 — *A0621* **Steroid Treatment Masking the Diagnosis of IgG4-related Orbitopathy.** *Catherine Liu, C. Arès.* McGill University

3581 — *A0622* **Differentiation of orbital lymphoproliferative diseases by metabolomics.** *Hiroyuki Shimizu, H. Goto, Y. Usui, N. Nezu, K. Tsubota, M. Ogawa, M. Asakage.* Ophthalmology, Tokyo Medical University

3582 — *A0623* **Clinical and Morphological Features of Primitive Neuroectodermal Tumors (PNET) of the Orbit: Review of Two Cases.** *Ollya Fromal, Z. A. Karcioglu.* University of Virginia

3583 — *A0624* **Metastatic Lesions to the Eye and Orbit: A 15-year Retrospective Review.** *Ann Quan[1], S. Shah[2], K. M. Cavuoto, M.D.[1], S. S. Swaminathan[3], A. Garcia[1], T. E. Johnson[1], D. T. Tse[1], W. Lee[1], J. Harbour[1], S. Dubovy[1].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]University of Southern California; [3]Ophthalmology, Duke University

3584 — *A0625* **The Presence of Vascular Endothelial Growth Factor Receptors in Ocular Cavernous Hemangiomas and Lymphangiomas.** *Ann Tran, W. Tao, R. Gallo, A. Levitt, D. Pelaez, W. Lee.* Ophthalmology, Bascom Palmer Eye Institute

3585 — *A0626* **Incidence of Perineural Invasion with Hedgehog Pathway Inhibitors in Orbital and Periorbital Basal Cell Carcinoma.** *Arthika Chandramohan[1], A. A. Nair[2], A. Chang[3], A. L. Kossler[1].* [1]Ophthalmology, Stanford Eye Institute; [2]Ophthalmology, New York University; [3]Dermatology, Stanford University

3586 — *A0627* **Temporal artery biopsy length does not affect rate of positive diagnosis in temporal arteritis: a retrospective review of 107 cases.** *Clara J. Men[1], T. F. McKnight[2], B. S. Challa[2], B. S. Korn[1, 3], D. O. Kikkawa[1, 3], J. H. Lin[2].* [1]Division of Ophthalmic Plastic and Reconstructive Surgery, UC San Diego; [2]Ophthalmic Pathology Service, UC San Diego; [3]Division of Plastic Surgery, UC San Diego

West Exhibition Hall B0001-B0019

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

358 Neuro-ophthalmology: Genetics and Investigational modalities

Moderators: Arlene V. Drack and Jeong-Min Hwang

3587 — *B0001* **Repeatability of the Photopic Negative Response in Stable Optic Neuropathy using a Handheld Electroretinogram System.** *Anh Bui[1], M. Bindiganavale[2], F. Khushzad[2], M. D. Patel[2], H. Moss[2].* [1]University of California, Irvine; [2]Stanford University

3588 — *B0002* **Clinical Prediction Score for Neuroimaging in Acquired Isolated Third Nerve Palsy.** *Natchada Tansuebchueasai, J. Witthayaweerasak.* Prince of Songkhla University

3589 — *B0003* **Adapting CRISPR towards Mitochondrial DNA Diseases.** *Anh H. Pham[1], J. C. Burnett[2].* [1]Ophthalmology, UCLA Stein Eye Institute; [2]Center for Gene Therapy, City of Hope **CR*

3590 — *B0004* **Optic nerve abnormalities in morning glory disk anomaly. An MRI study.** *Diem Trang Nguyen[1, 2], N. Boddaert[3], D. Bremond-Gignac[1, 2], M. P. Robert[1, 2].* [1]ophthalmology, Hopital Necker Enfants Malades; [2]Centre de Références des Maladies Ophtalmologiques Rares (OPHTARA); [3]radiology, Hopital Necker Enfants Malades

3591 — *B0005* **Portable VEP Diagnostics for NeuroVisual Disorders.** *Srinivas Sridhar[2, 1], C. Versek[1], A. Banijamali[2], A. Tran[2], A. Cardozo[2], K. Lashkari[3], P. Bex[2].* [1]NeuroFieldz Inc; [2]Northeastern University; [3]Harvard Medical School **CR*

3592 — *B0006* **The Retinal Vascular Perfusion in the Deep Slab Using by OCT Angiography in Amaurosis Fugax.** *Ari Kamei.* Ari Eye Clinic

3593 — *B0007* **An *En-Face* OCT Registration Approach for Locating the Center of Bruch's Membrane Opening in Longitudinal Papilledema Cases.** *Yashila M. Permeswaran[1], J. Wang[1], R. H. Kardon[2, 3], M. Garvin[3, 1].* [1]Department of Electrical and Computer Engineering, The University of Iowa; [2]Department of Ophthalmology and Visual Sciences, The University of Iowa; [3]Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health Care System **CR*, ↗

3594 — *B0008* **Diagnosis of optic nerve hypoplasia and vision prognosis with orbital MRI vs. fundus photography.** *Pamela Garcia-Filion[1], J. Kruglyakova[2], M. Nelson[4], M. Borchert[3].* [1]Biomedical Informatics, University of Arizona, College of Medicine-Phoenix; [2]Georgetown University School of Medicine; [3]The Vision Center, Children's Hospital Los Angeles; [4]Radiology, Children's Hospital Los Angeles

3595 — *B0009* **Normal retinal ganglion cell (RGC) production and candidate disease associated genes identified in optic nerve hypoplasia (ONH).** *Jennifer Aparicio[1], H. Hopp[1], L. Li[2], K. Stachelek[1], N. Harutyunyan[1], D. Craig[4], D. Cobrinik[1, 3], M. Borchert[1, 3].* [1]The Vision Center, Children's Hospital Los Angeles; [2]Department of Pathology and Laboratory Medicine, Children's Hospital Los Angeles; [3]Department of Ophthalmology, USC Keck School of Medicine; [4]Department of Translational Genomics, USC Keck School of Medicine

3596 — *B0010* **Rare genetic causes of dominant optic atrophy.** *Petra Liskova[1, 2], P. Diblik[2], M. Tesarova[1], L. Huna[2], T. Honzik[1], L. Dudakova[1].* [1]Department of Pediatrics and Adolescent Medicine, First Faculty of Medicine, Charles University and General University Hospital in Prague; [2]Department of Ophthalmology, First Faculty of Medicine, Charles University and General University Hospital in Prague

3597 — *B0011* **Deep-Learning-Based Estimation of Regional Volumetric Information from 2D Fundus Photography in Cases of Optic Disc Swelling.** *Samuel Johnson[1], M. Islam[1], J. Wang[1, 2], T. Matthew[3, 4], R. H. Kardon[2, 3], M. Garvin[2, 1].* [1]Electrical and Computer Engineering, University of Iowa; [2]Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health System; [3]Ophthalmology and Visual Sciences, University of Iowa Hospital and Clinics; [4]Neurology, University of Iowa Hospital and Clinics **CR*

3598 — *B0012* **The efficacy of photographic evaluation of the optic nerve to determine the presence of acute optic nerve head elevation.** *Samantha Feldman, M. Mahan, B. Osborne.* Ophthalmology, Georgetown University

3599 — *B0013* **Patient Specific Models of Eye Geometry in High Intracranial Pressure States Based on Magnetic Resonance Images.** *Munam Wasi, H. Moss.* Ophthalmology, Stanford University School of Medicine

3600 — *B0014* **The Impact of Brain Tumors on Grating Acuity Measured by Sweep-Visually Evoked Potentials in Children.** *Solange R. Salomao[1], P. F. Dotto[1], A. M. Cappellano[2], N. S. Silva[2], P. Y. Sacai[1], D. M. Rocha[1], A. Berezovsky[1].* [1]Departamento de Oftalmologia e Ciencias, Universidade Federal de Sao Paulo; [2]Grupo de Apoio ao Adolescente e à Criança com Câncer (IOP-GRAACC), Instituto de Oncologia Pediátrica-UNIFESP

3601 — *B0015* **The landscape of mitogenomes from LHON patients carrying the m.14484T>C/ MT-ND6 mutation.** *Valerio Carelli[1, 2], L. Caporali[2], F. Tagliavini[2], C. La Morgia[1, 2], A. Achilli[3], A. Olivieri[3], A. Torroni[3].* [1]University of Bologna; [2]IRCCS Institute of Neurological Sciences of Bologna (ISNB); [3]University of Pavia

3602 — *B0016* **Gene Therapy for Leber Hereditary Optic NeuropathY An update of Where We Stand (Clinicaltrials.gov number: NCT02161380).** *John Guy, W. Feuer, J. L. Davis, V. Porciatti, P. Gonzalez, R. D. Koilkonda, H. Yuan, B. L. Lam.* Bascom Palmer Eye Institute, University of Miami **CR*, ↗

3603 — *B0017* **Relationship between retinal nerve fiber layer defects and coronary artery calcium in patients at-risk for cardiovascular disease.** *Joo Youn Shin[1], J. o. Lee[1], S. Byeon[3], C. Lee[2], S. Park[2].* [1]Ophthalmology, Inje University; [2]Cardiology Division, Severance Cardiovascular Hospital and Cardiovascular Research Institute, Yonsei University College of Medicine,; [3]Department of Ophthalmology, The Institute of Vision Research, Yonsei University College of Medicine

3604 — *B0018* **Retinal nerve fiber layer thickness in severely obese patients.** *Rita Laiginhas[3, 1], P. Cardoso[2], M. Guimarães[3], H. S. Sousa[1, 2], J. Preto[2, 1], M. Nora[3], D. Cabral[4], J. Chibante[3], F. Falcão Reis[1, 2], M. Falcao[1, 2].* [1]Faculty of Medicine of Porto University; [2]Centro Hospitalar de São João; [3]Centro Hospitalar de Entre o Douro e Vouga; [4]Instituto de Oftalmologia Dr. Gama Pinto

3605 — *B0019* **Development of Portable Pupillometer for Assessment of Optic Nerve Disease.** *Megha Bindiganavale, H. Moss.* Opthalmology, Stanford University

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West Exhibition Hall B0020-B0041

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

359 Pediatric Ophthalmology

Moderator: Huibert J. Simonsz

3606 — *B0020* **The Pediatric Examination Assessment Rubric (PEAR) Educational Toolkit.** *Michael Langue, M. L. Camacci, I. U. Scott, A. Soni.* Ophthalmology, Penn State Hershey Eye Center

3607 — *B0021* **An office-based fix and follow grading system for assessing visuo-cognitive function in infant.** *JAE HO JUNG[1], H. JEON[2].* [1]Ophthalmology, Seoul National University Hospital; [2]Ophthalmology, Pusan National University Hospital

3608 — *B0022* **Steady-state flicker VEPs as markers of visual pathway maturation in term-born and preterm infants.** *Christina Beisse[1], D. L. McCulloch[2], U. Shahani[4], M. Bach[3].* [1]Ophthalmology, University Hospital Heidelberg; [2]School of Optometry and Vision Science, University of Waterloo; [3]University of Freiburg; [4]Glasgow Caledonian University

3609 — *B0023* **Visual outcomes at age 10.5 years in the Infant Aphakia Treatment Study.** *Scott R. Lambert[2], G. Cotsonis[1], L. DuBois[3], A. Nizam[1], C. Drews-Botsch[4].* [1]Biostatistics, Emory University; [2]Ophthalmology, Stanford University; [3]Ophthalmology, Emory University; [4]Epidemiology, Emory University ↗

3610 — *B0024* **Association between motor skills at 4½ years and physical activity at 10½ years in the Infant Aphakia Treatment Study.** *E Eugenie Hartmann[2], C. Drews-Botsch[2], S. R. Lambert[1].* [1]Ophthalmology, Stanford University; [2]Epidemiology, Emory University ↗

3611 — *B0025* **Actual Visual Demands of Children in the Classroom - Implications for Vision Screening Guidelines.** *Carolina Adams[1], S. Leach[2], Y. Kresch[1], S. E. Brooks[1].* [1]Ophthalmology, Columbia University Medical Center; [2]Suny Optometry

3612 — *B0026* **Immediate versus Delayed Spectacle Treatment for Moderate Hyperopia in Children 3 to 5 Years of Age.** *Marjean T. Kulp[1], J. M. Holmes[2], T. W. Dean[3], D. W. Suh[4], R. T. Kraker[3], D. K. Wallace[5], D. B. Petersen[7], S. A. Cotter[6], E. R. Crouch[10], I. J. Lorenzana[12], B. H. Ticho[8], L. C. Verderber[11], K. Weise[9].* [1]College of Optometry, Ohio State University; [2]Department of Ophthalmology, Mayo Clinic; [3]Jaeb Center for Health Research; [4]University of Nebraska Medical Center; [5]Department of Ophthalmology, Indiana University; [6]Southern California College of Optometry at Marshall B. Ketchum University; [7]Rocky Mountain Eye Care Associates; [8]The Eye Specialists Center, LLC; [9]University of Alabama Birmingham School of Optometry; [10]Department of Ophthalmology, Virginia Pediatric Eye Center; [11]Pediatric Eye Associates; [12]Advanced Vision Center ↗

3613 — *B0027* **Reduced eye-related quality of life and functional vision using the new PedEyeQ in children wearing glasses.** *David A. Leske[1], S. R. Hatt[1], S. M. Wernimont[1], Y. S. Castañeda[2], L. Liebermann[1], C. S. Cheng-Patel[2], E. E. Birch[2, 3], J. M. Holmes[1].* [1]Ophthalmology, Mayo Clinic; [2]Retinal Foundation of the Southwest; [3]UT Southwestern Medical Center

3614 — *B0028* **Improving emergency paediatric ophthalmology services at Imperial College NHS Trust; a quality improvement project.** *Caroline L. Kilduff[1], S. Wren[2].* [1]Ophthalmology, Royal Free Hospital; [2]Imperial College NHS Healthcare Trust

3615 — *B0029* **A Prospective Evaluation of Adverse Events Occurring in Children undergoing Fundus Fluorescein and Indocyanine Green Angiography.** *Elisa Marziali, B. MacPhee, P. Ibanez, A. Dahlmann-Noor, D. Thomas.* Pediatric Uveitis, Moorfields Eye Hospital

3616 — *B0030* **Evaluation of a remote telemedicine screening system for severe retinopathy of prematurity.** *Brett A. Begley[1], D. W. Suh[1, 2].* [1]University of Nebraska Medical Center; [2]Ophthalmology, Children's Hospital and Medical Center

3617 — *B0031* **Grating Acuity Outcomes in Children with Retinopathy of Prematurity from a Public University Hospital in Brazil.** *Paula Y. Sacai, A. Berezovsky, N. Nunes Ferraz, D. M. Rocha, S. E. Watanabe, J. F. Bueno, P. Baptista Eliseo da Silva, C. Verna, N. S. Moraes, S. R. Salomao.* Oftalmologia e Ciências Visuais, Universidade Federal de São Paulo

3618 — *B0032* **Retinal degeneration in patients with CLN2 disease.** *Simon Dulz[1], C. Schwering[2], E. Wibbeler[2], M. Nickel[2], M. Spitzer[1], A. Schulz[2], Y. Atiskova[1].* [1]Ophthalmology, University Medical Center Hamburg-Eppendorf; [2]Children`s Hospital, Medical University Center Hamburg-Eppendorf

3619 — *B0033* **Correlation of novel macular structural and vascular abnormalities in familial exudative vitreoretinopathy.** *Cindy Cai, S. Hsu, A. Finn, L. Vajzovic.* Department of Ophthalmology, Duke University Medical Center **CR*

3620 — *B0034* **Vascular abnormalities associated with morning glory disk anomaly are not *moyamoya*.** *Matthieu P. Robert[1, 2], N. Boddaert[3], M. Kossorotoff[3], D. Nguyen[1], D. Bremond-Gignac[1].* [1]Ophthalmology, Necker-Enfants malades University Hospital; [2]COGNAC-G. Neuroscience Federation, Paris Descartes University; [3]Pediatric Radiology, Necker-Enfants malades University Hospital; [4]Children Stroke Center, Necker-Enfants malades University Hospital

3621 — *B0035* **Ophthalmologic disorders and risk factors in children with autism spectrum disorder (ASD).** *Melinda Chang[1], N. Gandhi[2], M. O'Hara[2].* [1]Ophthalmology, Children's Hospital Los Angeles, University of Southern California; [2]University of California, Davis

3622 — *B0036* **Social interaction in children with visual disabilities who live in a developing country I: face recognition ability.** *Livia A. Freire, J. R. Negrão, T. S. Venancio, B. F. de Araújo, N. Kasahara.* Irmandade da Santa Casa de Misericordia de Sao Pau

3623 — *B0037* **Social interaction in children with visual disabilities who live in a developing country II: functional mobility.** *João Victor R. Negrao, T. S. Venancio, L. A. Freire, B. F. de Araújo, N. Kasahara.* Oftalmologia, Santa Casa de Misericórdia de São Paulo

3624 — *B0038* **Social interaction in children with visual disabilities who live in a developing country III: health-related quality of life.** *Tais S. Venancio[1], B. F. de Araújo[1], L. A. Freire[1], J. R. Negrão[1], N. D. ALMEIDA FILHO[2], N. Kasahara[1].* [1]Ophalmology, Santa Casa Misericórdia de São Paulo; [2]Ophalmology, Faculdade de Medicina do ABC

3625 — *B0039* **Impact of glaucoma on visual prognosis in pediatric patients with Peters anomaly.** *Zena Ibrahim, s. fouzdar jain, D. Cao, C. Mocan.* Ophthalmology and Visual Sciences, University of Illinois at Chicago

3626 — *B0040* **Ophthalmic pathology study of children with sensorineural hearing loss.** *Maria F. Shurygina[1], O. L. Kireeva[2], M. V. Sukhinin[2].* [1]Clinical and Functional Diagnostics Department, S.N. Fyodorov Eye Microsurgery Federal State Institution of the Russian Ministry of Health; [2]FGBU Rehabilitation Center Ministry of Health

3627 — *B0041* **A Comparison in Precision and Accuracy of the Conventional Syringe to the New Precision Syringe.** *Audrey Netzel[1], D. DeLuna[2], J. Dietze[2], B. Begley[2], j. Ndulue[2], D. W. Suh[2].* [1]School of Medicine, Creighton University; [2]School of Medicine, University of Nebraska **CR*

West Exhibition Hall B0060-B0071

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Clinical/Epidemiologic Research

360 Consequences of vision impairment

Moderator: Ellen E. Freeman

3628 — *B0060* **Risk of auto accidents in patients with moderate-stage glaucoma.** *Sheryl S. Wizov[1], E. Shiuey[2], C. Sanvicente[1], B. E. Leiby[2], J. Tran[1], M. Waisbourd[3], J. S. Myers[1], L. Katz[1], M. R. Moster[1], G. L. Spaeth[1].* [1]Glaucoma Research Center, Wills Eye Hospital; [2]Sidney Kimmel Medical College, Thomas Jefferson University; [3]Tele-Aviv Medical Div of Ophthalmology, Tele-Aviv University↗

3629 — *B0061* **Sensitivity to light: the effects of country, gender & lighting conditions on perceived discomfort.** *Sarah Marie, A. SCHERLEN, B. LAHSSINI.* R&D Life & Vision Science, Essilor **CR*

3630 — *B0062* **Improved estimation of subtle, but noticeable changes in functional vision using new tests of visual acuity and contrast sensitivity.** *Emma Flor[1], A. M. Janoff[1], L. A. Lesmes[4], M. Murugappan[2], M. J. Barnes[1], A. K. Bittner[1, 3].* [1]College of Optometry, Nova Southeastern University; [2]College of Osteopathic Medicine, Nova Southeastern University; [3]Ophthalmology, University of California, Los Angeles; [4]Adaptive Sensory Technology **CR*

3631 — *B0063* **Factors associated with employment success for blind and visually impaired Canadians.** *Mahadeo Sukhai.* CNIB

3632 — *B0064* **Transportation Issues among Patients Receiving Care at a Retinal Specialist Clinic (BURDEN study).** *James Cazares, G. M. Gordon, M. Winthrope, D. J. Pieramici.* California Retina Research Foundation, California Retina Consultants

3633 — *B0065* **The impact of visual acuity on cardiovascular diseases mortality in South Korean: A nationwide population-based study.** *Dong-Hui Lim[1], J. Han[2], K. Han[4], K. Na[3], T. Chung[1].* [1]Ophthalmology, Samsung Medical Center; [2]Ophthalmology, Kangbuk Samsung Hospital; [3]Ophthalmology, Yeouido St. Mary's Hospital; [4]Biostatistics, College of Medicine, The Catholic University of Korea

3634 — *B0066* **The association between visual acuity and Parkinson's disease in South Korean: A nationwide population-based study.** *Jisang Han[1], D. Lim[2], K. Shin[2], T. Chung[2].* [1]Ophthalmology, Kangbuk Samsung Hospital; [2]Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine

3635 — *B0067* **The impact of comorbid visual impairment and dementia on activity limitations in older adults.** *Nish Patel[1], B. Stagg[3], J. R. Ehrlich[1, 2].* [1]Ophthalmology and Visual Sciences, Center for Eye Policy and Innovation, University of Michigan; [2]Institute for Healthcare Policy and Innovation, University of Michigan; [3]Duke University Eye Center

3636 — *B0068* **Near vision impairment and Frailty: Evidence of an association.** *Varshini Varadaraj[1], M. Lee[2], P. Y. Ramulu[1], K. Bandeen Roche[2], B. K. Swenor[2].* [1]Wilmer Eye Institute, Glaucoma, Johns Hopkins University School of Medicine; [2]Wilmer Eye Institute

3637 — *B0069* **Association between Vision Loss and Screening Mammography among Women with Medicare.** *Annie M. Wu[1], A. R. Morse[2], W. H. Seiple[2, 3], N. Talwar[1], S. Hansen[1], P. P. Lee[1, 4], J. D. Stein[1, 4].* [1]Department of Ophthalmology and Visual Sciences, W.K. Kellogg Eye Center, University of Michigan; [2]Lighthouse Guild; [3]Department of Ophthalmology, NYU School of Medicine; [4]Center for Eye Policy and Innovation, University of Michigan **CR*

3638 — *B0070* **Digging deeper into the vision-cognition relationship: Determining the association between visual function and cognitive domains.** *Bonnielin K. Swenor[1], B. Munoz[1], Y. An[3], M. Albert[2], S. Resnick[3].* [1]Ophthalmology, Johns Hopkins Wilmer Eye Institute; [2]Department of Neurology, Johns Hopkins University School of Medicine; [3]Laboratory of Behavioral Neuroscience, National Institute on Aging, National Institutes of Health

3639 — *B0071* **Visual impairment and mortality: Systematic review and meta-analysis with data from the EPIC-Norfolk Eye Study.** *Karen Hong.* Department of Ophthalmology and Visual Sciences, Washington University in St. Louis

West Exhibition Hall B0148-B0178

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Retina

361 DME anti-VEGF I

Moderator: Ajay E. Kuriyan

3640 — *B0148* **The effects of intravitreal aflibercept on non-perfused areas and flicker ERGs in eyes with diabetic macular edema.** *Masahiko Sugimoto, A. Ichio, H. Matsubara, M. Kondo.* Ophthalmology, Mie University School of Medicine **CR*, ↗

3641 — *B0149* **A 12-month Prospective Study to Evaluate the Efficacy of Treat and Extend Regimen (T&E) of Intravitreal Aflibercept as a Second-Line Treatment for Diabetic Macular Edema (TADI Study).** *Tareq Z. Jaouni[1], R. Ehrlich[2], Y. Barak[3], H. Katz[10], R. Pokroy[4, 5], J. Levy[1], J. Hanhart[6], O. Segal[7, 4], S. Shulman[8], M. Goldstein[9, 4], L. Tiossano[1], I. Chowers[1].* [1]Department of Ophthalmology, Hadassah Medical Center; [2]Department of Ophthalmology, Rabin Medical Center; [3]Department of Ophthalmology, Rambam Medical Center; [4]Department of Ophthalmology, Sackler Faculty of Medicine; [5]Department of Ophthalmology, Assaf Harofeh Medical Center; [6]Department of Ophthalmology, Shaare Zedek Medical Center; [7]Department of Ophthalmology, Meir Medical Center; [8]Ophthalmology Institute, Assuta Medical Center; [9]Department of Ophthalmology, Tel Aviv Medical Center; [10]Department of Ophthalmology, Kaplan Medical Center **CR*

3642 — *B0150* **Intravitreal Aflibercept Injection (IAI) for Persistent Diabetic Macular Edema (DME) after Treatment with Bevacizumab and/or Ranibizumab: ROTATED Trial 52 Week Results.** *Caitlen Taylor, H. Frazier, P. Rex, W. Marcus, D. Starnes, H. Walia, H. Singh, R. Lalane, D. M. Marcus.* Southeast Retina Center **CR*, ↗

3643 — *B0151* **Early Anatomic Outcomes of Intravitreal Bevacizumab for Diabetic Macular Edema with Renal Disease: A Real-World Study at a single Veterans Affairs Hospital.** *Paul Israelsen, S. Tsao, T. T. Vu, S. Lu.* Ophthalmology, University of California, Irvine

3644 — *B0152* **Choroidal Indices as Predictors of Visual Outcomes to anti-VEGF Treatment in DME patients, using Swept Source OCT.** *Ana Rita Santos[1, 2], D. Alves[3], I. Lains[6, 4], J. C. Wang[6], J. B. Miller[6], J. Figueira[4, 5], R. Silva[4, 5].* [1]CEC, AIBILI; [2]Orthoptics, School of Health, Polytechnic of Porto; [3]4C, AIBILI; [4]Department of Ophthalmology, Centro Hospitalar e Universitario de Coimbra; [5]Coimbra Institute for Clinical and Biomedical Research (iCBR- FMUC), Faculty of Medicine. University of Coimbra; [6]Department of Ophthalmology, Retina Service, Massachusetts Eye and Ear Infirmary, Harvard Medical School **CR*

3645 — *B0153* **Identifying predictors associated with diabetic macular oedema progression in a Maltese cohort using anti-VEGF naïve patients treated with intra-vitreal bevacizumab injections.** *Francis Carbonaro[1, 2], A. Bezzina[1].* [1]Ophthalmology, Mater Dei Hospital; [2]Twin Research, Kings College, University of London, UK

3646 — *B0154* **Real-world outcomes of anti-VEGF intravitreal therapy used to treat diabetic macular edema in a centre in Ireland following launch of National Diabetic Retinal Screening Programme (RetinaScreen).** *Rajiv Pandey[1, 2], S. Powell[2], L. Landi[1, 2], S. Venckens[3], D. J. Keegan[2, 1].* [1]Diabetic RetinaScreen; [2]Mater Retinal Research Group, Mater Misericordiae University Hospital; [3]University College Dublin

3647 — *B0155* **Real Life Visual Acuity Outcomes For Patients Treated With AntI-VEGF For Diabetic Macular Oedema In A Tertiary Referral Center.** *Josef Huemer[2, 1], C. Kern[2, 3], D. Fu[2, 4], L. Faes[2], S. Wagner[2], K. U. Kortuem[2, 3], P. Patel[2], K. Balaskas[2], D. A. Sim[2, 4], P. A. Keane[2, 4].* [1]Eye Department, Tauernklinikum, Zell am See, Austria; [2]Moorfields Eye Hospital, NHS Trust; [3]Department of Ophthalmology, University Hospital LMU; [4]National Institute for Health and Research (NIHR) Biomedical Center, Moorfields Eye Hospital **CR*

3648 — *B0156* **Comparing the efficacy of bevacizumab to ranibizumab in patients with diabetic macular edema: the BRDME study.** *Maartje J. Vader[1], A. M. Schauwvlieghe[1], F. D. Verbraak[2], G. Dijkman[3], J. M. Hooymans[4], L. I. Los[4], A. H. Zwinderman[5], T. Peto[6], C. B. Hoyng[7], R. van Leeuwen[8], J. R. Vingerling[9], A. C. Moll[2], J. J. van Lith-Verhoeven[10], M. G. Dijkgraaf[11], R. O. Schlingemann[1, 12].* [1]Ophthalmology, Amsterdam UMC, University of Amsterdam; [2]Ophthalmology, Amsterdam UMC, Vrije Universiteit Amsterdam; [3]Ophthalmology, Leiden University Medical Centre; [4]Ophthalmology, University Medical Center Groningen; [5]Clinical Epidemiology, Biostatistics and Bioinformatics, Amsterdam UMC, University of Amsterdam; [6]Ophthalmology, Queens University Belfast; [7]Ophthalmology, Radboud University Medical Center; [8]Ophthalmology, University Medical Center Utrecht; [9]Ophthalmology, Erasmus Medical Centre; [10]Ophthalmology, Elisabeth - Twee Steden (ETZ) Hospital; [11]Clinical Research Unit, Amsterdam UMC, University of Amsterdam; [12]Ophthalmology, University of Lausanne, Jules-Gonin Eye Hospital ↗

3649 — *B0157* **Real life structural outcomes in optical coherence tomography for patients treated with anti-VEGF for diabetic macular oedema.** *Karsten U. Kortuem[2, 1], C. Kern[2, 1], D. Fu[2, 3], J. Huemer[2], L. Faes[2], S. Wagner[2, 3], P. Patel[2, 3], K. Balaskas[2, 3], D. A. Sim[2, 3], P. A. Keane[2, 3].* [1]Ophthalmology, Ludwig-Maximilians-Univ; [2]Moorfields Eye Hospital; [3]NIHR Biomedical Research Centre at Moorfields Eye Hospital **CR*

3650 — *B0158* **Real-life study assessing the effectiveness of intravitreal aflibercept injection (IAI) treatment of diabetic macular edema (DME) in UK routine clinical practice (DRAKO): Baseline Characteristics.** *Sobha Sivaprasad[1], F. Ghanchi[2], S. Kelly[3], A. Kotagiri[4], J. S. Talks[5], P. Scanlon[6], M. Saddiq[7], N. Jain[8].* [1]National Institute for Health Research, Moorfields Biomedical Research Centre; [2]Bradford Teaching Hospitals NHS Foundation Trust; [3]Bolton Hospital NHS Foundation Trust; [4]City Hospitals Sunderland NHS Foundation Trust; [5]Newcastle Upon Tyne Hospitals NHS Foundation Trust; [6]Gloucestershire Hospitals NHS Foundation Trust; [7]O4 Research Limited, Belfast, UK; [8]Bayer PLC **CR*

3651 — *B0159* **Real-World Use of Intravitreal Aflibercept Injections in Diabetic Macular Edema: 1-Year Interim Results of APOLLON.** *Jean-Francois Korobelnik[1], L. Kodjikian[2], V. Daien[3], C. Faure[4], R. Tadayoni[5], A. Giocanti-Aurégan[6], P. Massin[7].* [1]CHU de Bordeaux, Université de Bordeaux, INSERM, Bordeaux Population Health Research Center, LEHA team; [2]Centre Hospitalier de la Croix Rousse, Université de Lyon; [3]Hôpital Gui De Chauliac, Montpellier, INSERM, Université de Montpellier; [4]Clinique Saint-Martin, Ramsay Générale de Santé; [5]Hôpital Lariboisière, AP-HP, Université Paris 7 – Sorbonne Paris Cité, Paris Hôpital; [6]Avicenne, AP-HP, Université Paris 13, DHU Vision et Handicaps; [7]CUDC, Hôpital Lariboisière **CR*, ↗

3652 — *B0160* **Intravitreal Aflibercept for Diabetic Macular Oedema in Real-world; 24 Month Visual Acuity and Anatomical Outcomes.** *Marko Lukic, P. Patel, R. Hamilton, R. Rajendram.* NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology **CR*

3653 — *B0161* **Correlation Between Visual Acuity And Central Retinal Thickness For Patients Treated With Anti-Vegf For Diabetic Macular Oedema.** *Charles Hennings[1], C. Kern[1, 2], D. Fu[1], K. U. Kortuem[1, 2], J. Huemer[1, 3], L. Faes[1], S. K. Wagner[1], P. Patel[1], K. Balaskas[1, 4], D. A. Sim[1, 4], P. A. Keane[1, 4].* [1]Moorfields Eye Hospital, London, United Kingdom of Great Britain and Northern Ireland; [2]Department of Ophthalmology, University Hospital LMU, Munich, Germany; [3]Eye Department, Tauernklinikum, Zell am See; [4]National Institute for Health and Research (NIHR) Biomedical Center, Moorfields Eye Hospital, London, UK **CR*

3654 — *B0162* **Visual Acuity Outcomes and Anti-Vascular Endothelial Growth Factor Therapy Intensity in Diabetic Macular Edema: A "Real World" Analysis in 28,456 Eyes.** *Ashley Neiweem[1], T. A. Ciulla[2], A. Harris[1].* [1]Ophthalmology, Indiana University School of Medicine; [2]Midwest Eye Institute **CR*

3655 — *B0163* **Vision-Threatening Complications in Patients with Diabetic Macular Edema: A Post Hoc Analysis of the VISTA and VIVID Trials.** *Carmelina Gordon.* Specialty Eye Institute

3656 — *B0164* **Comparing the efficacy of intravitreal aflibercept and ranibizumab in treatment of diabetic macular oedema.** *Dun Jack Fu[1], C. Kern[1, 2], K. U. Kortuem[1, 2], J. Huemer[1, 3], L. Faes[1], S. Wagner[1], K. Balaskas[1], D. A. Sim[1], P. A. Keane[1].* [1]Research Centre, Moorfields Eye Hospital NHS Foundation Trust; [2]Department of Ophthalmology, University Hospital LMU; [3]Eye department, Tauernklinikum **CR*

Tuesday Posters
11:45 am – 1:30 pm

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

3657 — *B0165* **Analysis of intraretinal cysts and visual outcomes in patients with central-involving diabetic macular edema (CI-DME) with sub-optimal response to anti-vascular endothelial growth factor (VEGF).** *Tal Ben Ami, K. Peddada, W. Li.* Ophthalmology, Drexel University College of Medicine

3658 — *B0166* **Sustained Diabetic Retinopathy Severity Improvement with Intravitreal Aflibercept in Diabetic Macular Edema: A Post Hoc Analysis of the VISTA and VIVID Trials.** *Dilsher S. Dhoot.* California Retina Consultants

3659 — *B0167* **Aflibercept in the real world – Does a loading dose of 3 or of 5 injections give better visual outcomes in patients with diabetic macular edema?** *James S. Talks[1], P. H. Scanlon[2], I. Stratton[2].* [1]Ophthalmology, Royal Victoria Infirmary; [2]Eye department, Gloucestershire Hospitals NHS Trust **CR*

3660 — *B0168* **One year follow-up data on changes in aqueous VEGF levels in eyes with diabetic macula edema treated with ranibizumab using the pro re nata regimen.** *Takao Hirano, Y. Toriyama, K. Hirabayashi, T. Murata.* Shinshu university school of medicine

3661 — *B0169* **Clinical outcomes of anti-VEGF naïve and non-naïve Ozurdex treated eyes in Diabetic Macular Oedema (DMO).** *Sarah Stirrup, N. Patel.* Research and Innovation, East Kent Hospitals University NHS Foundation Trust

3662 — *B0170* **Non-systemic kinase inhibitors (NSKI) offer a novel approach for the treatment of Diabetic Macular Edema.** *Claire Walshe, M. R. Foster, Y. Solanke, S. Sirohi, M. Fyfe, S. Webber.* Topivert Pharma **CR*

3663 — *B0171* **AG-73305, a novel multi-specific Fc-fusion protein for the treatment of diabetic macular edema.** *Madhu Cherukury[1], A. Wu[1], B. Chang[1], T. Nguyen[1], L. A. Wheeler[2].* [1]Allgenesis Biotherapeutics Inc.; [2]Zeteo Discovery Research LLC **CR*

3664 — *B0172* **Erythropoietin (EPO) overexpression induces a DME-like phenotype in the mouse retina.** *Jorge Aranda, N. V. Rangaswamy, H. Li, J. Vrouvlianis, M. Crowley, J. T. Demirs, J. Yang, A. Will-Orrego, T. McGee, C. E. Bigelow, S. H. Poor.* Ophthalmology, Novartis Institute for Biomedical Research **CR*

3665 — *B0173* **A bispecific aptamer targeting both VEGF and Angiopoietin-2 for treating retinal diseases.** *Scott Ferguson[1], D. LONG[2], Q. Yang[1], H. Kang[1], J. Yu[1], W. Chou[1], M. Vukovich[1], R. Formica[2], Z. Hafiz[2], P. A. Campochiaro[2], J. Wang[1], Q. Gong[1].* [1]Aptitude Medical Systens, Inc.; [2]Wilmer Eye Institute, Johns Hopkins University School of Medicine **CR*

3666 — *B0174* **Anti-fumarase antibody predicts functional efficacy of anti-VEGF therapy for diabetic macular edema.** *Tomoaki Murakami, T. Yoshitake, S. Yoshitake, Y. Dodo, M. Fujimoto, A. Tsujikawa.* Ophthalmology & Visual Sciences, Kyoto Univ Grad Sch of Med **CR*, ↗

3667 — *B0175* **VEGF-C and VEGF-D Inhibition by VGX-300 Effectively Reduces Leukocyte Adhesion and Vascular Leakage in the STZ- Rat Model of Diabetic Retinal Edema.** *Tytteli Turunen[2, 1], A. Hua[2], M. Shatos[2], G. C. Teague[2], M. Baldwin[3], K. Lashkari[2, 1].* [1]Harvard Medical School, Ophthalmology; [2]Schepens Eye Research Institute of Massachusetts Eye & Ear; [3]Opthea Limited **CR*

3668 — *B0176* **Norrin Counters VEGFA Induced Expression of Transcytosis Marker PLVAP.** *Wendy A. Dailey[1, 2], K. P. Mitton[2], K. A. Drenser[1], M. T. Trese[1].* [1]Retinal Solutions; [2]Eye Research Institute, Oakland University **CR*

3669 — *B0177* **Effect of triamcinolone in a rabbit model of sustained retinal neovascularization and leak.** *Bibiana Iglesias, C. Romano.* Ophthalmology, Regeneron **CR*

3670 — *B0178* **Phase 1 first-in-human study of KSI-301: a novel anti-VEGF antibody biopolymer conjugate with extended durability.** *Sunil S. Patel[1], J. Naor[2], A. Qudrat[2], D. V. Do[3], D. Buetelspacher[2], h. liang[2], D. Perlroth[2].* [1]Retina Research Institute of Texas; [2]Kodiak Sciences Inc.; [3]Ophthalmology, Byers Eye Institute, Stanford University School of Medicine **CR*, ↗

West Exhibition Hall B0179-B0189

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Retina

362 Retinal Laser Therapeutic Applications and Innovations

Moderator: Leila El Matri

3671 — *B0179* **Combination effects of topical anesthetic, aseptic agent and laser light on corneal epithelium damage.** *Georg Schuele[1], D. Dewey[1], A. Vankov[1], P. Gooding[1], M. Wiltberger[1], J. Wang[1], A. Gwon[2], L. C. Huang[1].* [1]Johnson & Johnson Vision; [2]Ophthalmology, UCI **CR*

3672 — *B0180* **Sublethal hyperthermia on retinal pigment epithelium - possible role of heat shock protein 70 and influence of the inhibition of vascular endothelial growth factor-mediated signaling.** *Yoko Miura[1, 2], K. Kern[1, 3], R. Brinkmann[1, 3].* [1]Institute of Biomedical Optics, University of Luebeck; [2]Department of Ophhtalmology, University Hospital Schleswig-Holstein, Campus Luebeck; [3]Medical Laser Center Luebeck

3673 — *B0181* **Origin of RPE damage and related thresholds for laser exposure in the µs time domain.** *Ralf Brinkmann[3, 1], E. Seifert[1], P. Kleingarn[1], S. Sonntag[2], D. Theisen-Kunde[1], Y. Miura[3, 2].* [1]Medical Laser Center Luebeck; [2]Department of Ophthalmology, Campus Luebeck, University Medical Center Schleswig-Holstein; [3]Institute of Biomedical Optics, University of Luebeck

3674 — *B0182* **Titration for selective RPE therapy using a continuous line scanning laser.** *Mohajeet B. Bhuckory[1], T. Flores[2], x. shao[3], R. Dalal[1], D. V. Palanker[1].* [1]Ophthalmology, Stanford University; [2]Applied physics, Stanford University; [3]Topcon Medical Systems, Inc**.** **CR*

3675 — *B0183* **An Automatic Feedback Temperature Control for Retinal Laser Treatments.** *Hossam S. Abbas[1, 2], C. Kren[1], V. Danicke[1], O. Thomsen[2], J. Roider[3], C. Herzog[2], R. Brinkmann[2].* [1]Medical Laser Center Lübeck; [2]University of Lübeck; [3]Department of Ophthalmology, University Medical Center

3676 — *B0184* **Focus assisting with split bars indicator in laser photocoagulation system.** *Asami Honda, D. Ohdake, N. Murakami.* NIDEK CO., LTD**.** **CR*

3677 — *B0185* **Subthreshold laser treatment in chronic central serous chorioretinopathy: 3-month results from a prospective interventional study.** *Benedikt Schworm, L. Keidel, M. Gerhard, T. Herold, A. Wolf, S. Priglinger, N. Luft.* Department of Ophthalmology, University Hospital Munich, Ludwig-Maximilians-Universität **CR*, ↗

3678 — *B0186* **Non-Damaging Laser Therapy (NRT) for Macular Telangiectasia Type 2: Randomized Clinical Trial.** *Daniel Lavinsky[1], A. Chaves[1], W. SCHNEIDER[1], M. Oliveira[1], F. Lavinsky[1], D. V. Palanker[2].* [1]Ophthalmology, Federal University of Rio Grande do Sul; [2]Ophthalmology, Stanford University **CR*, ↗

3679 — *B0187* **Effectiveness and safety of non contact widefield objective for Navigated Panretinal Photocoagulation.** *Alexandre PEDINIELLI, f. amoroso, P. Astroz, A. Mouallem-Beziere, E. H. Souied.* 94100, Hopital Intercommunal de Creteil

3680 — *B0188* **OCTA-guided navigated laser therapy for diabetic macular oedema.** *francesca amoroso, A. PEDINIELLI, P. Astroz, A. Miere, A. Mouallem-Beziere, O. Semoun, M. Srour, E. H. Souied.* Hopital Intercommunal de Creteil

3681 — *B0189* **Comparing intravitreal bevacizumab, sub threshold macular laser (STML) and intravitreal dexamethasone implant (0.7mg) in the initial treatment of diabetic macular edema (DME) in a resident led clinic.** *Mansoor Mughal, E. Chang, J. M. Alexander, M. M. Morcos.* Ophthalmology, Nassau University Medical Cent

West Exhibition Hall B0229-B0274

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Visual Psychophysics/Physiological Optics

363 IOLs: Calculations, Vision, Implantation, Multifocals

Moderator: Viswanathan Ramasubramanian

3682 — *B0229* **Simulation of blended vision and monovision with multifocal intraocular lenses by image fusion.** *Sangyeol Lee, D. Carson, X. Gu, M. Breen, X. Hong, J. Lemp-Hull, M. Merchea, S. Lee.* Alcon Laboratories, Inc **CR*

3683 — *B0230* **Refractive error as predicted by posterior corneal astigmatism integration into surgical calculations over a range of keratometry and intra-ocular lens power.** *Hoon C. Jung[1], V. Govindaraju[2].* [1]Ophthalmology, University of Washington; [2]Central Michigan University College of Medicine

3684 — *B0231* **Impact of Posterior Corneal Astigmatism on Refractive Astigmatism after Cataract Extraction with Intraocular Lens Implantation.** *Zachary Landis[1], A. Luo[2], D. Jang[2], J. Quillen[3], T. O'Rourke[1], S. Pantanelli[1], I. U. Scott[1].* [1]Penn State Eye Center; [2]Penn State College of Medicine; [3]Penn State University **CR*

3685 — *B0232* **Effectiveness of optical biometry devices in different types of cataracts.** *Filipe Oliveira, Y. D. Souza, L. M. de Souza, P. Y. Sacai, N. Nunes Ferraz.* Ophthalmology and Visual Sciences, Federal University of Sao Paulo

3686 — *B0233* **Evaluation of the posterior optic square edge profile of hydrophillic acrylic intraocular lenses after tumble polishing with a protective mask.** *Gary Guenthner, M. Ayyagari, A. Pilon.* Bausch + Lomb **CR*

3687 — *B0234* ***Eigenlenses*: an eigenvectors-based model for full crystalline lens shape description.** *Eduardo Martinez-Enriquez[1], A. De Castro[1], A. Mohamed[2, 3], M. Ruggeri[4], S. Williams[4, 5], J. Parel[3, 4], F. Manns[4, 5], S. Marcos[1].* [1]Visual Optics and Biophotonics Lab, Institute of Optics, CSIC; [2]Ophthalmic Biophysics, L V Prasad Eye Institute; [3]Brien Holden Vision Institute; [4]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [5]Department of Biomedical Engineering, University of Miami College of Engineering **CR*

3688 — *B0235* **Evaluation of toric null lenses for characterizing the image quality of toric IOLs.** *Minghan Chen[1], M. State[2], M. van der Mooren[2], C. Canovas[2], R. Zonneveld[2], H. A. Weeber[2], P. Jubin[1], P. Piers[2].* [1]Johnson & Johnson Vision; [2]Johnson & Johnson Vision **CR*

3689 — *B0236* **Experimental Comparison of Intraocular Lenses in Presence of Tilts and Decentrations with a Model Eye.** *Lukas Traxler, N. Bayer, B. Reutterer, A. Drauschke.* Life Science Engineering, University of Applied Sciences Technikum Wien

3690 — *B0237* **Ex vivo optical performance of two distinct aberration-neutral monofocal IOL designs.** *Michelle L. Cook, A. Pilon, G. Lau, V. Kolesnitchenko.* Bausch + Lomb **CR*

3691 — *B0238* **Population based adjustment of oblique anterior corneal astigmatism to allow for the likely effect of posterior corneal astigmatism for calculation of toric IOLs.** *Michael Goggin[1], S. Sheen-Ophir[2], B. LaHood[3].* [1]Ophthalmology, University of Adelaide; [2]Ophthalmology, The Queen Elizabeth Hospital; [3]Ophthalmology, Eye Institute

3692 — *B0239* **Impact of total keratometry estimated by the Abulafia-Koch formula versus anterior keratometry on refractive results of an intraocular toric implant in cataract surgery.** *ANTOINE LEVRON, H. El Chehab, E. Agard, M. Chaperon, R. Chudzinski, C. Dot.* Ophtalmology, Hopital D'instruction Des Armees Desgenettes

3693 — *B0240* **Optical testing of intraocular lenses using a combined laser-ray tracing and optical coherence tomography system.** *Fabrice Manns[1, 2], M. Ruggeri[1, 2], A. Mohamed[3], S. Williams[1, 2], B. Maceo Heilman[1, 2], S. S. Durgam[3], M. Taneja[3], A. Ho[4], J. Parel[1, 4].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Department of Biomedical Engineering, University of Miami College of Engineering; [3]Ophthalmic Biophysics, LV Prasad Eye Institute; [4]Brien Holden Vision Institute

3694 — *B0241* **Clinical outcomes of immediate sequential bilateral phakic intraocular lens implantation and effect of the lens size on central vault of implantable collamer lens implantation.** *Jin Kwon Chung, K. Pak, S. Ha, K. Choi.* Ophthalmology, Soonchunhyang University Seoul Hospital

3695 — *B0242* **Raytracing simulations for small-aperture and toric IOLs in keratoconus eyes.** *Uwe Oberheide[1, 2], A. Grafov[1], H. Weigand[1], O. Kermani[2].* [1]Applied Optics and Electronics, TH Koeln - Cologne University of Applied Sciences; [2]Augenklinik am Neumarkt

3696 — *B0243* **Sizing distribution of Implantable Collamer Lens in a Chinese cohort and postoperative vault changes.** *Xiaotian Chung[1, 2], x. fang[1, 2].* [1]Refractive Surgery, Aier Eye Hospital Group; [2]Refractive Surgery, Shenyang Aier Eye Hospital

3697 — *B0244* **Application of UBM and anterior segment OCT in posterior chamber intraocular lens implantation.** *Yanzhen Xue.* Aier school of ophthalmology, Central South University

3698 — *B0245* **Comparative Assessment of Outward Radial Forces Exerted by Hydrophobic Acrylic Intraocular Lenses and Capsular Tension Rings Under Common Degrees of Compression.** *Andrew Pilon, G. Lau, V. Kolesnitchenko.* Bausch & Lomb **CR*

3699 — *B0246* **Comparison of the characteristics and intracapsular fixation of new intraocular lens material to commercially available intraocular lens material.** *Kyoko Miura, Y. Nakahata, S. Yokota, T. Tada, S. Nagasaka, T. Sunada.* IOL Development Dept., Development Div., Eye Care Div., NIDEK Co., Ltd**.** **CR*

3700 — *B0247* **Ophtec Iris-enclaved Intraocular Lens Compared with Trans-scleral Sutured Intraocular Lens in Children with Marfan Syndrome.** *Marisa OBrien, J. R. Hoekel, P. E. Foeller, L. Tychsen.* Ophthalmology & Visual Science, Washington Univ Sch of Med ↗

3701 — *B0248* **An Optically Equivalent Physical Eye Model for *In-Vitro* Assessment of Intraocular Lenses.** *James G. Panos[1], A. Ho[1, 2], K. Ehrmann[1, 2], R. C. Bakaraju[1, 2].* [1]Research and Development, Brien Holden Vision Institute; [2]School of Optometry & Vision Science, University of New South Wales **CR*

3702 — *B0249* **Assessment of Intraocular Lens Glare Type Photic Phenomena both at Large and Small Pupils in a Schematic Model Eye.** *Kamal Das[1], L. Werner[2], S. Collins[1].* [1]Intraocular Lens R&D, Alcon Laboratories, Inc; [2]John A**.** Moran Eye Center, University of Utah **CR*

3703 — *B0250* **Clinically relevant theoretical eye models for negative dysphotopsia assessment.** *Mihai State, R. Rosen, S. Meijer, A. Alarcon, C. Canovas, P. Piers.* R&D, Johnson & Johnson Vision **CR*

3704 — *B0251* **Effect of acrylic material characteristics on stray light performance.** *Henk A. Weeber, M. van der Mooren, P. Piers.* R & D, AMO Groningen BV **CR*

3705 — *B0252* **Contralateral Comparison of Contrast Sensitivity and Higher-Order Aberrations within Pupils after Blue and Violet Light Blocking Intraocular Lens Implantations using a Ray-Tracing Aberrometer.** *Katsuhito Kinoshita, Y. Mori, K. Miyata.* Miyata Eye Hospital **CR*

3706 — *B0253* **Evaluating refractive outcomes after scleral-sutured Bausch & Lomb Akreos AO60 intraocular lens implantation.** *Suveera Dang[1], S. Idrees[2], D. Diloreto[2], M. M. Chung[2], R. S. Ramchandran[2], A. Kuriyan[2].* [1]University of Rochester School of Medicine and Dentistry; [2]Flaum Eye Institute, University of Rochester Medical Center

3707 — *B0254* **Effect of the Intraocular lens (IOL) Haptic Junction on Peripheral Retina Illumination.** *Jay C. Erie.* Ophthalmology, Mayo Clinic

3708 — *B0255* **Evaluation of acceptable ranges of toric intraocular lens axis positions.** *Keiichiro Minami, H. Bissen-Miyajima.* Ophthalmology, Tokyo Dental Collage Suidobashi Hospital

3709 — *B0256* **Intraocular Lens Far Peripheral Vision: Image Detail and Negative Dysphotopsia.** *Michael Simpson.* Simpson Optics

3710 — *B0257* **Metric for assessing the functional range of vision of multifocal IOLs.** *Jim Schwiegerling[1], R. Lapid-Gortzak[2], C. Balachandran[3], R. Suryakumar[4].* [1]Optical Sciences, University of Arizona; [2]Ophthalmology, Academic Medical Center; [3]Macquarie University; [4]Alcon Laboratories **CR*

3711 — *B0258* **New set of complementary extended-depth-of-focus IOL: comparison with the state-of-the-art.** *Fannie Castignoles.* R&D, Cristalens Industrie **CR*

3712 — *B0259* **Preliminary refractive results of the Clareon® Intraocular Lens (IOL): about 150 cases.** *Mayeul Chaperon, H. El Chehab, A. LEVRON, R. Chudzinski, E. Agard, C. Dot.* Ophthalmology, Desgenettes Hospital

3713 — *B0260* **Refractive technology to improve intermediate vision in monofocal intraocular lenses.** *Aixa Alarcon, C. Canovas, B. Koopman, P. Piers.* Johnson and Johnson Vision **CR*

3714 — *B0261* **Spectacle independence of pseudophakic patients predicted from preclinical data.** *Robert Rosen, H. A. Weeber, C. Canovas, A. Alarcon, P. Piers.* Johnson & Johnson Vision **CR*

3715 — *B0262* **Visual Quality Analysis Of Three Kinds Of Intraocular Lens For Cataracts With Highly Myopic Patients.** *Xianjun Liang[1, 2].* [1]central south university; [2]Foshan AIER EYE HOSPITAL

3716 — *B0263* **Study on glare phenomena and vision quality of a virtually implanted tunable liquid crystal IOL compared to monofocal and EDOF IOLs.** *Karsten Sperlich[1, 2], A. Dierke[1], T. Koch[1], S. Bohn[1, 2], H. Stolz[3], R. F. Guthoff[1, 2], T. Galstian[4], O. Stachs[1, 2].* [1]Department of Ophthalmology, Rostock University Medical Center; [2]Department Life, Light & Matter, University Rostock; [3]Institute of Physics, University Rostock; [4]Department of Physics, Engineering Physics and Optics, Laval University

3717 — *B0264* **Optical and Visual performance of violet blocking intraocular lenses.** *Carmen Canovas[1], H. A. Weeber[1], D. Trentacost[2], P. Janakiraman[2], N. Tarantino[2], M. Raheja[3], P. Piers[1].* [1]R&D, Johnson & Johnson Surgical Vision; [2]Clinical Research, Johnson & Johnson Surgical Vision; [3]R&D, Johnson & Johnson Surgical Vision **CR*, ↗

3718 — *B0265* **Optical Simulation Approach to Compare Visual Outcomes from Different IOLs under Same Testing Conditions.** *Kevin Baker, J. Lutkenhaus, Z. Xu, J. Lemp-Hull.* Alcon **CR*

3719 — *B0266* **Peripheral 2D Image Quality Metrics Of Different Types Of Multifocal Contact Lens.** *Miguel Garcia Garcia[1, 2], S. Wahl[1, 2], D. Pusti[3], P. Artal[3], A. Ohlendorf[1, 2].* [1]Carl Zeiss Vision International GmbH; [2]ZEISS Vision Science Lab, University of Tuebingen; [3]Laboratorio de Optica, Universidad de Murcia **CR*

3720 — *B0267* **Theoretical Model To Predict Usable Areas Of A Progressive Lens For Reading In Computer Screens.** *Jose Miguel Cleva, E. Chamorro, C. Gago, A. Gonzalez, P. Concepcion, J. Alonso.* IOT **CR*

3721 — *B0268* **Accommodative Response Differences Among Single Vision and Multifocal Contact Lenses.** *Jason Shen[1], B. Chen[2], F. Spors[1], F. Dong[3], D. Tsang[3], L. McNaughton[1], D. J. Egan[4].* [1]College of Optometry, Western Univ of Hlth Sciences; [2]Eye Center of Second Affiliated Hospital Zhejiang University College of Medicine; [3]Western University of Health Sciences Graduate College of Biomedical Sciences; [4]University of Pikeville, Kentucky College of Optometry **CR*

3722 — *B0269* **Multifaceted assessment of the effect of eye exercises for presbyopic individuals.** *Yukari Tsuneyoshi[1, 2], K. Negishi[1], K. Tsubota[1].* [1]Ophthalmology, Keio university school of medicine; [2]Ophthalomolgy, National Hospital Organization Saitama National Hospital ↗

3723 — *B0270* **Next generation diffractive multifocal contact lenses for presbyopia correction using LIRIC.** *Sam C. Butler[1], C. Leeson[1], K. R. Huxlin[2], J. D. Ellis[5], W. Knox[3], I. G. Cox[4], G. Yoon[2], S. M. MacRae[2], L. Zheleznyak[1].* [1]Clerio Vision, Inc.; [2]Flaum Eye Institute, University of Rochester; [3]Institute of Optics, University of Rochester; [4]IGC Consulting; [5]College of Optical Sciences, University of Arizona **CR*

3724 — *B0271* **Optimization of the light sword optical element (LSOE) for presbyopia correction.** *Walter Torres[1], A. Mira-Agudelo[1], J. Barrera[1], A. Kolodziejczyk[2].* [1]Grupo de Óptica y Fotónica, Instituto de Física, Facultad de Ciencias Exactas y Naturales, Universidad de Antioquia UdeA, Calle 70 No. 52-21; [2]Faculty of Physics, Warsaw University of Technology, Koszykowa 75, 00-662

3725 — *B0272* **Reading Performance with Identical and Different IOL Powers in Each Eye.** *Mark A. Bullimore[1], R. Suryakumar[2].* [1]College of Optometry, University of Houston; [2]Alcon Laboratories, Inc. **CR*, ↗

3726 — *B0273* **Perceived best focus and visual performance upon induction of astigmatism in presbyopes.** *Clara Benedi-Garcia[1], M. Velasco-Ocana[1], C. Dorronsoro[1], M. Hernandez[2], G. Marin[2], S. Marcos[1].* [1]Visual Optics and Biophotonics, Instituto de Óptica, Consejo Superior de Investigaciones Científicas; [2]Research & Vision Development, Essilor International **CR*

3727 — *B0274* **Impact of modified chromatic aberration on the depth of field using an adaptive optics visual simulator.** *Nikolai Suchkov[1, 2], E. Fernandez[2], P. Artal[2].* [1]Voptica SL; [2]Laboratory of Optics, Universidad de Murcia **CR*

West Exhibition Hall B0275-B0314

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Glaucoma

364 Surgery and Wound Healing I

Moderators: anthony wells and Kuldev Singh

3728 — *B0275* **Safety and Outcomes After Trabecular Microbypass in Patients with Prior Laser Treatment.** *William S. Kass, A. S. Khouri.* Rutgers New Jersey Medical School

3729 — *B0276* **Deficiencies in United States ophthalmology residents' case logging of minimally invasive glaucoma surgeries (MIGS).** *Mary Qiu, J. Goshe.* Ophthalmology, Cole Eye Institute at Cleveland Clinic Foundation

3730 — *B0277* **Two Year Efficacy of Trabecular Micro-Bypass Stent in Patients with Glaucoma and Cataract.** *Yoseph Sayegh[1], P. D. Baciu[4], E. A. Vanner[1], A. S. Maharaj[3], S. R. Wellik[1], K. Kishor[3], A. K. Junk[1, 2].* [1]Bascom Palmer Eye Institute, University of Miami; [2]Miami Veterans Affairs Medical Center; [3]Bascom Palmer Eye Institute, University of Miami; [4]Henry Ford Health System

3731 — *B0278* **Factors related to filtration-bleb morphology after Ex-PRESS surgery.** *Naoki Tojo, M. Otsuka, A. Hayashi.* University of Toyama

3732 — *B0279* **The changes of corneal endothelial cell density after EX-PRESS glaucoma drainage device surgery.** *Kaoru Shimasaki, Y. Saito, s. shimasaki, H. Onda.* Showa univesity school of medicine

3733 — *B0280* **Efficacy of XEN glaucoma implant in patients with POAG and in patients with PXFG.** *Olof B. Olafsdottir[1, 2], M. S. Gottfredsdottir[2, 1].* [1]Faculty of Medicine, University of Iceland; [2]Ophthalmology, Landspitali University Hospital **CR*

3734 — *B0281* **XEN Gel Stent Outcomes in an African American Population at Howard University Hospital.** *Pavan Angadi, S. Rajpal, L. Jones.* Howard University Hospital **CR*

3735 — *B0282* **Short term outcomes of transconjunctival ab externo XEN 45 Gel Stent implantation.** *Jonathan S. Myers, C. X. Zheng, S. J. Moster, M. Lin.* Glaucoma, Wills Eye Hospital **CR*

3736 — *B0283* **XEN Gel Stent to Treat Intraocular Hypertension After Dexamethasone-Implant Intravitreal Injections: 5 Cases.** *Amina Rezkallah, T. Mathis, P. Denis, L. Kodjikian.* Ophthalmology, Croix Rousse Hospital **CR*

3737 — *B0284* **Evaluation of XEN implant in the surgical management of glaucoma: about 24 cases, a preliminary study.** *Hussam El Chehab, E. Agard, A. Levron, M. Chaperon, R. Chudzinski, C. Dot.* Ophthalmology, Desgenettes Hospital

3738 — *B0285* **Xen 45 surgical results: retrospective comparison of primary XEN implantation, filtering bleb needling and open filtering bleb revision.** *Stefan Steiner, H. Resch, B. Kiss, C. Vass.* Department of Ophthalmology and Optometry, Medical University of Vienna **CR*

3739 — *B0286* **Minimally invasive glaucoma surgery efficacy in uveitic and steroid-induced glaucoma.** *Robert Purgert, C. Lowder, J. Eisengart.* Cleveland Clinic Cole Eye Institute

3740 — *B0287* **Effect of the Hydrus microstent with combined phacoemulsification on intraocular pressure.** *Maria K. Casagrande, L. Meier, S. Farrokhi, M. Spitzer, M. Klemm.* Ophthalmology, University Hospital Hamburg Eppendorf

3741 — *B0288* **Secondary procedures two years after first-generation trabecular micro-bypass stent placement.** *Catherine Q. Sun[1], Y. Sayegh[1], A. Quan[1], P. D. Baciu[2], A. S. Maharaj[3], S. R. Wellik[1], K. Kishor[3], A. K. Junk[1, 4].* [1]Bascom Palmer Eye Institute, University of Miami; [2]Ophthalmology, Henry Ford Hospital; [3]Bascom Palmer Eye Institute, University of Miami; [4]Ophthalmology, Miami Veterans Affairs Medical Center

3742 — *B0289* **Novel Retrobulbar Extension Shunt to Rescue Eyes with Fibrotic Encapsulated Blebs and Uncontrolled Ocular Hypertension.** *William E. Sponsel[1, 6], M. Puig[5], H. Ramos[4], S. Groth[2], F. March de Ribot[3].* [1]Madison Square Bldg Ste 306, WESMDPA; [2]Vanderbilt University; [3]Barcelona University Hospital; [4]Universidad Autónoma de Guadalajara School of Medicine; [5]UTHSCSA School of Medicine; [6]Biomedical Engineering, UTSA **CR*

3743 — *B0290* **Modified filtering trabeculotomy vs conventional trabeculectomy: a retrospective study of two procedures in patients with open angle glaucoma.** *Alicja Strzalkowska[1], P. Strzalkowski[1], A. Rosentreter[1, 2], J. Hillenkamp[1], F. Grehn[1].* [1]Department of Ophthalmology, University Hospital of Würzburg; [2]HELIOS Klinikum Wuppertal-University of Witten / Herdecke **CR*

3744 — *B0291* **Clinical characteristics of eyes with steroid-induced glaucoma requiring surgery.** *Asako Okamura, K. Suda, T. Akagi, T. Kameda, H. O. Ikeda, M. Miyake, t. hasegawa, E. Nakano, Y. Okamoto, N. Motozawa, A. Tsujikawa.* Kyoto University **CR*

3745 — *B0292* ***Ab interno* trabeculectomy revision: efficacy and safety.** *Jefferson Berryman, M. Lim, J. D. Brandt, H. Kim.* Ophthalmology, University of California, Davis

3746 — *B0293* **Short-term results of ab interno trabeculectomy with Kahook Dual Blade in Japanese glaucoma patients.** *Yusuke Orii, K. Iwasaki, S. Arimura, Y. Takamura, M. Inatani.* Ophthalmology, University of Fukui

3747 — *B0294* **Long-term effect of trabeculectomy on corneal endothelial cell loss.** *Kazuyuki Hirooka[2, 1], E. Nitta[1], K. Ukegawa[1], S. Sato[1], Y. Kiuchi[2].* [1]Ophthalmology, Kagawa Univ Faculty of Medicine; [2]Ophthalmology, Hiroshima University

3748 — *B0295* **Behavior of Schlemm's canal endothelium after canal surgery -A new concept of trans-Schlemm's canal endothelial pressure-.** *Teruhiko Hamanaka[1, 2], S. Chin[3], Y. Shinmei[4], N. Ishida[5], T. Kumasaka[6].* [1]Ophthalmology, Japanese Red Cross Medical Ctr; [2]Ophthalmology, Ishida Eye Clinic; [3]Ophthalmology, Hokkaido University; [4]Ophthalmology, Hokkaido University; [5]Ophthalmology, Ishida Eye Clinic; [6]Pathology, Japanese Red Cross Medical Center

3749 — *B0296* **Exploratory study of the bleb maintaining effects of tacrolimus 0.1% solution post trabeculectomy.** *Kazuhiko Mori, Y. Yamamoto, Y. Ikeda, M. Ueno, K. Imai, C. Sotozono, S. Kinoshita.* Department of Ophthalmology, Kyoto Prefectural Univ of Med **CR*, ↗

3750 — *B0297* **Glaucoma Drainage Device Coated with Mitomycin C Loaded Opal Shale Microparticles to Inhibit Bleb Fibrosis.** *Huiping Yuan[1], D. Aimeng[1], H. Liang[2], Z. Shao[1], P. Fan[1], X. Zhou[3].* [1]Department of Ophthalmology, Harbin Medical University; [2]Department of Pharmaceutics, College of Pharmaceutical Sciences, Soochow University; [3]Department of Ophthalmology, Shanghai General Hospital, Shanghai Jiao Tong University School of Medicine

3751 — *B0298* **Effects of a multi-kinase inhibitor compared with mitomycin-C on conjunctival scarring in a canine filtration surgery model.** *EMIKA Nemoto[1], S. Kojima[1], T. Sugiyama[1], D. Jin[2], S. Takai[2], M. Maeda[1], R. Kohmoto[1], M. Ueki[1, 3], H. Oku[1], T. Ikeda[1].* [1]Ophthalmology, Osaka Medical College; [2]Innovative Medicine, Osaka Medical College; [3]Ophthalmology, Takatsuki Redcross Hospital

3752 — *B0299* **Intravital imaging reveals corneal limbal lymphangiogenesis after filtration surgery.** *Miao Zhang[1, 2], g. li[1], M. Shi[1], L. Chen[1].* [1]University of California, Berkeley; [2]Shenzhen Key Laboratory of Ophthalmology, Shenzhen Eye Hospital, School of Optometry, Shenzhen University

3753 — *B0300* **Rosiglitazone prevents fibrosis after glaucoma filtration surgery by promoting autophagy: in vitro and in vivo.** *Xuanchu Duan[1], F. Zhang[2].* [1]Glaucoma, Changsha Aier Hosspital, Aier School of Ophthalmology, Central South University; [2]Ophthalmology, The second xiangya hospital

3754 — *B0301* **The influence of macrophage depletion in mouse model of filtration surgery.** *miki onoue, Y. Asada, S. Iwamoto, T. Hirakata, A. Matsuda, K. ADACHI.* juntendo university of graduate school of medicine

3755 — *B0302* **Comparison of Incidence of Belpharoptosis Following Phacoemulsification, Trabeculectomy, Phaco-Trabeculectomy and Ahmed Glaucoma Valve.** *Naveed Nilforushan, A. Miraftabi, a. Eshaghi, s. Jafari.* Ophthalmology, Iran University Of Medical Sciences

3756 — *B0303* **Prospective Cohort Study of Risk Factors for Choroidal Detachment After Trabeculectomy.** *Hiroshi Kakimoto.* University of Fukui

3757 — *B0304* **Refractive outcomes for combined phacoemulsification and glaucoma drainage procedure.** *Rajvi Mehta[1], S. Tomatsu[2], D. Cao[2], A. Pleet[1], A. Mokhur[2], A. Aref[1], T. S. Vajaranant[1].* [1]Illinois Eye and Ear Infirmary; [2]Department of Ophthalmology and Visual Sciences, University of Illinois College of Medicine

3758 — *B0305* **Unplanned Return to Operating Room after Glaucoma Surgery.** *Nur Cardakli[1], D. S. Friedman[2].* [1]Johns Hopkins University School of Medicine; [2]Dana Center, Johns Hopkins Wilmer Eye Inst

3759 — *B0306* **Prospective evaluation of changes in extraocular motility and ocular deviation after Ahmed valve implantation.** *Katsunori Hara[1], K. Konishi[2], Y. Matsuzaki[2], M. Tanito[1, 2].* [1]Department of Ophthalmology, Shimane University faculty of Medicine; [2]Division of Ophthalmology, Matsue Red Cross Hospital

3760 — *B0307* **Comparative outcomes using the recently introduced Ahmed valve in Malta: single-surgeon series in a mixed glaucoma population with one year follow-up.** *James Vassallo, F. Carbonaro.* Mater Dei Hospital, Malta

3761 — *B0308* **Effect of Head Tilt on Tube Position of Glaucoma Drainage Implants.** *Chungkwon Yoo, J. Han, J. Park, Y. Kim.* Ophthalmology, Korea University College of Medicine

3762 — *B0309* **First-in-man clinical study on a novel glaucoma drainage implant for refractory glaucoma.** *Victor T. Koh[1, 2], C. M. Aquino[1], P. Chew[1, 2], K. Barton[3].* [1]Ophthalmology, National University Hospital; [2]National University of Singapore; [3]Moorfields Eye Hospital **CR*

3763 — *B0310* **Diameter of Intraluminal Stent for Use with the Baerveldt Glaucoma Implant: A Laboratory Study.** *Alexander Schneider[1], M. DiSclafani[1], D. Richards[2].* [1]Ophthalmology, University of South Florida; [2]Physics, University of South Florida

3764 — *B0311* **Autologous partial-thickness scleral flap and donor corneal graft in management of tube erosion of glaucoma drainage device.** *Xiongfei Liu, S. K. Law.* Stein Eye Institute UCLA

3765 — *B0312* **Outcomes of Micropulse Transscleral Cyclophotocoagulation in a Hispanic Population.** *Logan Vincent, A. Kheirkhah, B. Planchard, C. Waldman.* Ophthalmology, UT Health San Antonio

3766 — *B0313* **A combined surgical approach to neovascular glaucoma: one-year follow up.** *Piotr Strzalkowski[1], A. Strzalkowska[1], D. Hommes[1], A. Rosentreter[1, 2], W. Goebel[1], T. Ach[1], J. Hillenkamp[1].* [1]Ophthalmology, University Hospital Wuerzburg; [2]HELIOS Klinikum Wuppertal - University of Witten/Herdecke **CR*

3767 — *B0314* **The effect of Ultrasound Cycloplasty (UCP) using High Intensity Focused Ultrasound (HiFU) on aqueous humour dynamics: a one year follow up.** *Arij Daas, A. Mahesh Nagar, P. Alaghband, E. Galvis, A. De Antonio Ramiez, K. Lim.* Ophthalmology, St Thomas Hospital

West Exhibition Hall B0315-B0354

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Glaucoma

365 Pharmacologic Interventions and Cellular Mechanisms

Moderators: Robert Ritch and Naj Sharif

3768 — *B0315* **ITRI-E-247, a novel selective Rho-associated kinase inhibitor, characterized with the potent intraocular pressure lowering effect and less conjunctival hyperemia.** *Chiamu Tu, C. Liu, C. Chen, Y. Tsai, C. Hwang, C. Hung, Y. Chen, T. Hu, S. Chou, S. Chen.* Biomedical Technology and Device Research Laboratories, INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE

3769 — *B0316* **HL3501, a novel selective adenosine A3 receptor (A3AR) antagonist, produces IOP lowering in glaucoma models using New Zealand White (NZW) rabbits and C57BL/6 mice.** *Yunhee Kim[1], H. Kwon[1], I. Yang[1], S. Kim[1], D. Kim[1], J. Yang[2], J. Kim[2].* [1]Handok; [2]T2B Infrastructure Center for Ocular Disease

3770 — *B0317* **NCX 1741, a novel NO-donating derivative of the phosphodiesterase-5 inhibitor avanafil, reduces IOP in models of ocular hypertension and glaucoma.** *Francesco Impagnatiello[1], E. Bastia[1], C. B. Toris[2, 3], S. Fan[2], S. Brambilla[1], C. Galli[1], N. Almirante[1], M. V. Bergamini[4, 5].* [1]Nicox Research Institute; [2]University of Nebraska Medical Center; [3]Case Western Reserve University; [4]Nicox Ophthalmics, Inc.; [5]Nicox Ophthalmics, Inc., **CR*

3771 — *B0318* **Intravitreal injection of NPR1 antibody in humanized NPR1 mice lowers intraocular pressure.** *Ming Yuan, H. Yang, G. Patel, A. Latuszek, Y. Hu, W. Poueymirou, J. Cao, W. Olson, B. Zambrowicz, C. Romano.* Regeneron **CR*

3772 — *B0319* **Pharmacologic and safety profile of the ocular hypotensive agent cromakalim prodrug 1 (CKLP1), a novel ATP-sensitive potassium channel opener.** *Michael P. Fautsch[1], R. Kudgus[2], T. Rinkoski[1], C. Hann[1], C. Bahler[1], B. Holman[1], J. Reid[2], P. Dosa[3], U. Roy Chowdhury[1].* [1]Ophthalmology, Mayo Clinic; [2]Oncology, Mayo Clinic; [3]Institute for Therapeutics Discovery and Development, Department of Medicinal Chemistry, University of Minnesota

3773 — *B0320* **Transgenic mice expressing Transforming growth factor-β2 increased intraocular pressure.** *Tomoka Uemura, O. Sakai, Y. Sakamoto.* Senju pharmaceutical **CR*

3774 — *B0321* **Pretreatment with Intraocular Pressure-Lowering Medication and Glaucoma Progression in Patients Receiving Intravitreal Anti-VEGF Therapy.** *Jeanette Du[1], J. T. Patrie[2], B. E. Prum[1], Y. Shildkrot[1].* [1]Ophthalmology, University of Virginia; [2]Public Health Sciences, University of Virginia

3775 — *B0322* **The Vitreous Allograft Model: A Paradigm for Induced Ocular Hypertension in Rabbits.** *Ahnul Ha, Y. Kim, Y. Kim, J. Jeoung, K. Park.* Ophthalmology, Seoul National University Hospital

3776 — *B0323* **Raised intraocular pressure following silicone oil pars-plana vitrectomy: Long-term follow-up from a tertiary UK unit.** *Fidan Jmor, J. Aslan, C. Lee, E. Agorogiannis, R. Cheeseman, A. Choudhary.* St Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool

3777 — *B0324* **Pharmacokinetics of OTX-TIC, a Sustained Release Travoprost Intracameral Implant in Rabbits.** *Charles D. Blizzard, A. Desai, J. Langh, N. Buff, J. Metzinger, M. H. Goldstein, A. Gelormini, A. Driscoll.* Ocular Therapeutix, Inc **CR*

3778 — *B0325* **Prostaglandin analogue and beta blocker combination treatment facilitates anti-fibrotic environment in trabecular meshwork of glaucoma patients by regulating SMAD-dependent signaling.** *Praveen Machiraju[1], S. Tejwani[2], A. Ghosh[1], S. Sethu[1], A. Ghosh[1].* [1]GROW Research Laboratory, Narayana Nethralaya Foundation; [2]Glaucoma services, Narayana Nethralaya

3779 — *B0326* **Intraocular pressure (IOP) lowering efficacy of Bimatoprost Sustained Release (BimSR) in dogs pretreated with selective laser trabeculoplasty (SLT).** *Corine Ghosn[1], M. Engles[1], L. Rajagopalan[1], S. Ugarte[1], S. Mistry[1], W. Orilla[2], G. Margot[3], M. R. Robinson[3], M. Dibas[1].* [1]Biological Sciences, Allergan, Inc; [2]Non clinical translational sciences, Allergan; [3]Clinical development, Allergan **CR*

3780 — *B0327* **Effects of Omidenepag Isopropyl, a Selective EP2 Receptor Agonist, on Iris Pigmentation.** *Yoshihiko Esaki[1], T. Taniguchi[1], R. Iwamura[2], K. Yoneda[2], N. Odani-Kawabata[3, 4], H. Mano[1], T. Matsugi[3], N. K. Shams[3, 4].* [1]Santen Pharmaceutical Co., Ltd.; [2]Ube Industries, Ltd.; [3]Santen Pharmaceutical Co., Ltd.; [4]Santen Inc**.** **CR*

3781 — *B0328* **Effects of Omidenepag, a Selective EP2 Receptor Agonist on Adipocyte Differentiation.** *Yasuko Yamamoto[1], T. Taniguchi[1], M. Ota[1], R. Iwamura[2], K. Yoneda[2], N. Odani-Kawabata[3, 4], T. Matsugi[3], N. K. Shams[3, 4].* [1]Santen Pharmaceutical Co., Ltd.; [2]Ube Industries, Ltd.; [3]Santen Pharmaceutical Co., Ltd.; [4]Santen, Inc**.** **CR*

3782 — *B0329* **Effect of latanoprostene bunod on nailfold capillary blood flow in patients with pigmentary glaucoma.** *Erica B. Jacobs[1], A. Najafi[1], L. R. Pasquale[1, 2], R. Ritch[1].* [1]Einhorn Clinical Research Institute, New York Eye and Ear Infirmary of Mount Sinai; [2]Icahn School of Medicine at Mount Sinai

3783 — *B0330* **Stanniocalcin-1, a downsteam effector molecule in latanoprost signaling, does not signal through the FP receptor for IOP reduction.** *Gavin Roddy, M. P. Fautsch.* Mayo Clinic

3784 — *B0331* **Safety and efficacy of topically administered netarsudil (Rhopressa™) in normal and glaucomatous dogs with *ADAMTS10*-open-angle glaucoma (*ADAMTS10*-OAG).** *Kelly A. Leary[1], K. Lin[1], J. P. Steibel[2, 3], C. Harman[1], A. M. Komaromy[1].* [1]Small Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University; [2]Animal Science, Michigan State University; [3]Fisheries & Wildlife, Michigan State Univeristy

3785 — *B0332* **Differential effects of orexin receptors-1 and 2 on IOP and ICP responses to hypothalamic activation**

. *Arthur DeCarlo[1], J. L. Henry[1], I. Caliman[2], R. Grytz[1], P. L. Johnson[2], B. C. Samuels[1].* [1]Ophthalmology, University of Alabama at Birmingham; [2]Stark Neurosciences Research Institute, Indiana School of Medicine **CR*

3786 — *B0333* **Melatonin and agomelatine improved effects on the IOP.** *Dario Rusciano[1], N. Pescosolido[2], S. Pezzino[1], R. Pignatello[3], R. Corsaro[3], M. Dal Monte[4], M. Cammalleri[4], P. Bagnoli[4].* [1]Scientific Department, Sooft Spa; [2]Ophthalmology, University Policlinic; [3]Drug Science, University of Catania; [4]University of Pisa

3787 — *B0334* **Assessing the Effects of Exogenous Cholesterol Metabolites on Human Optic Nerve Stiffness with Atomic Force Microscopy.** *Gurkaran S. Sarohia[1], W. M. Batchelor[2], E. D. Garza[2], N. DiStefano[2], N. M. Ziebarth[2], S. K. Bhattacharya[2].* [1]University of British Columbia; [2]University of Miami **CR*

3788 — *B0335* **Proteomic alterations supporting the altered bioenergetic profile of astroglia in glaucoma.** *Gulgun Tezel[1], X. Yang[1], J. Cai[2], M. Baris[1], J. B. Klein[2].* [1]Ophthalmology, Columbia University; [2]University of Louisville

3789 — *B0336* **Ceramide-induced Retinal Ganglion Cell Degeneration and Astrocyte Involvement.** *Jie Fan, J. Liu, C. E. Crosson.* Ophthalmology-Storm Eye Inst, Medical Univ of South Carolina

3790 — *B0337* **NLRP3 inflammasome contributes to retinal ganglion cell (RGC) death during glaucoma pathogenesis in DBA/2J mouse model.** *Siqi Li, J. Gao, J. Z. Cui, J. A. Matsubara.* Ophthalmology, University of British Columbia

3791 — *B0338* **Antioxidants protect against reactive astrocytosis-induced sensitization to oxidative stress.** *Anita K. Ghosh[1, 2], V. R. Rao[4, 2], E. B. Stubbs[2, 4], S. Kaja[3, 2].* [1]Ophthalmology and Molecular Pharmacology & Therapeutics, Graduate Program in Neuroscience, Loyola University Medical Center; [2]Research Service, Edward Hines Jr. VA Hospital; [3]Ophthalmology and Molecular Pharmacology & Therapeutics, Loyola University Chicago; [4]Ophthalmology, Loyola University Chicago **CR*

3792 — *B0339* **Effects of astroglia-targeted immunomodulation on altered bioenergetic profile in glaucoma.** *Xiangjun Yang[1], J. Cai[2], M. Baris[1], J. B. Klein[2], G. Tezel[1].* [1]Department of Ophthalmology, Columbia University; [2]University of Louisville

3793 — *B0340* **A newly formulated low-weight dextran sulphate, ILB, reduces inflammation and fibrosis in pre-clinical models of inflammation and scarring.** *Lisa J. Hill[1], H. Botfield[1], L. Bruce[2], A. Logan[1].* [1]Neurobiology, University of Birmingham; [2]TikoMed AB **CR*

3794 — *B0341* **To determine the level of compliance and the common obstacles to glaucoma medications in central London.** *Carolyn Ford[1], K. Lim[1], I. Rodrigues[1], T. Gale[1], J. Mehta[1], C. Phaw[1], P. Campbell[1, 2].* [1]Guys and St Thomas' Foundation Trust; [2]Division of Optometry and Visual Sciences, City, University of London

3795 — *B0342* **Modulation of outward K^+ currents in retinal ganglion cells mediated by activation of somatostatin receptor subtype 5.** *Na Wu.* Eye & ENT Hospital of Fudan University

3796 — *B0343* **The effects of selective laser trabeculoplasty (SLT) in normotensive beagle dogs.** *Michael Engles, C. Ghosn, S. Ugarte, S. Mistry, W. Orilla, G. Margot, M. Dibas, M. R. Robinson.* Allergan, plc **CR*

3797 — *B0344* **Effect of oral Lumega-Z on pericentral FDT function in IOP-stabilized severe glaucoma.** *RAFAEL GARCIA[1], W. E. Sponsel[2], M. Montelongo[1], S. Sullivan[3], A. Amin[3].* [1]School of Medicine, Universidad Autonoma de Guadalajara; [2]Visual Sciences/Biomedical Engineering, UIW/UTSA; [3]Ophtalmology, New York Medical College

3798 — *B0345* **Modulation of LOXL-1 for the treatment of exfoliation glaucoma.** *Andras Varadi, K. Petrukhin.* Ophthalmology, Columbia University

3799 — *B0346* **Trabecular meshwork fibrosis and PI3-kinase isoforms as drug targets.** *Sunil Parapuram, G. Subramanian, V. Arutla, S. Aniol, S. Gijidharan, D. Tingey, M. Motolko.* Ophthalmology, University of Western Ontario

3800 — *B0347* **TGF-β induces NOX4 and fibrotic genes in trabecular meshwork cells: role in glaucoma.** *Reinold K. Goetz[1, 2], M. Irnaten[1, 2], C. J. O'Brien[1, 2].* [1]Dept of Ophthalmology, Mater Misericordiae University Hospital; [2]School of Medicine and Medical Science, University College Dublin

3801 — *B0348* **TGFβ2 induces chronic endoplasmic reticulum stress in trabecular meshwork cells.** *Shruti Patil, R. Kasetti, G. Zode.* Department of Pharmacology and Neuroscience and the North Texas Eye Research Institute, University of North Texas Health Science Center

3802 — *B0349* **Preservative-free versus preserved monotherapy: an *in vivo* confocal, prospective, masked, 36 months study on glaucoma patients.** *Gemma c. Rossi[1], C. Lumini[1], A. m. Mirabile[1], E. Picasso[1], F. Bettio[1], A. Paviglianiti[1], G. Pasinetti[2].* [1]Eye Clinic, IRCCS Policlinico San Matteo Foundation; [2]beato palazzolo insitute ↗

3803 — *B0350* **Identification and Characterization of Glaucoma with Ocular Hypertension in a Colony of Aged Non-Human Primates.** *Chi-Wai Wong[1], L. Teng[1], W. Liu[1], X. Zhao[2], S. Li[2], M. Li[2], X. Liang[2], L. Lu[2], C. Jin[2], P. Rao[2], X. Liu[2], Y. Hu[2], J. Luo[3].* [1]HZ-Biosciences; [2]Zhongshan Ophthalmic Center; [3]NGM Biopharmaceuticals **CR*

3804 — *B0351* **Extended Delivery of Pirfenidone with Novel Soft Contact Lenses.** *Caiqing Wu[1], P. Or[2], J. Chong[2], X. Chen[1], C. Lee[2], I. Don[2], M. Yu[1], D. Lam[2], Y. Yang[1].* [1] Zhongshan Ophthalmic Center; [2]Department of Mechanical and Aerospace Engineering, The Hong Kong University of Science and Technology

3805 — *B0352* **Systemic Rho kinase inhibition via fasudil does not alter awake daytime intraocular pressure in rats.** *Katherine Delf, W. Cepurna, D. C. Lozano, E. Johnson, J. C. Morrison, S. Tehrani.* Oregon Health & Science University

3806 — *B0353* **Nonclinical development of NCX 470, a novel nitric oxide (NO)-donating,IOP lowering prostaglandin analog for glaucoma and ocular hypertension.** *Elena Bastia[1], N. Almirante[1], M. V. Bergamini[2, 3], T. Navratil[3], M. W. Modi[4], F. Impagnatiello[1].* [1]Nicox Research Institute; [2]Nicox Ophthalmic Inc.; [3]Nicox Ophthalmic Inc.; [4]MWM Consulting Group Inc **CR*

3807 — *B0354* **Stepwise and robust differentiation methods of functional retinal ganglion cells derived from human pluripotent stem cells.** *Jinkyu Park[1, 2].* [1]Department of Ophthalmology, Yonsei University Colleage of Medicine; [2]Department of Ophthalmology, Yonsei Univeristy Graduate School of Medicine

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West Exhibition Hall B0487-B0517

Tuesday, April 30, 2019 11:45 AM-1:30 PM

Cornea

366 Corneal Endothelium II

Moderators: Gary S. Peh and Takashi Miyai

3808 — *B0487* **Corneal endothelial cell density in normal tension glaucoma.** *Jeannie Xu[1], M. Desai[1, 2], B. Eliassi-Rad[1, 2], H. J. Lee[1, 2].* [1]Ophthalmology, Boston University; [2]Ophthalmology, Boston Medical Center

3809 — *B0488* **Effect Of Obstructive Sleep Apnea On Corneal Morphological Characteristics.** *Zivile Vieversyte[2, 1], A. Bojarun[2, 1], R. Jaruseviciene[2, 1], S. Galgauskas[2, 1], R. Zablockis[3, 1], R. Asoklis[2, 1].* [1]Vilnius University; [2]Centre of Eye Diseases, Clinic of Ear, Nose, Throat and Eye Diseases, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania; [3]Centre of Pulmonology and Allergology, Clinic of Chest Diseases, Immunology and Allergology, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

3810 — *B0489* **Long time findings at the Corneal Endothelium in Eyes After Cataract Surgery with Clear Cornea Incision (CCI).** *Sandra Z. Avila[1, 3], T. M. Schaefer[1, 2], R. Y. Hida[5], F. C. Abib[4].* [1]Anterior Segment, Centro de Cirurgia e Diagnose em Oftalmologia do Paraná - CDOP; [2]Cornea, Clinica Schaefer; [3]Anterior Segment, Clinica Lumina Oftalmo; [4]Cornea, Clinica de Olhos Dr Fernando Abib; [5]Anterior Segment, Universidade de Sao Paulo/Santa Casa de Sao Paulo

3811 — *B0490* **Endothelial cell density following corneal transplantation – an 18-year prospective study.** *Ali E. Ghareeb[1], S. Pradhan[2], M. S. Figueiredo[2], E. Curnow[4], J. Armitage[3], F. C. Figueiredo[2, 1].* [1]Institute of Genetic Medicine, Newcastle University; [2]Royal Victoria Infirmary; [3]Ocular, Tissue and Eye Services, NHS Blood and Transplant; [4]Clinical Trials Unit, NHS Blood and Transplant

3812 — *B0491* **Descemet's Membrane Endothelial Keratoplasty: Long-term development of color and contrast in Fuchs' endothelial corneal dystrophy patients.** *Tarek Bayyoud, H. Wilhelm, M. Zierhut, S. Thaler, K. Bartz-Schmidt.* Ophthalmology, University of Tuebingen

3813 — *B0492* **Risk factors associated with high endothelial cell density decrease after Descemet membrane endothelial keratoplasty.** *Korine v. Dijk[1, 2], S. Oellerich[1], H. Lisanne[1], S. Ni Dhubhghaill[1, 2], L. Baydoun[1], G. Melles[1, 2].* [1]Netherlands Institute for Innovative Ocular Surgery (NIIOS); [2]Melles Cornea Clinic

3814 — *B0493* **Accuracy of a deep learning approach for corneal endothelium biomarker estimation in ultrathin-DSAEK images.** *Juan P. Vigueras-Guillén[1, 2], J. van Rooij[3], H. G. Lemij[3], L. J. van Vliet[2], K. A. Vermeer[1].* [1]Rotterdam Ophthalmic Institute; [2]Imaging Physics, Delft University of Technology; [3]Rotterdam Eye Hospital

3815 — *B0494* **Effect of anterior chamber depth on long term endothelial cell density in patients with iris fixed phakic intraocular lenses.** *mehdi roozbahani[1], A. Eldanasoury[2], S. Tolees[2], C. Arana[2].* [1]Ophthalmology, University of Southern California, Roski Eye Institute; [2]Magrabi Eye Hospital

3816 — *B0495* **Preoperative cytokine levels in aqueous humor and prognosis of corneal transplantation in bullous keratopathy following glaucoma filtration surgery.** *Takefumi Yamaguchi, K. Higa, Y. Yagi-Yaguchi, D. Tomida, J. Shimazaki.* Ophthalmology, Tokyo Dental College **CR*

3817 — *B0496* **Adoption of pre-punched and pre-loaded DMEK processing increases the availability of donor corneas suitable for eye bank prepared DMEK grafts.** *Saira Prabhu[1], D. L. Kornberg[1], C. S. Sales[1], R. S. Williams[2], J. Clover[2], K. D. Tran[2].* [1]Ophthalmology, Weill Cornell Medicine; [2]VisionGift

3818 — *B0497* **Factors Associated With Eye Bank Descemet Membrane Endothelial Keratoplasty Processing Damage.** *Gabriel M. Rand[1], P. Gore[2], L. Forest-Smith[2], T. Livesay[2], R. S. Chuck[1].* [1]Montefiore Medical Center; [2]Saving Sight

3819 — *B0498* **Factors influencing the health and longevity of donor corneal endothelial cells.** *Munetoyo Toda[1], K. Kitazawa[2], M. Ueno[2], Y. Maruyama[2], A. Uehara[1], C. Sotozono[2], J. Hamuro[2], S. Kinoshita[1].* [1]Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine; [2]Ophthalmology, Kyoto Prefectural University of Medicine **CR*

3820 — *B0499* **The effect of cornea preservation time on Descemet membrane endothelial keratoplasty outcomes.** *Maria Elena Montpetit Gonzalez[1, 2], J. Choremis[1, 2], M. Mabon[1, 2], T. Boutin[1, 2], L. Mejdoub[1, 2], I. Brunette[1, 2], J. C. Talajic[1, 2].* [1]Ophthalmology - Cornea, Maisonneuve-Rosemont Hospital; [2]Ophthalmology, Université de Montréal **CR*

3821 — *B0500* **The Use of Micronanobubbles to Improve the Viability of Donor Corneal Tissue.** *Christina Kong[1], S. Condamoor[1], K. Xie[1], R. Sayadi[1], B. Johnson[2], A. Widgerow[1], M. Farid[1].* [1]University of California, Irvine; [2]University of California, Irvine

3822 — *B0501* **Differences in eye bank corneal endothelial cell density after storage in Optisol GS versus Life4°C solutions.** *Daniel J. Polla[1], G. M. Rand[1], P. Gore[2], L. Forest-Smith[2], T. Livesay[2], R. S. Chuck[1].* [1]Ophthalmology, Montefiore Medical Center, Albert Einstein College of Medicine; [2]Saving Sight

3823 — *B0502* **Metabolic Optimization of Endothelial Keratoplasty Graft Tissue with Coenzyme Q10.** *Jessica M. Skeie[1, 2], B. T. Aldrich[1, 2], A. E. Wilcox[1, 2], G. A. Schmidt[1, 2], C. R. Reed[1, 2], M. A. Greiner[1, 2].* [1]University of Iowa; [2]Iowa Lions Eye Bank

3824 — *B0503* **Efficacy of alpha-Melanocyte Stimulating Hormone (α-MSH) in Improving Corneal Endothelial Cell Viability and Allograft Survival in High-Risk Murine Corneal Transplantation.** *ZHONGMOU SUN, Z. Luznik, T. Nakao, A. Kheirkhah, U. V. Jurkunas, R. Dana.* Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, Harvard Medical School

3825 — *B0504* **Pretreatment of eye bank-stored human corneas with alpha-Melanocyte Stimulating Hormone attenuates corneal endothelial morphometric changes induced by acute oxidative stress.** *Zala Luznik, Z. SUN, J. Yin, A. Amouzegar, C. Jumelle, R. Dana.* Harvard medical school, The Schepens Eye Research Institute/Massachusetts Eye and Ear, Harvard Medical School

3826 — *B0505* **Corneal Active Storage Machine allows corneal graft delivery for up to 3 months.** *Thibaud GARCIN[4], A. Gauthier[1, 2], E. CROUZET[1], P. HERBEPIN[1], C. PERRACHE[1], G. Thuret[4, 3], P. Gain[4].* [1]Laboratory Biology Engineering and Imaging of Corneal Graft, University Jean Monnet; [2]Ophthalmology Department, University Hospital, Besançon; [3]Institut Universitaire de France; [4]Ophthalmology Department, University Hospital, Laboratory Biology Engineering and Imaging of Corneal Graft, Univ Jean Monnet **CR*

3827 — *B0506* **In vivo confocal microscopic observation in patients with Fuchs' endothelial corneal dystrophy based on severity grading using anterior segment optical coherence tomography.** *Honami Tanibuchi[1], Y. Oie[2], s. asonuma[2], R. Kobayashi[2], T. Nakao[2], T. Soma[2], S. Koh[2], K. Maruyama[2], S. Kawasaki[2], M. Tsujikawa[2], N. Maeda[2], K. Nishida[2].* [1]ophthalmology, Osaka Univesity hospital; [2]Ophthalmology, Osaka University Graduate School of Medicine

3828 — *B0507* **Clinical course analysis following cataract surgery in patients with Fuchs' endothelial corneal dystrophy using severity grading based on anterior segment optical coherence tomography.** *Yoshinori Oie, S. Komoto, R. Kawasaki, R. Kobayashi, T. Nakao, T. Soma, S. Koh, K. Maruyama, S. Kawasaki, M. Tsujikawa, N. Maeda, K. Nishida.* Ophthalmology, Osaka University Graduate School of Medicine

3829 — *B0508* **Association of Visual Disability and Corneal Optics in Fuchs Endothelial Corneal Dystrophy Patients before and after Endothelial Keratoplasty.** *Viviane Grewing, M. Fritz, D. Boehringer, T. Reinhard, K. Wacker.* University Hospital Freiburg, Eye Center, Albert-Ludwigs-University of Freiburg

3830 — *B0509* **Utilization of scanning acoustic microscopy (SAM) in quantifying the biomechanical variations in tissues with Fuchs endothelial dystrophy (FECD).** *Jean-Marc Perone[1], E. Ahmed Mohamed,[2], s. brand[3], M. Koegel[3], N. Declercq[2].* [1]ophthalmology department, Regional Hospital Center of Metz-Thionville, Mercy Hospital; [2]Laboratory for Ultrasonic Nondestructive Evaluation ''LUNE'', UMI Georgia Tech–CNRS 2958; [3]Center for Applied Microstructure Diagnostics CAM· Fraunhofer Institute for Microstructure of Materials and Systems IMWS,

3831 — *B0510* **Design and Evaluation of a Specular Microscope that incorporates the Scheimpflug Principle.** *Michihiro Takii, H. YOKOSUKA, H. NAKAMURA, M. Hanebuchi.* NIDEK

3832 — *B0511* **Prevalence of and risk factors for Fuchs endothelial corneal dystrophy (FECD).** *Sangita P. Patel[1, 2], B. Plotke[1], A. Sima[1], A. E. Millen[3].* [1]Ophthalmology, University at Buffalo; [2]Ophthalmology and Research Service, VA Western NY Healthcare System; [3]Epidemiology and Environmental Health, University at Buffalo

3833 — *B0512* **Baerveldt glaucoma drainage device reduces corneal endothelium cell density.** *Esma Islamaj, K. A. Vermeer, H. G. Lemij.* Glaucoma, ROI - Rotterdam Eye Hospital ↗

3834 — *B0513* **Endothelial cells loss after phakic intraocular lens implantation according to iris configuration using anterior segment OCT.** *MAYTHÉ ESTEPHANÍA CAMINO QUEZADA, L. Izquierdo, R. Zúñiga Iracheta, K. Ruiz-Montenegro Villa, C. Maldonado, m. rincon, M. A. Henriquez, J. Camargo Acuña.* Instituto OftalmoSalud

3835 — *B0514* **Randomized control trial on the effectiveness of collagen crosslinking on bullous keratopathy.** *Bonnie Nga Kwan Choy[1], J. Lai[1], C. Liu[2].* [1]Ophthalmology, The University of Hong Kong; [2]Hong Kong Polytechnic University ↗

3836 — *B0515* **New "Chameleon-like" Corneal Endothelial Image Pattern generated by Specular Microscope.** *Kenzo Tomishige[1], G. C Caiado[1], R. Holzchuh[1], I. Corso Teixeira[1], F. C. Abib[2], R. Y. Hida[3].* [1]Ophthalmology, Irmandade da Santa Casa de Misericórdia de São Paulo; [2]Universidade Federal do Paraná; [3]Universidade de São Paulo

3837 — *B0516* **Repeatability of the automated cell miscounting of corneal endothelial status generated by Non-contact Specular microscope in patients after cataract surgery.** *RAFAELA B. AMADE[2], J. V. Godinho[2], I. Corso Teixeira[2], F. C. Abib[1], P. A. Ottaiano[2], R. Y. Hida[3].* [1]Universidade Federal do Parana; [2]Santa Casa de São Paulo; [3]Universidade de São Paulo

3838 — *B0517* **Corneal edema in setting of routine cataract surgery and use of intracameral moxifloxacin.** *Hassan N. Tausif[1], R. Nyalakonda[2], C. Gupta[1].* [1]Ophthalmology, Beaumont Eye Institute; [2]Oakland University William Beaumont School of Medicine

ARVO Ballroom

Tuesday, April 30, 2019 1:45 PM-2:30 PM

367 Weisenfeld Award and Lecture

Rarely can we celebrate the elimination of a human disease, and there are few examples. Notably, of the diseases targeted for elimination by The World Health Organization two are leading causes of blindness worldwide. Research that identified who is at risk of the disease, created better diagnostic and program tools to guide and monitor interventions, and pushed programs to go "the last mile" to ensure elimination is the story of global partnerships. The lessons learned from vision scientists who contributed to the elimination efforts are invaluable as the focus turns to elimination for other eye diseases in the future.

— *1:45* **Introduction: Hugh Taylor**

— *1:50* **Towards the Elimination of Disease - Sheila West, PhD, FARVO**

East 8&15

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Retinal Cell Biology

368 Retinal Development

Moderators: Cheryl M. Craft and John D. Ash

3839 — *2:45* **Optic nerve head development in the embryonic mouse eye.** *Bernadett Bosze[1], B. S. Clark[2, 3], S. Blackshaw[3], N. L. Brown[1].* [1]Cell Biology and Human Anatomy, University of California Davis; [2]Ophthalmology and Visual Sciences, Washington University School of Medicine in St. Louis; [3]Neuroscience, Johns Hopkins University School of Medicine

3840 — *3:00* **Tbx3 is required for normal dorsal retina and retinal blood vessel formation.** *Andrea S. Viczian[1], A. Moon[2], M. Zuber[1].* [1]Ophthalmology, Upstate Medical University; [2]Geisinger Clinic, Weis Center for Research

3841 — *3:15* **Transcriptional regulation within the retinal progenitors that produce cones and horizontal cells.** *Nicolas Lonfat[1], S. Wang[3], C. Lee[1], P. Kalugin[1], J. Choi[1], P. Park[3], C. Cepko[1, 2].* [1]Departments of Genetics and Ophthalmology, Harvard Medical School; [2]Howard Hughes Medical Institute; [3]Department of Biomedical Informatics, Harvard Medical School

3842 — *3:30* **Nuclear Factor I Regulates Proliferation and Specification of Müller glial and Bipolar Cells.** *Clayton Santiago[1], T. Hoang[1], D. F. Espinoza[1], J. Wang[2], J. Qian[2], R. M. Gronostajski[4], B. Clark[1, 3], S. Blackshaw[1].* [1]Neuroscience, Johns Hopkins University School of Medicine; [2]Ophthalmology, Johns Hopkins University School of Medicine; [3]Ophthalmology, Washington University in St. Louis; [4]Biochemistry, University of Buffalo

3843 — *3:45* **Fbxl11 is indispensable for rod photoreceptor development.** *Masaya Fukushima[1, 2], T. Iwagawa[2], M. Aihara[1], S. Watanabe[2].* [1]Department of Ophthalmology, The University of Tokyo; [2]Division of Molecular and Developmental Biology, The Institute for Medical Science, the University of Tokyo

3844 — *4:00* **Embryonic hyperglycemia is linked to a reduction in photoreceptor cells and increase in oxidative stress in the retina.** *Kayla Titialii, A. C. Morris.* University of Kentucky

3845 — *4:15* **Endocrine regulation of multi-chromatic color vision.** *Robert Mackin, D. Mitchell, D. L. Stenkamp.* Biology, University of Idaho

East 11/12

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Retinal Cell Biology

369 RPE Biology in Health and Disease

Moderators: Aparna Lakkaraju and Olaf Strauss

3846 — *2:45* **Enhancement of RPE Characteristics and Anti-EMT by iPS Conditioned Medium.** *Yini Wang[1, 2], J. Gu[2, 1], Z. Cui[2], S. Tang[1, 2], J. Chen[1, 2].* [1]Aier School of Ophthalmology, Central South University; [2]Aier Eye Institute

3847 — *3:00* **Cooperative roles of NURR1 with RXR and LXR in retinal pigment epithelial (RPE) cells varies as a function of age and aged-related macular degeneration (AMD).** *Goldis Malek[1], P. Yao[2].* [1]Ophthalmology and Pathology, Duke University; [2]Ophthalmology, Duke University

3848 — *3:15* **Organelles of the human retinal pigment epithelium (RPE): morphological subtypes, regional differences, and total 488 nm autofluorescence (AF).** *Thomas Ach[1], C. Wobbe[1], R. Heintzmann[3, 4], J. Hillenkamp[1], C. Curcio[2], K. R. SLOAN[2], K. Bermond[1].* [1]Dept of Ophthalmology, University Hospital Wuerzburg; [2]Dept of Ophthalmology, University of Alabama at Birmingham; [3]Leibniz Institute of Photonic Technology; [4]Friedrich Schiller University Jena, Institute of Physical Chemistry **CR*

3849 — *3:30* **Dopaminergic control of constitutive exosome release from *in situ* RPE.** *Anna G. Figueroa[2], N. R. Congrove[2], Y. Liu[1], B. S. McKay[2].* [1]Cellular Biology and Anatomy, Augusta University; [2]Ophthalmology and Vision Science, University of Arizona

3850 — *3:45* **The Immune Response And Zebrafish Retinal Pigment Epithelium Regeneration.** *Lyndsay L. Leach[1], N. J. Hanovice[1], A. E. Gabriel[1], J. M. Gross[1, 2].* [1]Department of Ophthalmology, University of Pittsburgh School of Medicine; [2]Department of Developmental Biology, University of Pittsburgh School of Medicine **CR*

3851 — *4:00* **Secretion of FGF-2 by the Retinal Pigment Epithelium Contributes to Hyaluronan Deposition in Sorsby's Fundus Dystrophy.** *Alyson Wolk[1, 2], J. H. Qi[2], A. Cutler[2], M. Ali[2], B. A. Bell[2], V. Cali[3], H. Stoehr[4], R. Midura[3], V. Hascall[3], B. Anand-Apte[1, 2].* [1]Dept. of Molecular Medicine, Case Western Reserve University; [2]Dept. of Ophthalmic Research, Cleveland Clinic; [3]Dept. of Biomedical Engineering, Cleveland Clinic; [4]Institute of Human Genetics, University of Regensburg

3852 — *4:15* **Reduced serine synthesis in patient-derived retinal pigmented epithelium leads to localized lipid dysfunction in MacTel.** *Kevin Eade[1, 2], s. giles[1], S. Harkins-Perry[1], R. Fallon[1], M. Gantner[1, 2], m. baldini[4], M. Wallace[4], R. Allikmets[3], C. Metallo[4], M. Friedlander[1, 2].* [1]the Lowy Research Institute; [2]the scripps research institute; [3]Columbia University; [4]UCSD

East Ballroom A

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Immunology/Microbiology

370 Uveitis clinical epidemiology and therapeutics

Moderators: Nisha Acharya and Joke de Boer

3853 — *2:45* **Clinical patterns and visual outcomes of uveitis and its associated systemic diseases: a 10-year case series in China.** *Peizeng Yang[1, 6], Z. Zhong[1, 6], L. Du[1, 6], F. Li[2], H. Li[1, 6], K. Hu[1, 6], C. Wang[1, 6], Z. Ye[1, 6], J. Qi[1, 6], H. Dong[2], X. Li[2], Q. D. Nguyen[5], Y. Han[4], A. Kijlstra[3].* [1]The First Affiliated Hospital of Chongqing Medical University; [2]The First Affiliated Hospital of Zhengzhou University; [3]University Eye Clinic Maastricht; [4]Department of Ophthalmology, University of California, San Francisco; [5]Byers Eye Institute, Stanford University; [6]Chongqing Key Laboratory of Ophthalmology and Chongqing Eye Institute

3854 — *3:00* **Risk of Overall and Cancer Mortality After Immunosuppression of Patients with Non-infectious Ocular Inflammatory Diseases.** *John H. Kempen[1, 2], C. W. Newcomb[3], C. Foster[4, 5], D. A. Jabs[6, 7], G. Levy-Clarke[8, 9], J. T. Rosenbaum[10, 11], H. Sen[9], E. B. Suhler[12, 13], J. E. Thorne[14, 7], N. P. Bhatt[15], J. M. Buchanich[16].* [1]Department of Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School; [2]MCM Eye Unit; MyungSung Christian Medical Center and Medical College; [3]Biostatistics and Epidemiology, University of Pennsylvania Perelman School of Medicine; [4]Massachusetts Eye Research and Surgery Institute; [5]Ophthalmology, Harvard Medical School; [6]Ophthalmology and Medicine, Icahn School of Medicine at Mount Sinai; [7]Epidemiology, Johns Hopkins Bloomberg School of Public Health; [8]Clinical Research, Tampa Bay Uveitis Center; [9]Laboratory of Immunology, National Eye Institute, National Institutes of Health; [10]Devers Eye Institute; [11]Ophthalmology (Casey Eye Institute) and Medicine, Oregon Health & Sciences University; [12]Ophthalmology (Casey Eye Institute), Oregon Health & Sciences University; [13]Ophthalmology, Portland Veterans Affairs Medical Center; [14]Ophthalmology (Wilmer Eye Institute), Johns Hopkins School of Medicine; [15]Ophthalmology (Scheie Eye Institute), University of Pennsylvania Perelman School of Medicine; [16]Biostatistics, University of Pittsburgh **CR*

3855 — *3:15* **Drug Retention Rate of Adalimumab in Uveitis. Real-World Data from the Spanish Biotherapies in Uveitis (BioÚvea) Study Group.** *Victor Llorens[1], M. Cordero-Coma[2], A. Blanco-Esteban[3], H. Heras-Mulero[4], M. Losada-Castillo[5], V. Jovani-Casano[6], L. Martínez-Costa[7], M. Jodar-Marquez[8], Á. Garcia-Aparicio[9], A. Fonollosa-Calduch[10], C. Hernando-Hernandez[11], L. Rodriguez-Melian[12], M. Fernandez-Prada[13], M. Jerez-Fidalgo[14], M. Hernandez-Garfella[15], A. Adan[16].* [1]Clínic Institute of Ophthalmology (ICOF), Clínic Hospital of Barcelona; [2]Ophthalmology, Hospital de León; [3]Ophthalmology, Hospital Universitario de Donostia; [4]Ophtalmology/Rheumatology, Complejo Hospitalario de Navarra; [5]Ophtalmology/Rheumatology, Hospital Universitario de Tenerife; [6]Ophtalmology/Rheumatology, Hospital General Universitario de Alicante; [7]Ophthalmology, Hospital Universitari Dr. Peset; [8]Ophtalmology/Rheumatology, Hospital Regional de Málaga; [9]Rheumatology, Hospital Virgen de la Salud; [10]Ophthalmology, Hospital de Cruces; [11]Ophtalmology/Rheumatology, Hospital Universitario La Princesa; [12]Ophtalmology/Rheumatology, Hospital Insular de Gran Canaria; [13]Rheumatology, Hospital de Guadalajara; [14]Ophtalmology/Rheumatology, Hospital Perpetuo Socorro; [15]Ophthalmology, Hospital General de Valencia; [16]Clínic Institute of Ophthalmology (ICOF), Clínic Hospital of Barcelona **CR*

3856 — *3:30* **Evaluation of uveitic macular edema in the First-line Antimetabolites as Steroid-sparing Treatment (FAST) Trial.** *Edmund Tsui[1, 2], S. Rathinam[3], R. Thundikandy[3], A. Kanakath[4], S. Balamurugan[5], R. Vedhanayaki[3], L. L. Lim[6], E. B. Suhler[7], H. Aldhibi[8], J. A. Gonzales[1, 2], T. Doan[1, 2], J. Keenan[1, 2], C. Ebert[1], E. Kim[1], T. C. Porco[1, 2], N. Acharya[1, 2].* [1]F.I. Proctor Foundation, University of California, San Francisco; [2]Ophthalmology, University of California, San Francisco; [3]Uvea Services, Aravind Eye Hospitals and Postgraduate Institute of Ophthalmology; [4]Uvea Services, Aravind Eye Hospitals and Postgraduate Institute of Ophthalmology; [5]Uvea Services, Aravind Eye Hospitals and Postgraduate Institute of Ophthalmology; [6]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [7]Casey Eye Institute, Oregon Health and Science University; [8]Division of Vitreoretinal Surgery and Uveitis, King Khaled Eye Specialist Hospital ↗

3857 — *3:45* **Composite Endpoint Outcomes of the STOP-Uveitis Study: Evaluating the Safety, Tolerability, and Efficacy of Tocilizumab in Patients with Noninfectious Uveitis.** *Muhammad Hassan[1], M. S. Ormaechea[1, 2], M. A. Sadiq[3], G. Uludağ[1], S. Mahajan[1], M. Halim[1], K. Y. Al-Kirwi[1, 4], J. Bae[1, 5], R. Afridi[1], M. Hasanreisoglu[7, 1], C. Plaza[8, 1], M. A. Ibrahim[6], D. V. Do[1], Y. Sepah[1], Q. D. Nguyen[1].* [1]Byers Eye Institute; [2]Ophthalmology, Hospital Universitario Austral; [3]Ophthalmology, University of Louisville; [4]Ophthalmology, Imamein Khadhimein Medical City University Hospital; [5]Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine; [6]Ocular Imaging Research and Reading Center; [7]Ophthalmology, Ankara University, School of Medicine; [8]Ophthalmology, Hospital Universitario de León **CR*, ↗

3858 — *4:00* **Treatment of non-infectious uveitis that affects the posterior segment with a single intravitreal fluocinolone acetonide insert (FAi) – 3-year results.** *Glenn J. Jaffe.* Duke University Eye Center **CR*, ↗

3859 — *4:15* **Twenty-four month outcomes of inflammatory choroidal neovascularization treated with intravitreal anti vascular endothelial growth factors: a comparison between two treatment regimens.** *Alessandro Invernizzi[1, 2], F. Pichi[3], R. Symes[2], S. Zagora[2], V. Nguyen[2], S. Erba[1], A. Xhepa[1], L. De Simone[4], L. Cimino[4], M. C. Gillies[2], P. J. McCluskey[2].* [1]Eye Clinic, University of Milan; [2]Save Sight Institute, University of Sydney; [3]Cleveland Clinic; [4]Ocular Immunology Service, Azienda USL IRCCS **CR*

East Ballroom B

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Retina

371 DME Therapies and Outcomes

Moderators: Peter K. Kaiser and Noemi Lois

3860 — *2:45* **Dual inhibition of Ang-2 and VEGF-A with faricimab in diabetic macular edema: Evidence for increased durability from the BOULEVARD phase 2 trial.** *Timothy Y. Lai[1], J. Sahni[2], K. Basu[3], S. Scheidl[2], J. R. Willis[3], A. Osborne[3].* [1]Ophthalmology & Visual Sciences, Chinese University of Hong Kong; [2]Roche Pharma Research and Early Development, F. Hoffmann-La Roche Ltd; [3]Genentech, Inc **CR*, ↗

3861 — *3:00* **Subthreshold Micropulse Laser Treatment of Human Diabetic Macular Edema: the Role of Müller Cells, Retinal Pigment Epithelium and the Inflammatory Cascade.** *Edoardo Midena[1, 2], S. Bini[1], A. Micera[2], G. Esposito[2], L. Frizziero[2], R. Parrozzani[1], E. Pilotto[1].* [1]Ophthalmology, University of Padova; [2]IRCCS Bietti Foundation ↗

3862 — *3:15* **The DiMECat Trial: A Prospective, Randomised Clinical Trial Of Intravitreous Bevacizumab vs. Triamcinolone in Patients With Diabetic Macular Oedema At The Time Of Cataract Surgery – 12 Month Results.** *Lyndell L. Lim[1, 2], M. Constantinou[1], S. Rogers[1], S. S. Sandhu[1, 2], S. Wickremasinghe[1, 2], S. Qureshi[1, 2].* [1]Centre for Eye Research Australia, University of Melbourne; [2]Royal Victorian Eye and Ear Hospital **CR*, ↗

3863 — *3:30* **Disorganization of Retinal Inner Layers as a Biomarker in Patients with Diabetic Macular Edema Treated with Dexamethasone Implant.** *Dinah Zur[1, 2], M. Iglicki[3], A. Sala-Puigdollers[4], J. Chhablani[5], M. Lupidi[6], S. Fraser-Bell[13], T. S. Mendes[7, 8], V. Chaikitmongkol[9], Z. Cebeci[10], D. Dollberg[2], C. Busch[11], A. Invernizzi[12], Z. Habot-Wilner[1, 2], A. Loewenstein[1, 2].* [1]Ophthalmology, Tel Aviv Sourasky Medical Center; [2]Sackler Faculty of Medicine, Tel Aviv University; [3]University of Buenos Aires; [4]Institut Clínic d'Oftalmologia (ICOF), Hospital Clínic de Barcelona; [5]L.V.Prasad Eye Institute; [6]Department of Biomedical and Surgical Sciences, Section of Ophthalmology, University of Perugia; [7]RetinaPro Clinic; [8]Department of Ophthalmology, Federal University of Sao Paulo; [9]Retina Division, Department of Ophthalmology, Faculty of Medicine Chiang Mai University; [10]Istanbul Faculty of Medicine, Department of Ophthalmology, Istanbul University; [11]Department of Ophthalmology University of Leipzig; [12]Eye Clinic - Department of Biomedical and Clinical Science "L. Sacco", Luigi Sacco Hospital, University of Milan; [13]Department of Ophthalmology, Save Sight Institute, University of Sydney

3864 — *3:45* **Anatomical response to anti-vascular endothelial growth factor (anti-VEGF) in patients with diabetic macular edema (DME) and its potential "in vitro" prediction by using Induced Pluripotent Stem Cell (IPSC)-derived endothelial cells (ECs).** *Noemi Lois[1, 2], A. Margariti[1], M. Vila-Gonzalez[1], S. Stewart[2], G. Virgili[3], A. W. Stitt[1].* [1]Wellcome-Wolfson Institute for Experimental Medicine; [2]Ophthalmology, Belfast Health and Social Care Trust; [3]Ophthalmology, University of Florence

3865 — *4:00* **Outcomes of AVF treatment switch in DME patients in US clinical practice: Analysis of the AAO IRIS Database.** *Vanessa Shih[1], F. Lum[2], N. Holekamp[3], S. Kiss[4], B. Burugapalli[2], J. Campbell[1], C. C. Wykoff[5].* [1]Allergan plc; [2]American Academy of Ophthalmology; [3]Pepose Vision Institute; [4]Weill Cornell Medical College; [5]Retina Consultants of Houston **CR*

Tuesday Papers/ Minisymposia 2:45 pm – 4:30 pm

East Ballroom C

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Biochemistry/Molecular Biology

372 Retinal degeneration: molecular disease mechanisms

Moderators: Luminita I. Paraoan, Dusanka Deretic and Christian Grimm

3866 — *2:45* **A bioenergetic crisis in the retinal pigment epithelium contributes to photoreceptor degeneration.** *Weiyong Shen[1], A. Mathai[1], V. Pye[1], S. Lee[1], M. Yam[1], R. Zhang[1], L. Zhu[1], P. Seth[2], J. L. Dunaief[3], M. C. Gillies[1].* [1]Clin Ophthal & Eye Health, University of Sydney; [2]Beth Israel Deaconess Medical Center and Harvard Medical School; [3]F. M. Kirby Center for Molecular Ophthalmology, Scheie Eye Institute, University of Pennsylvania

3867 — *3:00* **RORα deficiency leads to aged-related retinal degeneration in mice.** *Chi-Hsiu Liu, Y. Sun, Z. Wang, S. Huang, W. Britton, S. Cho, A. Poblete, J. D. Akula, J. Chen.* Ophthalmology, Boston Children's Hospital

3868 — *3:15* **CIB2 is essential for autophagy in the retinal pigment epithelium and visual function.** *Zubair Ahmed[1], S. Sethna[1], P. A. Scott[2], A. P. Giese[1], T. Duncan[3], S. Riazuddin[4], T. M. Redmond[3], S. L. Bernstein[1], S. Riazuddin[1].* [1]University of Maryland Baltimore; [2]University of Louisville; [3]National Eye Institute; [4]Jinnah Hospital

3869 — *3:30* **Structure of a human Retinal Degeneration 3 (RD3) protein, a non-calcium sensor regulator of photoreceptor guanylyl cyclase.** *Alexander M. Dizhoor[1], I. V. Peshenko[1], Q. Yu[2], S. Lim[2], D. Cudia[2], J. Ames[2].* [1]Pennsylvania College of Optometry, Salus University; [2]Chemistry, University of California Davis

3870 — *3:45* **Factor H-Related Protein 4 (FHR-4) drives complement dysregulation in age-related macular degeneration.** *Valentina Cipriani[1, 2], L. Lorés de Motta[3], F. He[4], D. Fathalla[5], S. McHarg[4], N. Bayatti[4], I. Acar[3], C. C. Hoyng[3], S. Fauser[6, 7], A. Moore[2, 8], J. R. Yates[2, 9], P. Morgan[5], E. de Jong[3], A. I. Den Hollander[3, 10], P. N. Bishop[4, 11], S. J. Clark[4].* [1]Queen Mary University of London, William Harvey Heart Centre; [2]UCL Institute of Ophthalmology, University College London; [3]Department of Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical centre; [4]Division of Evolution and Genomic Sciences, School of Biological Sciences, Faculty of Biology Medicine and Health, University of Manchester; [5]Systems Immunity URI, Division of Infection and Immunity, School of Medicine, Cardiff University; [6]Department of Ophthalmology, University Hospital of Cologne; [7]Roche Pharma Research and Early Development, F. Hoffmann-La Roche Ltd; [8]Ophthalmology Department, University of California San Francisco; [9]Department of Medical Genetics, University of Cambridge; [10]Department of Human Genetics, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical centre; [11]Manchester Royal Eye Hospital, Manchester University NHS Foundation Trust, Manchester Academic Health Science Centre

3871 — *4:00* **Intraocular VEGF Deprivation Induces Inflammatory and Degenerative Response in Retina.** *Liu Yang.* Department of Ophthalmology, Shanghai First People's Hospital, Shanghai Jiao Tong University School of Medicine

3872 — *4:15* **Molecular modeling and global computational mutagenesis of ABCA4 protein show a role of missense changes in Stargardt's disease.** *Yuri V. Sergeev[1], K. Fujinami[2, 3], B. Falsini[4], W. M. Zein[1], K. Goetz[1], Y. Y. Fujinami[8], S. Woo[9], S. Li[11, 12], M. Bertelli[5], W. Lee[6], J. Zernant[6], R. Allikmets[6], A. Webster[3, 7], M. Michaelides[3, 7], B. P. Brooks[1], P. A. Sieving[10].* [1]OGVFB, National Eye Institute; [2]National Instiute of Sensory Organs; [3]UCL, Institute of Ophthalmology; [4]Universita Cattolica; [5]MAGI Euregio; [6]Columbia University; [7]Moorfields Eye Hospital; [8]National Instiute of Sensory Organs; [9]National University College of Medicine; [10]National Eye Institute; [11]Sothwest Eye Hospital, Third Military Medical University; [12]Key Lab of Visual Damage and Regeneration &Restoration of Chongqing

West 211

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Cornea

373 Corneal endothelium and Fuchs corneal dystrophy

Moderators: Keith H. Baratz, Ula V. Jurkunas and Takashi Miyai

3873 — *2:45* **Metabolic Reprogramming in Human and Mouse Corneal Endothelial Cells with Reduced Expression of SLC4A11.** *Wenlin Zhang, R. F. Frausto, A. J. Aldave.* Stein Eye Institute, UCLA

3874 — *3:00* **Diurnal corneal thickness variation in Fuchs Endothelial Corneal Dystrophy.** *Marianne Fritz, V. Grewing, D. Boehringer, P. Maier, T. Lapp, T. Reinhard, K. Wacker.* University Hopital Freiburg, Eye Center, Albert-Ludwigs-University of Freiburg

3875 — *3:15* **Trinucleotide Repeat Expansion Length as a Predictor of the Clinical Progression of Fuchs Endothelial Corneal Dystrophy.** *Viridiana Kocaba[7], Y. Soh[7, 1], G. Peh Swee[7, 2], H. M. Htoon[3], X. Gong[4], V. V. Mootha[4, 5], E. N. Vithana[2, 6], J. S. Mehta[7, 1].* [1]Singapore National Eye Centre; [2]Ophthalmology Academic Clinical Program, Duke-NUS Graduate Medical School; [3]Singapore Eye Research Institute; [4]Department of Ophthalmology, University of Texas Southwestern Medical Center; [5]McDermott Center for Human Growth and Development, University of Texas Southwestern Medical Center; [6]Ocular Genetics Research Group, Singapore Eye Research Institute; [7]Tissue and Stem Cell Group, Singapore Eye Research Institute

3876 — *3:30* **CTG Repeat Expansion in *TCF4* without Phenotypic Fuchs Dystrophy: a Genetic Analysis.** *Keith H. Baratz[1], M. P. Fautsch[1], R. A. Aleff[2], X. Tang[3], K. R. Kalari[3], S. V. Patel[1], L. J. Maguire[1], E. Wieben[2].* [1]Ophthalmology, Mayo Clinic; [2]Biochemistry and Molecular Biology, Mayo Clinic; [3]Biomedical Statistics and Informatics, Mayo Clinic

3877 — *3:45* **Drug discovery for the treatment of Fuchs corneal endothelial dystrophy by cell-based drug screening system.** *Risako Nakagawa[1], N. Okumura[1], T. Onishi[1], T. Oshima[1], E. Ueda[1], K. Watanabe[1], T. Tourtas[2], U. Schlotzer-Schrehardt[2], F. E. Kruse[2], N. Koizumi[1].* [1]Doshisha University; [2]University of Erlangen-Nürnberg **CR*

3878 — *4:00* **Feasibility of mTOR inhibitor for the treatment of Fuchs endothelial corneal dystrophy.** *Genta Nakayama[1], N. Okumura[1], T. Oshima[1], E. Ueda[1], K. Watanabe[1], T. Tourtas[2], U. Schlotzer-Schrehardt[2], F. E. Kruse[2], N. Koizumi[1].* [1]Doshisha University; [2]University of Erlangen-Nürnberg **CR*

Tuesday Papers/ Minisymposia 2:45 pm – 4:30 pm

3879 — *4:15* **Duplex RNAs and ss-siRNAs Block RNA Foci Associated with Fuchs' Corneal Endothelial Dystrophy.** *Vinod V. Mootha[2, 1], J. Hu[3, 4], X. Shen[3, 4], F. Rigo[5], T. Prakash[5], D. Corey[3, 4].* [1]Eugene McDermott Center for Human Growth and Development, Univ Texas Southwestern Medical Center; [2]Dept of Ophthalmology, Univ Texas Southwestern Medical Center; [3]Dept of Pharmacology, Univ Texas Southwestern Medical Center; [4]Dept of Biochemistry, Univ Texas Southwestern Medical Center; [5]Ionis Pharmaceuticals **CR*

West 212-214

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Visual Neuroscience

374 Ganglion cells and beyond

Moderators: Ming-fai Fong and Dennis M. Dacey

3880 — *2:45* **Multimodal classification of mouse retinal ganglion cell types.** *Megan L. Zipperer, M. J. Kravitz, B. Borghuis.* Anatomical Sciences and Neurobiology, University of Louisville

3881 — *3:00* **Investigating Preferential Activation of Rat Retinal Ganglion Cell Classes with Electrical Stimulation.** *Molis Yunzab[1, 2], A. Soto-Breceda[1, 3], M. Maturana[4], H. Meffin[1, 2], T. Kameneva[3, 5], A. Burkitt[3], M. Ibbotson[1, 2].* [1]National Vision Research Institute, Australian College of Optometry; [2]ARC Centre of Excellence for Integrative Brain Function, University of Melbourne; [3]Department of Biomedical Engineering, University of Melbourne; [4]St Vincent's Hospital Melbourne, University of Melbourne; [5]Engineering and Technology, Swinburne University of Technology

3882 — *3:15* **The spike initiation zone in mouse α Sustained RGCs scales with cell size.** *Vineeth Raghuram[3, 1], P. Werginz[2, 4], S. Fried[3, 2].* [1]Biomedical Engineering, Tufts University; [2]Neurosurgery, Mass General Hospital-Harvard Medical School; [3]Research, VA Boston Healthcare System; [4]Institute for Analysis and Scientific Computing, Vienna University of Technology

3883 — *3:30* ***In vivo* classification of macaque foveal ganglion cells through optical recording of responses to chromatic and luminance flicker.** *Tyler Godat[1, 2], J. E. McGregor[2], K. Parkins[2], W. H. Merigan[2, 3], D. R. Williams[1, 2].* [1]Institute of Optics, University of Rochester; [2]Center for Visual Science, University of Rochester; [3]Flaum Eye Institute, University of Rochester **CR*

3884 — *3:45* **The recursive bistratified ganglion cell type of the macaque monkey retina is ON-OFF direction selective.** *Peter B. Detwiler[1], J. Crook[2], O. Packer[2], F. Robinson[2, 3], D. M. Dacey[2, 3].* [1]Physiology & Biophysics, University of Washington; [2]Biological Structure, University of Washington; [3]National Primate Research Center

3885 — *4:00* **Blue-off Cells show Suppressed-by-Contrast Properties in Lateral Geniculate Nucleus of Anesthetized Marmosets.** *Paul R. Martin[1, 3], A. N. Pietersen[1, 3], N. Zeater[1, 3], C. D. Eiber[1, 3], S. G. Solomon[2, 3].* [1]Save Sight Institute, University of Sydney; [2]Experimental Psychology, University College London; [3]School of Medical Sciences, University of Sydney

3886 — *4:15* **Distinct requirements for layer 4 NMDA receptors in experience-dependent visual cortical plasticity.** *Ming-fai Fong[1], P. S. Finnie[1], T. Kim[1], A. Thomazeau[1, 5], E. S. Kaplan[1, 3], E. M. Esch[1, 4], S. F. Cooke[1, 2], M. F. Bear[1].* [1]Massachusetts Institute of Technology; [2]Maurice Wohl Institute for Clinical Neuroscience, King's College London; [3]Center for Integrative Brain Research, Seattle Children's Research Institute; [4]Neuroscience Program, Lafayette College; [5]Institut de Neurobiologie de la Méditerranée

West 217-219

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Cornea

375 Contact lens

Moderators: Berthold Seitz and Deborah S. Jacobs

3887 — *2:45* **Protein deposition on contact lenses: surface versus bulk.** *Simin Masoudi, M. Willcox.* Optometry and Vision Science, University of New South Wales **CR*

3888 — *3:00* **Friction and Pro-Inflammatory Cytokine Production in Corneal Epithelial Cell Models.** *W G. Sawyer[1], A. A. Pitenis[2], J. M. Uruena[1], S. Hart[1].* [1]Mechanical and Aerospace, University of Florida; [2]Materials, UC Santa Barbara

3889 — *3:15* **Structural and Functional Corneal Nerve Abnormalities suggest the Neurosensory Origin of Contact Lens Discomfort.** *Gabriela Dieckmann[1, 2], Y. Seyed-Razavi[1], N. Koseoglu[1, 2], A. Jamali[1], C. Chao[1], A. Akhlaq[1, 2], A. Sahin[1], S. Cox[1, 2], R. Nose[1, 2], P. Hamrah[1, 2].* [1]Center for Translational Ocular Immunology, Department of ophthalmology, Tufts Medical Center,Tufts Medical School,Tufts University School of Medicine; [2]Cornea Service,New England Eye Center, Department of Ophthalmology, Tufts Medical School,Tufts University School of Medicine **CR*

3890 — *3:30* **Frictional shear stresses *in vitro* can trigger apoptotic pathways in human corneal epithelial cells.** *Angela Pitenis[1], J. M. Uruena[2], S. Hart[2], P. P. Levings[3], W. G. Sawyer[2].* [1]Materials, University of California, Santa Barbara; [2]Mechanical and Aerospace Engineering, University of Florida; [3]Orthopaedics and Rehabilitation, University of Florida **CR*

3891 — *3:45* **UV protection of contact lenses under outdoor light environments: beach, snow and city.** *Emiliano Teran[1, 2], P. De Gracia[3], E. Romo-Garcia[4], J. Ortega[2].* [1]Optometry deparment, Autonomous University of Sinaloa; [2]Physics department, Autonomous University of Sinaloa; [3]Chicago College of Optometry, Midwestern University; [4]CIDOCS

3892 — *4:00* ***In vivo:* Effect of compliance in silver lens case contamination.** *Ananya Datta[2, 1], M. Willcox[1], F. Stapleton[1].* [1]School of Optometry and Vision Science, UNSW; [2]College of Optometry, University of Houston ↗

3893 — *4:15* **The effects of aspheric and concentric multifocal soft contact lenses on visual quality, vergence and accommodation function in young adult myopes.** *Katrina L. Schmid, K. Gifford, P. Chan, B. Christie, S. Crouther, O. Nahuysen, K. Sechenova, L. Sevil, M. Youssef, D. A. Atchison.* Queensland University of Technology **CR*

West 220

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Clinical/Epidemiologic Research

376 Myopia: Behavior and interventions

Moderators: Jeremy A. Guggenheim and Megan E. Collins

3894 — *2:45* **Evidence that emmetropization buffers against both genetic and environmental risk factors for myopia.** *Jeremy A. Guggenheim[1], A. Pozarickij[1], C. Williams[2].* [1]School of Optometry & Vision Sciences, Cardiff University; [2]Population Health Sciences, University of Bristol

3895 — *3:00* **Effect of Chinese Eye Exercises on Change in Visual Acuity and Eyeglasses Wear Among School-aged Children in Rural China.** *Matthew Boswell[1], H. Wang[1], C. Jan[2], y. qian[3], N. G. Congdon[4], S. Rozelle[1].* [1]Freeman Spogli Institute, Stanford University; [2]Peking University; [3]University of Southern California; [4]Queens University ↗

3896 — *3:15* **Comparison of children wearing eyeglasses and those not among students who failed school-based vision screening.** *Ahmed F. Shakarchi, X. Guo, A. M. Kretz, D. S. Friedman, M. X. Repka, M. E. Collins.* Ophthalmology, Johns Hopkins University School of Medicine **CR*

3897 — *3:30* **Comparison of myopia-related behaviors between rural and urban schoolchildren in China based on Cloudip™.** *Longbo Wen[1], W. Lan[1], Y. Cao[1], Q. Cheng[2], X. Li[4], Y. Wu[3], L. Li[2], H. Zhu[2], Z. Yang[1].* [1]Aier School of Ophthalmology, Central South University; [2]Beihang University; [3]Hangzhou Rejoin Technology Co., Ltd; [4]California NanoSystems Institute, Los Angeles, CA, United States ↗

Tuesday Papers/ Minisymposia 2:45 pm – 4:30 pm

3898 — *3:45* **Impact of Defocus Incorporated Multiple Segments (DIMS) spectacle lenses on Relative Peripheral Refraction (RPR): a 2-year randomized clinical trial.** *Han Yu Zhang, C. S. Lam, W. Tang, C. To.* Centre for Myopia Research, School of Optometry, The Hong Kong Polytechnic University **CR*, ↗

3899 — *4:00* **Combined atropine with orthokeratology in childhood myopia control (AOK) - A randomized controlled trial.** *Lap Ki Alex Ng[1, 2], Q. Tan[4], G. Cheng[3], V. Woo[2, 1], P. Cho[4].* [1]Ophthalmology, The University of Hong Kong; [2]Hong Kong Ophthalmic Associates; [3]Hong Kong Laser Eye Centre; [4]School of Optometry, Hong Kong Polytechnic University ↗

West 221/222

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Retina

377 Mechanisms and biomechanics of traumatic retinal hemorrhage in children - Minisymposium

Retinal hemorrhage is an important sign of abusive head trauma in infants, but much is unknown about the underlying biomechanical mechanisms and forces. Such knowledge is critical to accurately diagnosing child abuse. This mini-symposium will begin with a review of the clinical context and multidisciplinary biomechanical research approaches, then define fundamental questions in the field, review some of the work already done, identify key gaps in our understanding, and work in collaboration with the audience to map research priorities going forward.

Moderators: Donny W. Suh, Brittany Coats and Gil Binenbaum

3900 — *2:45* **Introduction.** *Donny W. Suh.* Department of Ophthlamology, University of Nebraska

3901 — *2:50* **A child abuse pediatrics perspective on retinal hemorrhage in children.** *Joanne N. Wood.* The Children's Hospital of Philadelphia

3902 — *3:05* **Retinal hemorrhage: Clinical importance and clinical research.** *Gil Binenbaum.* Children's Hospital of Philadelphia

3903 — *3:20* **Retinal hemorrhage: Science versus speculation.** *Alex V. Levin.* Ped-Ophthal & Ocular Genetics, Wills Eye Hospital

3904 — *3:35* **Translational medicine in abusive head trauma using computer simulation and animal models in 2018.** *Donny W. Suh[1, 2].* [1]Department of Ophthlamology, University of Nebraska; [2]Ophthalmology, Children's Hospital and Medical Center

3905 — *3:50* **Biomechanical approaches to understanding mechanisms of traumatic retinal hemorrhage.** *Brittany Coats.* Mechanical Engineering, University of Utah

— *4:05* **Panel Q&A and open discussion with the audience**

West 223/224

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Visual Psychophysics/Physiological Optics

378 Vision assessment and modeling in health, and with impairment

Moderators: Andrew Carkeet and MiYoung Kwon

3906 — *2:45* **What is the best test distance for the Pelli-Robson Chart?** *Angela M. Brown, S. M. Njeru, M. Osman.* Optometry, Ohio State University

3907 — *3:00* **The limits of perception of light by two-photon vision.** *Katarzyna Komar[1, 2], A. Zielinska[1], D. Ruminski[1], M. Marzejon[3, 4], P. Ciacka[3], L. Kornaszewski[3], S. Manzanera[5], P. Artal[5], M. Wojtkowski[3, 1].* [1]Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Torun; [2]Baltic Institute of Technology; [3]Institute of Physical Chemistry, Polish Academy of Sciences; [4]Faculty of Electronics, Telecommunications and Informatics, Gdansk University of Technology; [5]Laboratorio de Optica, University of Murcia **CR*

3908 — *3:15* **Unbiased Threshold Estimates in Bayesian Adaptive qCSF and qFC with Mismatched Psychometric Function Slopes.** *Zhong-Lin Lu[1], Y. Zhao[1], L. A. Lesmes[2], M. Dorr[3], P. Bex[4].* [1]Psychology, The Ohio State University; [2]Adaptive Sensory Technology, Inc; [3]Technical University of Munich; [4]Northeastern University **CR*

3909 — *3:30* **Contribution of retinal ganglion cell density to the non-uniform spatial integration across the visual field.** *MiYoung Kwon, R. Liu.* Department of Ophthalmology and Visual Sciences, University of Alabama at Birmingham

3910 — *3:45* **Signal Detection Theory (SDT)-based latent variable analysis of ultra-low vision measures with mixed chance levels.** *Gislin Dagnelie, D. Geruschat, R. W. Massof, C. Bradley.* Ophthal-Lions Vision Cntr, Johns Hopkins Univ

3911 — *4:00* **Impact of Headlight Glare on Pedestrian Detection while Driving with Unilateral Cataract.** *Eli Peli, S. Manda, R. Castle, A. D. Hwang.* Ophthalmology, Schepens Eye Res Inst, MEEI

3912 — *4:15* **How does age affect the contributions of head and eye movements to scanning at intersections?** *Steven Savage, L. Zhang, G. Swan, A. R. Bowers.* Schepens Eye Research Institute of Mass. Eye and Ear, Department of Ophthalmology, Harvard Medical School

ARVO Ballroom

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Glaucoma

379 Clinical Studies

Moderators: Brian McMillan and Yvonne M. Buys

3913 — *2:45* **Effect of Body Position on IOP, Intracranial Pressure and the Translaminar Pressure Difference Measured with Continuous Wireless Telemetry in Nonhuman Primates.** *Jessica V. Jasien[1], B. C. Samuels[1], J. M. Johnston[2], J. C. Downs[1].* [1]Ophthalmology, University of Alabama at Birmingham; [2]Neurosurgery, University of Alabama at Birmingham

3914 — *3:00* **Meditation induces changes in trabecular meshwork gene expression in patients with primary open angle glaucoma.** *Tanuj Dada[1], N. Bhai[1], M. gagrani[1], M. Kumar[2], P. Chaurasia[2], M. Faiq[1], K. Mohanty[1], T. Sidhu[1], S. Gupta[1], D. Angmo[1], R. Sihota[1], R. Yadav[3], R. Dada[2].* [1]Dr. Rajendra prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences; [2]Laboratory for Molecular Reproduction and Genetics, Department of Anatomy, All India Institute of Medical Sciences; [3]Integrated health Clinic, Department of Physiology, All India Institute of Medical Sciences ↗

3915 — *3:15* **Combining 24-2 and 10-2 visual field tests can improve power and lessen time to detect progression in clinical trials.** *C Gustavo De Moraes[1], J. M. Liebmann[1], N. Bommakanti[1], D. Blumberg[1], L. Al-Aswad[1], G. Cioffi[1], R. Ritch[2], D. C. Hood[1].* [1]Columbia University Medical Center; [2]NY Eye and Ear Infirmary **CR*, ↗

3916 — *3:30* **Does intraocular pressure reduction prevent visual field progression in patients with disc haemorrhages?** *Jibran Mohamed-Noriega[1, 2], H. Jayaram[1], B. Ning[1], D. Kamal[1], N. Strouthidis[1], D. F. Garway-Heath[1].* [1]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]Ophthalmology, Autonomous University of Nuevo Leon (UANL) **CR*, ↗

3917 — *3:45* **Comparison of Intraocular Pressure Measurement Variability with Goldmann and iCare Tonometry.** *Brian McMillan[1], E. DeVience[1], R. L. Gross[2], J. Ramadan[1], B. K. Goundappa[3], T. Realini[1].* [1]West Virginia Univerisity Eye Institute, West Virginia University; [2]Southern Eye Group of Alabama; [3]Department of Epidemiology, Graduate School of Public Health, University of Pittsburgh

3918 — *4:00* **A Pilot Study of a Smartphone-Based Tonometer.** *Joanne C. Wen, I. Luttrell, P. P. Chen, S. Feng, T. Spaide, y. wu, A. Y. Lee.* Ophthalmology, University of Washington

3919 — *4:15* **Adherence to World Glaucoma Association Guidelines for Surgical Trials in the Era of Microinvasive Glaucoma Surgeries.** *Yvonne M. Buys, D. J. Mathew, B. R. McKay, A. Basilious, A. Belkin, G. E. Trope.* Ophthalmology & Vision Sciences, University of Toronto

Harbour Ballroom

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Glaucoma

380 Structure-Function Relationships

Moderators: Michael Sullivan-Mee and Mitchell W. Dul

3920 — *2:45* **Longitudinal Structure-Function (SF) Relationships in The Macula.** *vahid mohammadzadeh[1], A. Rabiolo[1], N. Amini[2], E. Morales[1], S. Henry[1], A. L. Coleman[1], S. K. Law[1], J. Caprioli[1], K. Nouri-Mahdavi[1].* [1]Stein Eye Institute, UCLA; [2]Department of Computer Science, California State University

3921 — *3:00* **Peripapillary RNFL loss precedes Macular GCIPL loss in glaucoma with lower intraocular pressure.** *Henry N. Marshall[1], N. H. Andrew[1], E. Souzeau[1], B. Ridge[1], J. Fitzgerald[1], M. Awadalla[1], K. P. Burdon[2], P. Healey[3], A. Agar[4], A. Galanopoulos[5], A. W. Hewitt[2], S. Graham[6], J. Landers[1], R. J. Casson[5], J. E. Craig[1].* [1]Department of Ophthalmology, Flinders University; [2]University of Tasmania; [3]Discipline of Ophthalmology, University of Sydney; [4]University of New South Wales; [5]Discipline of Ophthalmology & Visual Sciences, University of Adelaide; [6]Faculty of Medicine and Health Sciences, Macquarie University

3922 — *3:15* **Effects of fundus tracking on structure-function relationship in glaucoma.** *Giovanni Montesano[1, 3], L. M. Rossetti[3], P. Fogagnolo[3], F. Oddone[4], P. Lanzetta[5], A. Perdicchi[6], C. A. Johnson[7], D. F. Garway-Heath[2], D. P. Crabb[1].* [1]Optometry and Visual Sciences, City, University London; [2]NIHR Biomedical Research Centre, Moorfields Eye Hospital; [3]Eye Clinic, University of Milan; [4]Glaucoma unit, IRCCS GB Bietti Eye Foundation; [5]Department of Ophthalmology, University of Udine; [6]Azienda ospedaliera Sant'Andrea; [7]Ophthal & Visual Sciences, University of Iowa **CR*

3923 — *3:30* **Constructing an OCT parameter to maximize correspondence with visual field mean deviation.** *Ou Tan, L. Liu, X. Zhang, D. Huang.* Ophthalmology, Oregon Health & Science Univ **CR*, ↗

3924 — *3:45* **A hybrid machine learning model to detect glaucoma using retinal nerve fiber layer thickness measurements.** *Mohammad Norouzifard[1], A. Nemati[2], R. Klette[1], H. GholamHosseini[1], K. Nouri-Mahdavi[3], S. Yousefi[4].* [1]EEE, AUT; [2]School of Engineering and Technology, University of Washington,; [3]Department of Ophthalmology, University of California Los Angeles; [4]University of Tennessee Health Science Center, Department of Ophthalmolog

3925 — *4:00* **Widespread Structural and Functional Brain Connectivity Changes and Associations with Balance in Glaucoma.** *Ji Won Bang[1], V. Trivedi[1], C. Parra[1], M. Colbert[1], C. O'Connel[2, 5], M. A. Faiq[1], I. Conner[2, 3], M. Redfern[2], G. Wollstein[1], J. S. Schuman[1], R. Cham[2, 3], K. C. Chan[1, 4].* [1]Department of Ophthalmology, New York University School of Medicine; [2]Department of Bioengineering, University of Pittsburgh; [3]Department of Ophthalmology, University of Pittsburgh; [4]Department of Radiology, New York University School of Medicine; [5]Department of Kinesiology, East Carolina University **CR*

3926 — *4:15* **Handheld Chromatic Pupillometry for Earlier Detection of Functional Loss in Glaucoma.** *Raymond Najjar[1, 2], A. Rukmini[1, 3], P. Chougule[1], P. Teikari[1], S. Perera[1, 2], B. Mani[1, 2], M. E. Nongpiur[1, 2], T. Aung[1, 2], D. Milea[1, 2].* [1]Singapore Eye Research Institute / Singapore National Eye Center; [2]Ophthalmology and Visual Sciences ACP, Duke-NUS; [3]Neuroscience & Behavioural Disorders Programme, Duke-NUS **CR*

West Exhibition Hall A0067-A0082

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Retina

381 Retina/RPE transplantation and Stem Cell

Moderator: Petr Y. Baranov

3927 — *A0067* **Low immunogenicity and immunosuppressive property of human ES/iPS cells derived neural retina.** *Suguru Yamasaki[1, 2], S. Sugita[2], M. Horiuchi[1, 2], a. kuwahara[1], A. Kishino[1], T. Kimura[1], M. Takahashi[2], M. Mandai[2].* [1]Dainippon Sumitomo Pharma; [2]Lab for Retinal Regeneration, Riken **CR*

3928 — *A0068* **Effect of ambient light and BDNF on photoreceptor synaptogenesis after mouse ESC/iPSC-derived retinal organoid transplantation.** *Ryutaro Akiba[1, 3], T. Matsuyama[1], H. Tu[1], T. Hashiguchi[1], S. Junki[1], S. Yamamoto[3], Y. Tabata[2], M. Takahashi[1], M. Mandai[1].* [1]Laboratory for Retinal Regeneration, Center for Biosystems Dynamics, Riken; [2]Department of Regeneration Science and Engineering Laboratory of Biomataterials, Kyoto University; [3]Ophthalmology and Visual Science, Chiba University Graduate School of Medicine

3929 — *A0069* **Functional examination of genetically engineered human ESC-retinas transplanted in an immunodeficient rat model with retinal degeneration.** *Hung-Ya Tu[1], S. Yamasaki[1, 2], a. kuwahara[2], A. Kishino[2], T. Kimura[2], M. Takahashi[1], M. Mandai[1].* [1]Center for Biosystems Dynamics Research, RIKEN; [2]Sumitomo Dainippon Pharma Co., Ltd. **CR*

3930 — *A0070* **Survival and maturation of iPSC derived retina after transplantation in MHC matched and mismatched nonhuman primate.** *Hirofumi Uyama[3], S. Yamasaki[1], Y. Kurimoto[2, 3], M. Takahashi[3], S. Sugita[3], M. Mandai[3].* [1]Regenerative & Cellular Medicine Office, Dainippon Sumitomo Pharma; [2]Dept of ophthalmology, Kobe City Eye Hospital; [3]Retinal Regeneration, RIKEN BDR developmental biology **CR*

3931 — *A0071* **Safety of autologous bone marrow mesenchymal stem cells subretinal transplantation in diabetic retinopathy patients.** *Yong Liu, Q. Liang, Z. Yin.* Dept of Ophthalmology, Southwest Hospital ↗

3932 — *A0072* **Development of Hyaluronic Acid Based Scaffolds to Maintain Stemness in Human Dental Pulp Stem Cell Toward Ocular Regeneration.** *Tao L. Lowe[1], K. K. Niloy[1], M. Gulfam[1], D. Li[2], G. T. Huang[2].* [1]Pharmaceutical Sciences, Univ of Tennessee Health Science Ctr; [2]Department of Bioscience Research, University of Tennessee Health Science Center

3933 — *A0073* **HLA 6 loci matched allogeneic iPS cells derived retinal pigment epithelial cells (iPSC-RPE) transplantation.** *Masayo Takahashi[1, 2], S. Sugita[1, 2], M. Mandai[1, 2], Y. HIrami[2], S. Takagi[2], M. Yamamoto[2], N. Koide[1, 2], H. Sakaguchi[3], K. Maruyama[3], K. Nishida[3], S. Yamanaka[4], Y. Kurimoto[2].* [1]Laboratory for Retinal Regeneration, Ctr for BIosystems Dynamics Research, RIKEN; [2]Kobe Eye Center; [3]Ophthalmology, Osaka University Hospital; [4]CiRA, Kyoto University **CR*, ↗

3934 — *A0074* **Learning curve of a trained vitreo-retinal surgeon in sub-retinal injections in a rat model: Implications for future clinical trials.** *Vivek Dave[1, 4], P. Susaimanickam[2], I. A. Mir[3], I. Mariappan[2], S. Maddileti[2], S. Basu[4], R. R. Pappuru[1], S. Jalali[1], T. Das[1].* [1]Vitreoretina, LV Prasad Eye Institute; [2]Sudhakar and Shreekanth Ravi Stem Cell Biology laboratory, Prof. Brien Holden Eye Research Center, LV Prasad Eye Institute; [3]National Center for Laboratory animal sciences, National Institute of Nutrition; [4]Center for Ocular Regeneration, LV Prasad Eye Institute

3935 — *A0075* **Lack Of Vertical Stability Results In Epitelial-Mesenchymal Transition Of The IPS-Derived Retinal Pigment Epithelial Cell.** *Qun Zeng, Y. Li, E. Karahan, S. H. Tsang, T. H. Tezel.* Ophthalmology, Columbia University

3936 — *A0076* **An optimized viscous thermosensitive liquid facilitates subretinal delivery of a nanofibrous scaffold for RPE transplantation.** *Zengping Liu[1], W. Wu[2], X. Loh[3], G. Lingam[1, 4], X. Su[1, 5].* [1]Ophthalmology, National University of Singapore; [2]Brain research center and state key laboratory of trauma, Burns and combined injury, Third Military Medical University (Army medical University); [3]Institute of Materials Research and Engineering (IMRE), A*Star (Agency for Science, Technology and Research); [4]Department of Ophthalmology, National University Hospital; [5]Institute of Molecular and Cell Biology (IMCB), A*Star (Agency for Science, Technology and Research)

3937 — *A0077* **Cultivation and characterisation of primary retinal pigment epithelium cells on nanofibre scaffolds.** *Peter Heiduschka[1], J. A. Zimmermann[1], T. Plagemann[1], P. Stafiej[2], M. Himmler[3], T. A. Fuchsluger[4], N. Eter[1].* [1]Univ Eye Hosp Muenster; [2]Dept. Ophthalmology; [3]Institute of Polymer Materials, University of Nuremberg-Erlangen; [4]Ophthalmology, University Hospital Heidelberg

3938 — *A0078* **Treatment of Macular Degeneration Using Human Somatic Cell Nuclear Transfer Embryonic Stem cell Derived Retinal Pigment Epithelium: 1-Year Results in an Asian Patient.** *Youngje Sung[3], D. Lee[1], S. shim[1], S. Chong[4], S. Choi[2], W. Song[3].* [1]Biomedical Science, College of Life Science, CHA University; [2]Health Sciences and Technology, Samsung Advanced Institute for Health Sciences & Technology; [3]Ophthalmology, Bundang CHA medical center; [4]Hematology-Oncology, Bundang CHA medical center ↗

3939 — *A0079* **Investigation of material exchange after retinal cell transplantation.** *Chen Liang, J. Zhang.* WestChina Hospital, Sichuan University

3940 — *A0080* **Early phase clinical trial of human embryonic stem cell-derived retinal pigmented epithelium transplantation in Stargardt disease: 5-year results.** *Manjit Singh S. Mehat[1, 2], J. W. Bainbridge[1, 2].* [1]UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital ↗

3941 — *A0081* **Surgical Placement and Degradation of Fibrin Scaffolds within the Subretinal Space of a Porcine Eye.** *Jarel K. Gandhi, F. Mano, S. LoBue, T. W. Olsen, R. Iezzi, J. S. Pulido, A. D. Marmorstein.* Ophthalmology, Mayo Clinic

3942 — *A0082* **A Pilot Study to Evaluate Surgical Implantation of a Protein-Based Artificial Retina in a Rodent.** *Nicole Wagner[1], J. Greco[1], D. Culp[2], J. Prater[2], B. Gilger[2, 3].* [1]LambdaVision; [2]Powered Research; [3]North Carolina State University **CR*

West Exhibition Hall A0442-A0475

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Clinical/Epidemiologic Research

382 Retinal disease epidemiology

Moderators: Roomasa Channa and Ferhina Ali

3943 — *A0442* **Gender differences in presentation, treatment patterns, and clinical outcomes in central retinal vein occlusion.** *Delaram Mirzania[2], A. S. Thomas[3], S. S. Stinnett[1], S. Fekrat[4].* [1]Department of Biostatistics and Bioinformatics, Duke University Medical Center; [2]Duke University School of Medicine; [3]Tennessee Retina; [4]Department of Ophthalmology, Duke Unviersity Medical Center **CR*

3944 — *A0443* **Asteroid Hyalosis in United States Adults.** *Rebecca M. Sieburth[1], M. Qiu[2], S. Mallikarjun[3], Y. Shildkrot[1].* [1]Department of Ophthalmology, University of Virginia; [2]Cole Eye Institute, Cleveland Clinic; [3]McIntire School of Commerce, University of Virginia

3945 — *A0444* **Using retinal structural measurements derived from optical coherence tomography as clinical endpoints for Stargardt disease - reproducibility assessment and lessons learned from the ProgStar study.** *Xiangrong Kong[1], A. Ho[2], B. Munoz[1], S. K. West[1], R. W. Strauss[3, 7], A. Jha[2], A. M. Ervin[1], J. Cheetham[4], M. S. Ip[2], H. P. Scholl[5, 6].* [1]Johns Hopkins University; [2]Doheny Image Reading Center; [3]Moorfields Eye Hospital; [4]Foundation Fighting Blindness; [5]University of Basel; [6]Institute of Molecular and Clinical Ophthalmology Basel (IOB); [7]Johannes Kepler University Clinic Linz **CR*, ↗

Tuesday Posters
2:45 pm – 4:30 pm

3946 — *A0445* **Association between Oral Health Levels and Diabetic Retinopathy in a Representative Korean Population.** *Jaeyoun Seol[1], S. Chung[2].* [1]Department of Dental Hygiene, Dong-Pusan University; [2]Ophthalmology, Saevit Eye Hospital

3947 — *A0446* **Community Income Level and Weather as Barriers to Care in a Resident Intravitreal Injection Clinic.** *Brett Malbin, H. Chahrour, X. Lin.* Kresge Eye Institute

3948 — *A0447* **Monocular Status and Protective Eyewear Use Among Patients in a University Retina Practice.** *Frances Wu, S. Ramanathan.* Ophthalmology, UCSF

3949 — *A0448* **Association of diagnosis code-based and laboratory results-based kidney disease with development of vision threatening diabetic retinopathy.** *Yinxi Yu, B. L. VanderBeek, G. Ying, M. G. Maguire.* University of Pennsylvania

3950 — *A0449* **SD-OCT hyper-reflectivity in type 2 idiopathic macular telangiectasia.** *Traci E. Clemons[1], E. Y. Chew[2], G. J. Jaffe[3], T. Peto[4], S. Duwel[1].* [1]The Emmes Corporation; [2]National Institutes of Health; [3]Duke University Eye Center; [4]Queen's University Belfast ↗

3951 — *A0450* **Prevalence and severity of macular holes in an ageing population from Northern Ireland.** *catherine Jamison, N. B. Quinn, U. Chakravarthy, T. Peto, F. Kee, I. Young, B. McGuinness, R. Hogg.* Centre for Public Health, Queen's University Belfast

3952 — *A0451* **Acute Retinal Necrosis: Which has a worse prognosis - Herpes Simplex or Varicella Zoster?** *Vincent Nguyen, B. W. Botsford, A. W. Eller.* Ophthalmology, University of Pittsburgh

3953 — *A0452* **Retina Structural Features by Optical Coherence Tomography in a Bi-Community Population: the Eye Determinant of Cognition (EyeDOC) Study.** *Xinxing Guo, X. Kong, R. Sharrett, P. Y. Ramulu, A. Abraham.* Johns Hopkins University

3954 — *A0453* **Prevalence of pathologies of the vitreo-macular interface – results from the Gutenberg Health Study.** *Alexander K. Schuster[1], A. K. Kluck[1], C. A. Korb[1], B. Stoffelns[1], S. Nickels[1], A. Schulz[2], T. Münzel[3], P. Wild[2], M. Beutel[4], I. Schmidtmann[5], K. J. Lackner[6], T. Peto[7], N. Pfeiffer[1].* [1]Department of Ophthalmology, University Medical Center Mainz; [2]Preventive Cardiology and Preventive Medicine, Center for Cardiology, University Medical Center of the Johannes Gutenberg-University Mainz; [3]Center for Cardiology I, University Medical Center Mainz; [4]Department of Psychosomatic Medicine and Psychotherapy, University Medical Center Mainz; [5]Institute for Medical Biostatistics, Epidemiology and Informatics, University Medical Center of the Johannes Gutenberg-University Mainz; [6]Institute of Clinical Chemistry and Laboratory Medicine, University Medical Center Mainz; [7]Queen's University Belfast, Centre for Public Health *CR, ↗

3955 — *A0454* **Comparison of Colour Fundus Photography and Ultra-wide field retinal imaging in the detection of choroidal naevi in an ageing population.** *Nicola B. Quinn, S. R. Halliday, D. WRIGHT, U. Chakravarthy, T. Peto, F. Kee, I. Young, B. McGuinness, R. Hogg.* Queen's University Belfast *CR

3956 — *A0455* **Movile device application for the clinical diagnosis of white dots syndromes.** *Alejandro Sanchez-Hoil, c. F. penaranda, C. Valdes.* Asociacion Para Evitar la Ceguera en Mexico

3957 — *A0456* **Retinal detachment in HIV-infected patients with cytomegalovirus retinitis treated with intravitreal ganciclovir.** *Louisa Lu[1, 6], S. Ausayakuhn[2], G. N. Holland[3], T. Margolis[4], D. Heiden[5], S. Ausayakuhn[2], J. Keenan[6].* [1]Yale School of Medicine; [2]Department of Ophthalmology, Faculty of Medicine, Chiang Mai University; [3]Department of Ophthalmology, Ocular Inflammatory Disease Center, Jules Stein Eye Institute, David Geffen School of Medicine at UCLA; [4]Department of Ophthalmology and Visual Sciences, Washington University School of Medicine; [5]Department of Ophthalmology, Pacific Vision Foundation, California Pacific Medical Center; [6]Francis I. Proctor Foundation, University of California, San Francisco

3958 — *A0457* **Retinal Vein Occlusion after Cataract Surgery: Risk factors, prognosis and 1 year Outcome data.** *Miguel Kurc[1, 2], R. Arora[1].* [1]Ophthalmology, Salisbury NHS Foundation Trust; [2]Ophthalmology, University Hospital Southampton

3959 — *A0458* **Prevalence and associated factors of diabetic retinopathy in a Russian Population. The Ural Eye and Medical Study.** *Mukharram Bikbov[1], T. Gilmanshin[1], R. Zainullin[1], G. Kazakbaeva[1], E. Rakhimova[1], K. Safiullina[1], S. Panda-Jonas[2], I. Rusakova[1], N. Bolshakova[1], G. Bikbova[1], J. B. Jonas[2].* [1]Ufa Eye Research Institute; [2]Department of Ophthalmology, Medical Faculty Mannheim of the Ruprecht-Karls-University of Heidelberg

3960 — *A0459* **Noncompliance in retinal clinical trials: an analysis of factors that predict loss to follow up in multiple prospective studies.** *Brenda Zhou[1], T. Mitchell[3], A. M. Rusakevich[1], D. M. Brown[1, 2], C. C. Wykoff[1, 2].* [1]Retina Consultants of Houston; [2]Blanton Eye Institute, Houston Methodist Hospital & Weill Cornell Medical College; [3]Baylor College of Medicine *CR

3961 — *A0460* **Factors predicting distribution and practice patterns of retina providers across the United States (US).** *Ravi Pandit, T. D. Wibbelsman, T. Jenkins, D. Xu, A. Obeid, A. C. Ho.* Retina Service, Wills Eye Hospital *CR

3962 — *A0461* **A registry and research database for retinal dystrophies – the RD5000 database.** *Magda Meester[1, 4], M. Vermeer[1], C. Boon[5, 6], M. M. van Genderen[7, 8], C. C. Hoyng[2], F. P. Cremers[10], C. Oomen[2], A. A. Thiadens[1], J. R. Pott[9], M. J. van Schooneveld[6], C. C. Klaver[1, 2], L. I. van den Born[3, 4].* [1]Ophthalmology, Erasmus MC; [2]Ophthalmology, Radboudumc; [3]The Rotterdam Eye Hospital; [4]The Rotterdam Ophthalmic Institute; [5]Ophthalmology, LUMC; [6]Ophthalmology, Amsterdam UMC; [7]Ophthalmology, UMCU; [8]Bartiméus Diagnostic Centre for Complex Visual Disorders; [9]Ophthalmology, UMCG; [10]Human Genetics, Radboudumc *CR

3963 — *A0462* **Prevalence of Age-related Macular Degeneration in the Adult Population in Hong Kong: The Hong Kong Eye Survey.** *Yipin Wang[1], A. Ng[2], J. Lai[1], I. Wong[1].* [1]Ophthalmology, The University of Hong Kong; [2]The Hong Kong Ophthalmic Associates

3964 — *A0463* **Cross-sectional analysis to determine if there is any evidence of retinal degeneration among people with the idiopathic long anterior zonule trait.** *Daniel K. Roberts[1, 2], J. McMahon[1], C. Morettin[1], T. Newman[1], M. F. Roberts[1], B. Teitelbaum[1], J. Winters[1].* [1]Illinois College of Optometry; [2]Epidemiology and Biostatistics, University of Illinois at Chicago

3965 — *A0464* **Nationwide Incidence of Terson Syndrome in Treated Subarachnoid Hemorrhage in South Korea : 2011-2015.** *Du Roo Kim, Y. Shin, H. Cho.* Department of ophthalmology, Hanyang University Guri Hospital

3966 — *A0465* **Practice Patterns for Evaluation and Management of Sickle Cell Retinopathy.** *Kapil Mishra, A. Scott.* Ophthalmology, Johns Hopkins Hospital

3967 — *A0466* **Incidence and Timing of Delayed Retinal Breaks Following Acute Symptomatic Posterior Vitreous Detachment.** *Joshua Uhr, A. Obeid, T. D. Wibbelsman, C. M. Wu, J. Hsu.* Wills Eye Hospital

3968 — *A0467* **Ocular and systemic findings in incontentia pigmenti in a real-world setting.** *Duncan Berry, P. Rao, G. Hubbard.* Ophthalmology, Emory University

3969 — *A0468* **Retinal vascular caliber and risk of cardiovascular disease: a prospective study in Asians.** *Ning D. Cheung[1, 2], M. Chee[2], Y. Tham[2], T. Y. Wong[1, 2], C. Cheng[2, 1].* [1]Singapore National Eye Centre; [2]Singapore Eye Research Institute

3970 — *A0469* **Syndromic inherited retinal dystrophies in a national reference centre specialized in inherited sensory diseases.** *Isabelle A. Meunier[1, 2], B. BOCQUET[1, 2], C. Blanchet[1], S. defoort[3], A. Roubertie[1], M. Willems[4], d. genevieve[4], P. Blanchet[4], V. Kalatzis[2], c. lemattre[1].* [1]Montpellier Hospital - University of Montpellier, National Centre for rare diseases, Inherited sensory disorders; [2]University of Montpellier, Institute for Neurosciences of Montpellier - INSERM U1051; [3]Institute of ophthalmology - Lille Hospital; [4]Department of Medical Genetics, Département de Génétique Médicale, Maladies Rares et Médecine Personnalisée, Génétique clinique, CHU Montpellier, Université Montpellier, Centre de référence anomalies du développement SORO

3971 — *A0470* **Retinal pigment epithelium apertures in chronic central serous chorioretinopathy.** *Enrico Peiretti[1], J. Chhablani[2], D. Parameswarappa[2], M. Pellegrini[3], G. Giannaccare[3], C. IOVINO[1].* [1]Eye Clinic, University of Cagliari; [2]L.V Prasad Eye Institute; [3]S. Orsola-Malpighi University Hospital, University of Bologna

3972 — *A0471* **Reliable and unreliable systematic reviews in retina/vitreous conditions.** *Riaz Qureshi, J. Le, C. Twose, L. Rosman, R. Scherer, T. Li.* Epidemiology, Johns Hopkins School of Public Health

3973 — *A0472* **Stargardt Misdiagnosis: How Ocular Genetics Helps.** *Alex V. Levin, T. A. Guimarães, M. B. Ibañez, J. E. Capasso.* Ped-Ophthal & Ocular Genetics, Wills Eye Hospital

3974 — *A0473* **Analysis of newborn retinal haemorrhage in a tertiary hospital in Sao Paulo, Brazil with Retcam 3 fundus photos.** *Murilo U. Polizelli[1], B. M. Oliveira[1], L. Nakayama[3], V. Bergamo[3], N. S. Moraes[2].* [1]Ophthalmology Resident, University of Sao Paulo; [2]Professor at University of São Paulo; [3]Retina fellow at University of São Paulo

3975 — *A0474* **Minimum Image Gain in the follow up of endophthalmitis.** *Manuel A. Trujillo-Alvarez[1], G. Salcedo-Villanueva[2], E. Ibarra[3], R. Velez-Montoya[2], L. Garcia Arzate[2], M. Mayorquin[3], C. Becerra-Revollo[3].* [1]Asociacion para Eviar la Ceguera en Mexico, IAP; [2]Retina, Asociacion para Evitar la Ceguera en Mexico, IAP; [3]Ecography, Asociacion para Evitar la Ceguera en Mexico, IAP

3976 — *A0475* **The yield of "clinical" genetic testing in inherited retinal disease: experience at the Hospital for Sick Children, Toronto, Canada.** *Vaishnavi Batmanabane, A. L. Pearson, C. Yu, A. Vincent, E. Heon.* The Hospital for Sick Children

West Exhibition Hall A0476-A0489

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Retinal Cell Biology

383 Retinal Degenerations - Cilia and Ciliopathies

Moderator: Theodore G. Wensel

3977 — *A0476* **Germline deletion of both CETN2 and CETN3 destabilizes the distal connecting cilium of mouse photoreceptors.** *Guoxin Ying, J. M. Frederick, W. Baehr.* University of Utah

3978 — *A0477* **ARL2 GTPase is crucial for development of photoreceptor outer segments by regulating assembly of microtubule.** *Houbin Zhang[1, 2], Y. Zhang[2], J. Yang[2], Y. Wu[2], T. Zou[2], L. Liao[1], B. Xue[2], Z. Yang[1, 2].* [1]Clinical Laboratory, Sichuan Provincial People's Hospital; [2]School of Medicine, University of Electronic Science and Technology of China

3979 — *A0478* **The role of Rabin8 in the ciliary trafficking of rhodopsin.** *Dusanka Deretic[1], B. M. Tam[2], T. Fresquez[1], O. L. Moritz[2].* [1]Surgery, Univ of New Mexico Sch of Med; [2]Ophthalmology, University of British Columbia

3980 — *A0479* **Loss of CEP290 causes accumulation of inner segment plasma membrane proteins in the outer segment.** *Seongjin Seo[1, 2], P. Datta[1, 2], B. Hendrickson[1, 2].* [1]Ophthalmology and Visual Sciences, University of Iowa; [2]Institute for Vision Research

3981 — *A0480* **CEP290 localization in the rod connecting cilium of *CEP290^{rd16}* mice with fluorescence nanoscopy.** *Valencia Potter, M. Robichaux, T. G. Wensel.* Baylor College of Medicine

3982 — *A0481* **The expression of Cd9 during retinal development and its roles in retinal degeneration.** *Sumiko Watanabe[1], A. Murakami[2], T. Iwagawa[1].* [1]Molecular & Developmental Biol, Univ of Tokyo, Inst Med Science; [2]Department of Ophthalmology, Juntendo University

3983 — *A0482* ***TULP1* Missense Mutations Cause Variable Retinal Phenotypes.** *Satyabrata Sinha[1], G. Pauer[1], N. S. Peachey[1, 2], S. A. Hagstrom[1].* [1]Ophthalmic Research, Cole Eye Institute, Cleveland Clinic; [2]Louis Stokes Cleveland VA Medical Center

3984 — *A0483* **Utilizing Zebrafish to Investigate RP1L1-Associated Retinitis Pigmentosa.** *Nicole C. Noel, I. M. MacDonald, W. Allison.* University of Alberta

3985 — *A0484* **NudC is critical for outer segment disk size and photoreceptor cell viability.** *Meredith G. Hubbard[1], E. R. Boitet[1], L. M. Black[2], N. J. Reish[3], G. Ying[4], W. Baehr[4], S. Bolisetty[2], A. K. Gross[1].* [1]Optometry and Vision Science, University of Alabama at Birmingham; [2]Medicine, Division of Nephrology, University of Alabama at Birmingham; [3]Neurology, University of Iowa; [4]Ophthalmology/Vision Sciences, University of Utah

3986 — *A0485* **Murine models of *RPGR*-mediated X-linked Retinitis Pigmentosa (RP) suggest a common disease mechanism across allelic variants.** *Roly Megaw, F. McPhie, M. Jungnickel, P. Mill.* University of Edinburgh, MRC Human Genetics Unit

3987 — *A0486* **Ciliary Delivery of the CNG-gated Channel in Rod Photoreceptors.** *Jillian N. Pearring[1], J. R. Willer[1], V. Y. Arshavsky[2].* [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Ophthalmology, Duke University

3988 — *A0487* **The ciliopathy protein SANS (Usher syndrome 1G) regulates pre-mRNA splicing by facilitating the maturation of the spliceosomal tri-snRNP complex.** *Adem YILDIRIM[1], S. M. Jovin[2], A. Wallisch[1], J. Ries[1], H. Urlaub[2], R. Lührmann[2], U. Wolfrum[1].* [1]Molecular Cell Biology, University of Mainz; [2]Max Planck Institute for Biophysical Chemistry

3989 — *A0488* **Antisense oligonucleotides rescue light-induced translocation of α-transducin & arrestin in Usher photoreceptors.** *Bhagwat V. Alapure, K. N. Robillard, J. J. Lentz.* Neuroscience Center of Excellence, Lousiana State University Health Sciences Centre

3990 — *A0489* **Identification of USH2A- and ADGRV1-interacting proteins in photoreceptors.** *Jun Yang, D. Yu, J. Zou.* Moran Eye Center, University of Utah School of Medicine

West Exhibition Hall A0515-A0539

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Retinal Cell Biology

384 Retinal Microglia and Neuroinflammation

Moderators: Wai T. Wong and Kip M. Connor

3991 — *A0515* **Temporo-spatial distribution and transcriptional profile of retinal microglia cells in the oxygen-induced retinopathy mouse model.** *Myriam M. Böck[1], N. Hagemeyer[2], P. Wieghofer[3], A. Schlecht[1], D. Yusuf[4], P. Zhang[1], S. K. Boneva[1], A. Thien[1], Y. Laich[1], A. Stahl[1], G. R. Schlunck[1], H. Agostini[1], M. Prinz[2], C. Lange[1].* [1]Eye Center, Medical Center, University of Freiburg; [2]Institute of Neuropathology, Medical Faculty, University of Freiburg; [3]Institute of Anatomy, Leipzig University; [4]Institute of Informatics, University of Freiburg

Tuesday Posters 2:45 pm – 4:30 pm

3992 — *A0516* **Permanent neuroglial remodeling after acute ocular injury.** *Fengyang Lei, C. Zhou, C. H. Dohlman, R. Dana, J. Chodosh, D. Vavvas, E. I. Paschalis.* Ophthalmology, Massachusetts Eye and Ear Infirmary

3993 — *A0517* **Retinal microglia signaling affects Muller cell behavior in the zebrafish following laser injury induction.** *Federica M. Conedera.* Experimental Ophthalmology, Inselspital-University of Bern ***CR**

3994 — *A0518* **Inhibition of microglia cells delays retinal degeneration in experimental branch retinal vein occlusion in mice.** *Joel Jovanovic[1, 2], D. Kokona[1, 2], A. Ebneter[1, 2], M. S. Zinkernagel[1, 2].* [1]Ophthalmology, Inselspital, Bern University Hospital; [2]Department of BioMedical Research, DBMR, University of Bern ***CR**

3995 — *A0519* **Knockout of the Toll-like Receptors (TLR) 2 and 4 Affects the Recruitment of Microglia/Macrophages to the Stressed Photoreceptor Cells in Response to Retinal Detachment.** *Joanne Choi, B. X. Ross, J. Yao, L. Jia, S. F. Abcouwer, D. N. Zacks.* Ophthalmology and Visual Science, University of Michigan

3996 — *A0520* **Effect of aging on the neuroinflammatory response to acute photoreceptor degeneration.** *Sonia L. Frick[1], K. Ronning[2], S. Karlen[3], M. E. Burns[2, 4].* [1]Advancing Diversity in Aging Research Program, University of California, Davis; [2]Center for Neuroscience, University of California, Davis; [3]Cell Biology & Human Anatomy, University of California, Davis; [4]Department of Ophthalmology & Vision Science, University of California, Davis

3997 — *A0521* **Characterisation and application of primary cultured retinal mononuclear phagocytes.** *Riemke Aggio-Bruce[1], N. Franco[3, 1], N. Fernando[1], M. Rutar[2, 1], R. C. Natoli[1, 3].* [1]Neuroscience, Australian National University; [2]School of Biomedical Sciences, University of Melbourne; [3]The Australian National University Medical School

3998 — *A0522* **Apigenin Inhibits LPS-induced Microglia Activation by Modulating MicroRNA Expression.** *Onuma Chumsakul, Y. Takai, T. Kurose, Y. Honma.* Rohto Pharmaceutical Co., Ltd ***CR**

3999 — *A0523* **Microglia exhibit distinct mitochondrial signatures in retinal degeneration.** *Margaret Maes, S. Siegert.* Institute of Science and Technology Austria

4000 — *A0524* **Microglia activation accelerates retinal degeneration due to Mertk deficiency.** *Deborah Lew, F. Mazzoni, S. C. Finnemann.* Fordham University

4001 — *A0525* **MicroRNA-223 regulates neuroinflammation in retinal degenerations.** *Nilisha Fernando[1], J. Wong[1], R. Aggio-Bruce[1], Y. Wooff[1, 2], R. C. Natoli[1, 2].* [1]John Curtin School of Medical Research, The Australian National University; [2]ANU Medical School, The Australian National University

4002 — *A0526* **Retinal microglia acquire a disease-associated transcriptome in chronic mouse glaucoma, which intensifies with neuroprotective complement inhibition.** *Alejandra Bosco, S. R. Anderson, J. M. Roberts, C. O. Romero, M. R. Steele, M. L. Vetter.* University of Utah

4003 — *A0527* **Re-establishment of the resident immune population and retinal homeostasis after widespread photoreceptor degeneration.** *Kaitryn Ronning[1], S. Karlen[2], E. B. Miller[1], M. E. Burns[1, 2].* [1]Neuroscience, University of California, Davis; [2]Cell Biology and Human Anatomy, University of California Davis

4004 — *A0528* **Curcumin Protect Retinal Ganglion Cells and Regulating Microglia Activation After Acute Ischemia/Reperfusion in the Mouse Retina.** *Xing Cao[1, 2], W. Li[3], Q. Wang[1, 2], Q. Liu[1, 2], C. Ye[1, 2].* [1]Aier School of Ophthalmology, Central South Univer; [2]Ophthalmology, Changsha Aier Eye Hospital; [3]Ophthalmology, Hunan Children' Hospital

4005 — *A0529* **Activation of the cAMP signaling pathway sensitizes retinal microglia response to TRPV4 activation.** *Sarah Redmon, M. Lakk, O. Yarishkin, D. Krizaj.* University of Utah

4006 — *A0530* **Retinal degeneration through microglia dysregulation and autoantibody formation in C-X-C motif chemokine receptor 5 (CXCR5) knock out mice.** *Anton Lennikov[1, 3], M. Saddala[1, 3], A. Mukwaya[2], H. Huang[1, 3].* [1]Mason Eye Institute, Missouri University; [2]Department of Ophthalmology, Linkoping University; [3]Wilmer Eye Institute, Johns Hopkins University

4007 — *A0531* **Microglial alterations in rd10 retina: effect of progesterone.** *Maria Miranda, Á. Fernández-Carbonell, S. Benlloch-Navarro, V. Hernández-Rabaza, T. Olivar.* Physiology, Univ CEU-Cardenal Herrera

4008 — *A0532* **A Role for Insulin-like Growth Factor Binding Protein-like 1 in Microglia.** *LI PAN[1, 2], X. Wei[3, 2], K. Cho[2], C. Do[1], D. F. Chen[2].* [1]School of Optometry, The Hong Kong Polytechnic University; [2]Schepens Eye Research Institute of Massachusetts Eye and Ear, Department of Ophthalmology, Harvard Medical School; [3]Department of Ophthalmology, West China Hospital, Sichuan University ***CR**

4009 — *A0533* **Characterising retinal microglia: A novel three-dimensional spatial statistics approach.** *Ishani Barai[1], B. Davis[1, 2], L. Guo[2], N. Ravindran[2], J. Van houcke[3], L. K. Moons[3], L. De Groef[3], M. Cordeiro[1, 2].* [1]Imperial College Ophthalmic Research Group, Western Eye Hospital, Imperial College London, United Kingdom**.** NW1 5QH; [2]UCL Institute of Ophthalmology, London, United Kingdom. EC1V 9EL; [3]Neural Circuit Development and Regeneration Research Group, KU Leuven, Department of Biology, Leuven, Belgium

4010 — *A0534* **Topological classification of retinal microglia during development.** *Gloria Colombo[1], A. Venturino[1], R. Schulz[1], L. Kanari[2], K. Hess[2], S. Siegert[1].* [1]Life Sciences, IST Austria; [2]EPFL

4011 — *A0535* **On microglia and synaptic integrity of the outer plexiform layer.** *Kjell Johansson[1], C. Mohlin[2].* [1]Science, Kristianstad University; [2]Chemistry and Biomedicine, Linneus University, Kalmar

4012 — *A0536* **Retinal Ganglion cell degeneration in patients with Parkinson disease induce optic nerve bundles remodelling and microglia activation.** *Xavier Sánchez-Sáez[1], I. Ortuño Lizarán[1], T. Beach[2], G. Serrano[2], C. Adler[3], N. Cuenca[1].* [1]Physiology, Genetics and Microbilogy, University of Alicante; [2]Banner Sun Health Research Institute; [3]Mayo Clinic Arizona

4013 — *A0537* **IL-1β conveys neuroprotection via astrocytic IL1R1 signaling following excitotoxic retinal injury.** *Isabella Palazzo[3], L. Todd[1], X. Liu[2], N. Quan[2], A. J. Fischer[3].* [1]Biological Structure, University of Washington; [2]Institution for Behavioral Medicine Research, The Ohio State University; [3]Neuroscience, The Ohio State University

4014 — *A0538* **Development of anti-drug antibodies following intravitreal administration of anti-C3b Fabs in cynomolgus monkeys and rabbits.** *Michael Twarog, S. Louie, M. Milton, A. Carrion, O. Delgado, M. Crowley, N. Buchanan, S. Hanks, J. T. Demirs, C. E. Bigelow, S. H. Poor, Y. Kim, S. Liao.* Novartis Institutes for Biomedical Research, Inc. ***CR**

4015 — *A0539* **Effects of the Na-K ATPase blocker digoxin on microglia structure and function in real time in the mouse retina.** *Ethan D. Cohen[1], R. J. Brehl[2], H. Qian[4], L. Xu[3], N. Kedia[5], H. Vo[6], Z. Liu[1], K. Shea[3], D. Hammer[1], J. Hanig[7].* [1]Office of Sci & Eng Labs/CDRH, FDA; [2]University of Minnesota; [3]CDER/OTS/OCP/DARS, FDA; [4]NEI, NIH; [5]Engineering, University of Maryland College Park; [6]Engineering, George Mason Univ.; [7]CDER/OPQ/OTR, FDA

West Exhibition Hall B0072-B0103

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Low Vision Group

385 Visual Impairment - Assistive Devices and Rehabilitation

Moderator: Aaron Johnson

4016 — *B0072* **Long-term quality of life assessment of severely visually impaired individuals after using the Aira assistive technology system.** *Kathryn Park, B. J. Nguyen, S. Luo, J. Kim, D. L. Chao.* Shiley Eye Institute, University of California, San Diego

4017 — *B0073* **Seeing Heat: Efficacy of a Thermal Camera in the Argus II Retinal Prosthesis System.** *Rohan Bajaj[1], R. Sadeghi[2], M. P. Barry[3, 4], P. Gibson[5], A. Caspi[4, 6], A. Roy[3], G. Dagnelie[4].* [1]Johns Hopkins School of Medicine; [2]Biomedical Engineering, Johns Hopkins University; [3]Second Sight Medical Products; [4]Wilmer Eye Institute; [5]Advanced Medical Electronics Corp; [6]Jerusalem College of Technology **CR*

4018 — *B0074* **Novel switch-on procedure for the RETINA IMPLANT Alpha AMS provides suitable and stable implant-mediated vision on the first day.** *Florian Gekeler[1, 2], K. Bartz-Schmidt[2], K. Stingl[2], T. Frasch[3], N. Ceretto[3], N. Troelenberg[3], T. Rombach[3], H. Stutzki[3], A. Stett[3].* [1]Ophthalmology, Klinikum Stuttgart; [2]Ophthalmology, University of Tübingen; [3]Retina Implant AG **CR*

4019 — *B0075* **Navigation Assistance From the Low-Vision Enhancement Optoelectronic (LEO) Belt.** *Nicole Tatro[1], I. Andrews[1, 2], T. Braun[1], S. R. Russell[1].* [1]Institute for Vision Research, University of Iowa; [2]Computer Science Engineering, University of Iowa

4020 — *B0076* **Low vision rehabilitation in patients with Boston type I keratoprosthesis implant.** *Nivea Nunes Ferraz, L. Michelin Gobbo, P. Baptista Eliseo da Silva, A. Stavare Leal, M. Colussi Cypel.* Ophthalmology and Visual Science, Federal University of Sao Paulo

4021 — *B0077* **Development of a Cortical Visual Neuroprosthesis for the Blind: Preliminary results.** *Eduardo Fernandez[1, 2], C. Soto[1], A. Alfaro[1], P. Gonzalez[1], A. Lozano[1], S. Peña[1], M. Grima[1], A. Rodil[1], A. Alarcon[1], J. Rolston[2], T. Davies[2], R. A. Normann[2].* [1]Instituto de Bioingenieria, Univ of Miguel Hernandez; [2]John A. Moran Eye Center, University of Utah ↗

4022 — *B0078* **Understanding the experiences of working-age and older adults with acquired vision loss who pursue braille training.** *Natalie Martiniello[1, 2], W. Wittich[1, 2].* [1]School of Optometry, Université de Montréal; [2]CRIR/Centre de réadaptation MAB-Mackay du CIUSSS du Centre-Ouest-de-l'Île-de-Montréal

4023 — *B0079* **Double-masked, randomized home-use clinical trial of a wearable collision warning device for the blind: preliminary results.** *Shrinivas Pundlik[1, 2], V. Baliutaviciute[1], M. Moharrer[1, 2], A. R. Bowers[1, 2], G. Luo[1, 2].* [1]Schepens Eye Research Institute of Mass Eye and Ear; [2]Ophthalmology, Harvard Medical School **CR*, ↗

4024 — *B0080* **Performance of an Augmented Reality Device on Functional Activities.** *REBECCA KAMMER[1, 2], B. Kim[1], B. D. Kuppermann[1], D. A. Watola[4], T. Tsang[3], M. C. Mehta[1].* [1]Ophthalmology, University of California Irvine; [2]School of Pharmacy, Chapman University; [3]Terry Tsang Optometry; [4]Eyedaptic **CR*

4025 — *B0081* **Reading performance using smartphone applications compared to portable electronic magnifiers in simulated visual impairment.** *Chris Dickinson, A. Al hefzi.* Division of Pharmacy and Optometry, University of Manchester

4026 — *B0082* **Evaluation of Field Expansion for Acquired Monocular Vision with Multiplexing Prisms.** *Jae-Hyun Jung, R. Castle, N. Kurukuti, S. Manda, E. Peli.* Schepens Eye Research Institute, Mass. Eye and Ear, Department of Ophthalmology, Harvard Medical School **CR*

4027 — *B0083* **Orientation of preferred retinal locus is maintained following changes in simulated scotoma size.** *Francisco Costela[1, 2], S. M. Reeves[1], R. L. Woods[1, 2].* [1]Opthalmology, Schepens Eye Research Institute; [2]Ophthalmology, Harvard Medical School

4028 — *B0084* **A Visual-Arts-Based Mobile Health Solution to Promote Brain Health in Older Adults with Low Vision.** *Olga Overbury[1], M. Hogan[1], S. Swaminathan[2], N. Lingum[2], A. Altschuler[2], K. Murphy[2, 3], W. Wittich[1, 4].* [1]School of Optometry, University of Montreal; [2]Baycrest Health Sciences; [3]University of Toronto; [4]Centre de recherche interdisciplinaire en réadaptation du Montréal métropolitain

4029 — *B0085* **Object recognition training with simulated retina implant perception.** *Stefan Pollmann, C. Nath, L. Wang.* Psychology, OVGU Magdeburg

4030 — *B0086* **Changes in Reported Difficulty with Near Reading following Telerehabilitation for Low Vision.** *Ava K. Bittner[1, 2], K. Green[1], R. Khan[1], A. M. Mistry[1], M. J. Barnes[1], N. C. Ross[3].* [1]Optometry, Nova Southeastern University, College of Optometry; [2]Stein Eye Institute, UCLA; [3]New England College of Optometry

4031 — *B0087* **Long-term longitudinal assessment of functional rescue in mutant XLRP dogs after *RPGR* gene augmentation therapy.** *William A. Beltran, V. L. Dufour, S. M. Ainsworth, K. Roszak, G. D. Aguirre.* Clinical Sciences & Advanced Medicine, University of Pennsylvania, School of Veterinary Medicine **CR*

4032 — *B0088* **Are Patterns of Magnifier Selection Changing in Low Vision Patients?** *Donald C. Fletcher[2, 1], R. Schuchard[1].* [1]Low Vision Rehabilitation, Envision Vision Rehabilitation Center; [2]Ophthalmology, Smith-Kettlewell Eye Research Institute

4033 — *B0089* **Starting point of visual rehabilitation for patients with retinitis pigmentosa based on visual function and vision-related quality of life.** *Mayumi Sainohira[1, 2], T. Yamashita[1], H. Terasaki[1], S. Sonoda[1], K. Miyata[2], J. Kamo[3], T. Morimoto[5], T. Endo[6], T. Fujikado[5], Y. Murakami[4], Y. Ikeda[4], T. Sakamoto[1].* [1]Deparrtment of Ophthalmology, Kagoshima University; [2]Miyata Eye Hospital; [3]Kofu Kyoritsu Hospital; [4]Department of Ophthalmology, Kyushu Graduate School of Medical SciencesKyushu University; [5]Department of Applied Visual Science, Osaka University Graduate School of Medicine; [6]Department of Ophthalmology, Osaka University Graduate School of Medicine

4034 — *B0090* **Factors related to the use of a head-mounted display for individuals with low vision.** *Marie-Celine Lorenzini[1, 2], A. Hamalainen[1], W. Wittich[1, 2].* [1]School of Optometry, Université de Montreal; [2]Centre de recherche interdisciplinaire en réadaptation du Montréal métropolitain

4035 — *B0091* **Feasibility of using the IReST to assess reading performance in a comparative study evaluating head-mounted display systems.** *Kyoko Fujiwara[1], A. Deemer[1], C. Bradley[1], R. Chun[1], F. S. Werblin[2], R. W. Massof[1].* [1]Johns Hopkins University; [2]Molecular and Cell Biology, UC Berkeley **CR*, ↗

4036 — *B0092* **Design of Smart Head-Mounted Display Technology: A Qualitative Study.** *V Swetha E. Jeganathan[1], A. Kumagai[2], H. Shergill[1], M. Fetters[3], J. Gosbee[1], S. E. Moroi[2], J. D. Weiland[1, 2], J. R. Ehrlich[2].* [1]Department of Biomedical Engineering, University of Michigan; [2]Department of Ophthalmology and Visual Science, University of Michigan; [3]Department of Family Medicine, University Of Michigan

4037 — *B0093* **Can assistive digital technologies boost wellbeing in people with sight loss?.** *Parisa Eslambolchilar[1], K. Hill[2], T. H. Margrain[3].* [1]School of Computer Science and Informatics, Cardiff University; [2]School of Psychology, Swansea University; [3]School of Optometry and Vision Sciences, Cardiff University

4038 — *B0094* **Feasibility of testing visual motor function through a smartphone app in a comparative study evaluating head-mounted display systems.** *Ashley Deemer[1], K. Fujiwara[1], J. Deremeik[1], C. Bradley[1], R. Chun[1], F. S. Werblin[2], R. W. Massof[1].* [1]Low Vision Rehabilitation, Johns Hopkins Wilmer Eye Institute; [2]Molecular & Cell Biology, University of California Berkeley **CR*, ↗

Tuesday Posters
2:45 pm – 4:30 pm

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

4039 — *B0095* **Low vision aids using virtual reality (VR) headsets and mobile application; preliminary report.** *Do Yeh Yoon[1, 2], H. Jeon[1, 2], W. Wee[1, 3], J. Hyon[1, 2].* [1]Department of Ophthalmology, Seoul National University College of Medicine; [2]Department of Ophthalmology, Seoul National University Bundang Hospital; [3]Department of Ophthalmology, Seoul National University Hospital

4040 — *B0096* **Measurement of functional vision in people with ultra low vision using a virtual reality headset.** *Arathy G. Kartha[1], R. Sadeghi[1, 2], C. Tran[3], Z. Nardo[3], O. Adeyemo[1], L. Yang[1], D. Geruschat[1], G. Dagnelie[1].* [1]Wilmer Eye Institute; [2]Biomedical Engineering, Johns Hopkins University; [3]BaltiVirtual **CR*

4041 — *B0097* **Visual rehabilitation after surgery for macula off retinal detachment.** *Enzo Maria Vingolo[1], G. Napolitano[1], P. G. Limoli[2], S. Scalinci[3].* [1]Polo Pontino - Ospedale A.Fiorini Terracina, University La Sapienza - Rome; [2]Centro Studi Ipovisione; [3]University of Bologna - Policlinico S Orsola Malpighi

4042 — *B0098* **Enhancement of spatial cognition and brain connectivity in people with low vision and blindness.** *Lora Likova.* Smith-Kettlewell Eye Research Institute

4043 — *B0099* **MP-3 microperimeter bio-feedback visual stimulation: preliminary results.** *Filippo Amore, F. De Rossi, M. Guidobaldi, P. Sasso, V. Silvestri.* Nat. Cen for Serv and Res on Low Vision, Italian National Center for LVR -Iapb Italy

4044 — *B0100* **Evaluation of a new test of visually-guided navigation.** *Gary S. Rubin[1, 2], N. Kumaran[1, 3], H. Dunbar[1], R. R. Ali[1].* [1]UCL Institute of Ophthalmology; [2]NIHR Biomedical Research Centre, Moorfields Eye Hospital; [3]Moorfields Eye Hospital **CR*

4045 — *B0101* **Using an Electronic Health Record Advisory to Identify Patients for Referral to Vision Rehabilitation Services.** *Judith E. Goldstein, X. Guo, K. Smith, M. V. Boland, B. K. Swenor.* Ophthalmology, Johns Hopkins University

4046 — *B0102* **Barriers to Referral for Low Vision Services (LVR) by Eye Care Professionals.** *Jessica Capri, R. K. Zoltoski, T. Matchinski.* Illinois College of Optometry

4047 — *B0103* **Causes of visual impairment and blindness in children at a hospital based low-vision center in Israel.** *Claudia Yahalom, R. Patal, K. Hendler, I. Saadeh, A. Blumenfeld.* Ophthalmology, Hadassah University Hospital

West Exhibition Hall B0104-B0147

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Retina

386 Retinal Vascular Diseases I

Moderators: John W. Miller and Yuki Muraoka

4048 — *B0104* **Natural history of Proliferative Sickle Cell Retinopathy.** *Akosua Nti, A. Scott.* Ophthalmology, Wilmer Eye Institute

4049 — *B0105* **Retinal Arterioles Adapt to Systemic Hypertension by Maintaining Constant Tension in the Smooth Muscle Cells of the Arteriole Wall.** *thomas Gast.* optometry, indiana unv optometry

4050 — *B0106* **One-year outcome of metamorphopsia and prognostic factor following intravitreal ranibizumab injection for branch retinal vein occlusion.** *Yoshimi Sugiura, F. Okamoto, T. Murakami, S. Morikawa, T. Hiraoka, T. Oshika.* Department of Ophthalmology, University of Tsukuba **CR*

4051 — *B0107* **Metamorphopsia changes after anti-VEGF therapy in branch retinal vein occlusion.** *Kenichiro Mori[1], K. Ishikawa[1], Y. Kubo[1], Y. Kobayashi[1], T. Nakama[1], S. Nakao[1], S. Yoshida[2], K. Sonoda[1].* [1]Kyushu University; [2]Kurume University **CR*

4052 — *B0108* **Pattern of Collateral Vessel Development in Eyes with BRVO: An Ultra-widefield Fluorescein Angiography (UWFA) and OCT Angiography (OCTA) study.** *Hamid Hosseini, I. Cheng, C. Pole, S. D. Schwartz.* Retina Division, Stein Eye Institute at UCLA

4053 — *B0109* **Investigation of the number of intravitreal injections of the anti-VEGF agent using OCT angiography for macular edema due to retinal vein branch occlusion.** *RYO TOMITA, T. Iwase, Y. Ogasawara, S. Suwa, H. Terasaki.* ophthalmology, Nagoya University **CR*

4054 — *B0110* **Factors predictive of retinal detachment resolution in Coats disease: Analysis of 187 eyes in 184 patients at a single center.** *Chloe T. Khoo[1, 2], S. Udyaver[1, 2], L. A. Dalvin[1], L. S. Lim[1], H. Atalay[1], M. Mazloumi[1], C. L. Shields[1].* [1]Ocular Oncology Service, Wills Eye Hospital; [2]Sidney Kimmel Medical College of Thomas Jefferson University

4055 — *B0111* **Intravitreal Triamcinolone Acetonide in Advanced Coats' Disease Revisited: The Results of the King Khaled Eye Specialist Hospital International Collaborative Retina Study Group.** *Wael A. Alsakran[1], N. Ghazi[4], S. R. Nowilaty[1], J. Arevalo[2], M. Mura[1], E. Abboud[3], Y. Alzahrani[1], S. M. Alsulaiman[1].* [1]King Khaled Eye Specialist Hospital; [2]Wilmer Eye Institute; [3]Cleveland clinic Abu Dhabi; [4]Lebanese American University

4056 — *B0112* **Spectralis Glaucoma Module Premium Edition as a helpful tool in the diagnosis of branch retinal artery occlusion.** *Mohamed Oshallah, A. Jacob, D. Gabriella.* Ophthalmology, University Hospital Southampton NHS FT

4057 — *B0113* **Clinical outcomes after switch from aflibercept to ranibizumab for macular edema secondary to retinal vein occlusion.** *Turner D. Wibbelsman[2], D. B. Calem[1], A. Obeid[2], P. L. Mellen[2], M. A. Konkoly[1], M. R. Velez[1], K. Sioufi[2], D. S. Borkar[2], R. Pandit[2], M. A. Klufas[2], J. Hsu[2], C. Regillo[2], A. C. Ho[2], O. P. Gupta[2], M. J. Spirn[2].* [1]The Sidney Kimmel Medical College at Thomas Jefferson University; [2]The Retina Service, Wills Eye Hospital **CR*

4058 — *B0114* **Outcomes and Complications of Hyperbaric Oxygen in the Treatment of Central Retinal Artery Occlusion.** *Samuel D. Hobbs, G. B. Giles, A. Mehta, M. Weber.* Ophthalmology, San Antonio Military Health System

4059 — *B0115* **Is Retinal Artery Occlusion a Predictive Factor for Subclinical Coronary Artery Disease?: A Case-Control Coronary Computed Tomographic Angiography Study.** *Yong Dae Kim[1], Y. Kim[2], Y. Yoon[3], Y. Ko[1], M. Ham[1], K. Park[1], S. Woo[1].* [1]Ophthalmology, Seoul National University Bundang Hospital; [2]Ophthalmology, Kangdong Sacred Heart Hospital, Hallym University College of Medicine; [3]Cardiology, Cardiovascular Center, Seoul National University Bundang Hospital

4060 — *B0116* **Elucidating the mechanism of endothelial caspase-9 after retinal vein occlusion.** *Anna M. Potenski[1], M. I. Avrutsky[2], C. M. Troy[2, 3].* [1]Pharmacology, Columbia University; [2]Pathology and Cell Biology, Columbia University; [3]Neurology, Columbia University **CR*

4061 — *B0117* **Real-world outcomes in patients with macular oedema secondary to central retinal vein occlusion receiving intravitreal anti-VEGF therapy in a UK public hospital setting.** *Sarah Ah-Moye[1], P. Zalmay[1], M. Theodorsson[1], M. L. Harris[1], R. Asaria[1], A. Hunt[2], D. Barthelmes[2, 3], M. C. Gillies[2], V. Nguyen[2], H. Mehta[1, 2].* [1]Royal Free London NHS Foundation Trust; [2]Macular Research Group, Save Sight Institute, Sydney University and Sydney Eye Hospital; [3]University of Zurich **CR*

4062 — *B0118* **Did the anti-VEGF therapy actually change the long-term prognosis of macular edema in branch retinal vein occlusion patients?** *SeungHyun Lee, M. Yoon, H. Chin.* Department of Ophthalmology and Inha Vision Science Laboratory, Inha University School of Medicine

4063 — *B0119* **Retinal veinous occlusions complicated by macular ischemia: Benefit of anti-VEGF injections in the treatment of the macular oedema.** *Justine Menet, Z. Mohamed, N. Ouamara, c. goetz, S. Maxime, D. Marie, L. Lhuillier, J. Perone.* 57000, CHR Metz-Thionville

4064 — *B0120* **Comparation of intravitreal dexamethasone implant and anti-VEGF drugs in treatment of RETINAL VEIN OCCLUSION: a meta-analysis of randomized controlled trials.** *Shuai Ming.* Henan Eye Institute, Henan provincial people's hospital

4065 — *B0121* **Experience of OZURDEX Intravitreal Implant in Treatment of Post-operative Cystoid Macular Oedema resistant to Topical Therapy.** *Mya T. Ohn, A. Waghmare, E. Thompson, A. Chandra, N. Karia.* Southend University Hospital NHS Trust

4066 — *B0122* **The potential therapeutic targets for the macular edema in murine retinal vein occlusion model.** *Anri Nishinaka, S. Nakamura, T. Masuda, M. Shimazawa, H. Hara.* Gifu Pharmaceutical University

4067 — *B0123* **Clinical manifestation and prognosis of patients of central retinal artery occlusion(CRAO) with cilio-retinal artery sparing.** *YONGHOON KIM.* Seoul National University Bundang Hospital

4068 — *B0124* **Twenty-four month results of intravitreal ranibizumab for macular edema after branch retinal vein occlusion in a single-center prospective study: visual prognosis and rate of complete resolution of macular edema.** *MIHO INAGAKI, Y. Hirano, N. Suzuki, Y. Yasuda, M. Kawamura, T. Yasukawa, M. Yoshida, Y. Ogura.* Department of Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences **CR*, ↗

4069 — *B0125* **Correlation between initial visit binocular intraocular pressure difference and mean pulse pressure, and the number of ranibizumab administrations in branch retinal vein occlusion.** *Kazutaka Hirabayashi, A. Imai, Y. Iesato, T. Murata.* Shinshu University **CR*

4070 — *B0126* **Nocturnal blood pressure as Novel Visual Outcome Factor in Patients with Branch Retinal Vein Occlusion.** *Sang-Joon Lee, G. Noh, S. Lee, K. Nam.* Ophthalmology, Kosin University

4071 — *B0127* **The Effects Of Topical Dorzolamide Hydrochloride-Timolol Maleate Ophthalmic Solution On Injection Frequency In Patients Receiving Combination Therapy For Retinal Vein Occlusions.** *Raul F. Membreno[1], C. Krambeer[2], T. Hsiao[4], M. Singer[3].* [1]UT Health San Antonio Long School of Medicine; [2]Paul L. Foster School of Medicine; [3]Medical Center Ophthalmology Associates; [4]University of Washington **CR*

4072 — *B0128* **Predictors of Enucleation in Coats Disease: Analysis of 371 Eyes from 361 Patients at a Single Center.** *Sanika Udyaver[1], L. A. Dalvin[1, 2], L. S. Lim[1], M. Mazloumi[1], H. Atalay[1], C. Khoo[1], C. L. Shields[1].* [1]Wills Eye Hospital; [2]Ophthalmology, Mayo Clinic

4073 — *B0129* **AXT107, a Peptide that Disrupts Integrins, Suppresses Vascular Leakage in the Setting of Ocular Inflammation.** *Raquel Formica[1], S. Hackett[1], Z. Hafiz[1], A. Mirando[2], J. J. Green[2], A. S. Popel[2], N. B. Pandey[2], P. A. Campochiaro[1].* [1]Ophthalmology, Johns Hopkins University Wilmer Eye Institute; [2]Biomedical Engineering, Johns Hopkins University School of Medicine **CR*

4074 — *B0130* **intravitreal injection of conbercept in patients with macular edema secondary to retinal vein occlusion.** *Longli Zhang, X. Shi, Y. Ke, X. Li.* Tianjin Medical University Eye Hospital

4075 — *B0131* **The role and mechanism of polarized macrophages regulating bone marrow-derived cells in the oxygen-induced retinal neovascularization.** *Changmei Guo, Y. Wang, Y. Wang.* Department of Ophthalmology, Xijing Hospital

4076 — *B0132* **Investigation of the Effect of Lymphocyte-derived Microparticles on the Activity of Macrophages in the Mouse Model of Oxygen-induced Retinopathy.** *ChenRongRong Cai[2, 1], C. Yang[1], P. Hardy[1, 2].* [1]CHU-Sainte Justine research center; [2]pharmacology, University of Montreal

4077 — *B0133* **Evaluation of vascular network in macular and peripapillary regions with optical coherence tomography angiography (OCTA) in branch retinal vein occlusion (BRVO).** *Lulu Chen, M. Yuan, Y. Chen.* Ophthalmology, Peking Union Medical College Hospital, Chinese Academy of Medical Sciences

4078 — *B0134* **Comparison of eplerenone versus melatonin as therapeutic options for the treatment of non-resolving and chronic central serous chorioretinopathy.** *Tomas N. Saddi[1], J. P. Real[3, 4], E. Lavaque[2], A. L. Gramajo[1], C. P. Juarez[1], R. E. Rosenstein[5, 6], J. D. Luna Pinto[1].* [1]Retina, Centro privado de ojos romagosa; [2]Retina, Hospital oftalmológico Santa Lucía; [3]Unidad de Investigación y Desarrollo en Tecnología Farmacéutica - CONICET; [4]Departamento de Farmacia, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba; [5]Centro de Estudios Farmacologico y Botanicos; [6]Retina and vitreous, Centro privado de ojos

4079 — *B0135* **Retinal Vasculitis in HLA-B27 Associated Anterior Uveitis on Wide-Field Anigiography.** *Jie Gao, M. Peskina, M. Walsh, P. Chang, S. D. Anesi, C. Foster.* opthalmology, Massachusetts Eye Research and Surgery Institution

4080 — *B0136* **Paramacular thinning in homozygous sickle cell disease is correlated with systemic markers of disease severity.** *Gilles C. Martin[1, 2], V. Brousse[5], P. Connes[4], D. Grevent[6], M. Kossorotoff[7], L. Da Costa[8], M. De Montalembert[5], D. Bremond-Gignac[2], P. Vidal[3], M. P. Robert[2, 3].* [1]Ophthalmology - Cornea & Pediatrics, Fondation Ophtalmologique A. de Rothschild; [2]Ophthalmology - Rare Disease Reference Centre OPHTARA, Necker Enfants Malades Universitary Hospital - APHP; [3]COGNAC-G Sorbonne Paris Cité; [4]Vascular Biology and Red Blood Cell Team, LIBM Claude Bernard Lyon 1 University; [5]Paediatrics, Necker Enfants Malades Universitary Hospital - APHP; [6]Radiology, Necker Enfants Malades Universitary Hospital -APHP; [7]Neurology, Necker Enfants Malades Universitary Hospital - APHP; [8]Biological Haematology, Robert Debre Universitary Hospital

4081 — *B0137* **Retinal Vein Occlusion in Young Patients: Risk Factors and Management.** *Jinghua Chen[1], B. Mueller II[2], A. Hadayer[3], S. Schaal[4].* [1]Ophthalmology, UT Southwestern Medical Center; [2]Texas Vision & Laser Center; [3]Ophthalmology, Tel-Aviv University; [4]Department of Ophthalmology & Visual Sciences, University of Massachusetts School of Medicine

4082 — *B0138* **miR-18a-5p suppresses retinal neovascularization by targeting HIF-1α and FGF-1.** *JiTian Guan[1], Z. Chi[2].* [1]Wenzhou Medical University; [2]The Eye Hospital of Wenzhou Medical University

4083 — *B0139* **Low-density lipoprotein receptor-related protein 5 (Lrp5) - deficient rats display abnormal development of the retinal vasculature and reduced bone mass.** *John L. Ubels[2, 1], C. R. Diegel[2], B. O. Williams[2].* [1]Calvin College; [2]Van Andel Institute

4084 — *B0140* **The relationship between structural change of distinct retinal layers and visual prognosis in patients with macular edema secondary to branchial retinal vein occlusion.** *Atsuko Katsuyama, S. Kusuhara, R. Nishisho, W. Matsumiya, M. Nakamura.* Kobe University Graduate School of Medicine **CR*

4085 — *B0141* **Comparing effects of photodynamic therapy in central serous chorioretinopathy: Full-dose versus Half-dose versus Half-dose-half-power.** *Wookyung Park[1], M. Kim[1], R. Kim[1], Y. Park[1, 2].* [1]Seoul St. Mary's hospital; [2]Catholic Institute for Visual Science, College of Medicine, The Catholic University of Korea **CR*

4086 — *B0142* **Long Term Outcomes in Patients with Retinal Vein Occlusion Treated with Vascular Endothelial Growth Factor Antagonists.** *Mustafa Iftikhar, T. Mir, G. Hafiz, I. E. Zimmer-Galler, A. Scott, S. D. Solomon, A. Sodhi, A. Wenick, C. Meyerle, K. Jiramongkolchai, T. Liu, J. Arevalo, M. Singh, S. Kherani, J. T. Handa, P. A. Campochiaro.* Wilmer Eye Institute

4087 — *B0143* **Clinical characteristics and visual prognosis of young patients with central retinal vein occlusion.** *Kyu Sang Eah, J. Lee, J. Kim, Y. Yoon, Y. Kim.* University of Ulsan College of Medicine, Asan Medical Center

4088 — *B0144* **Change of Cytokines in Recurred Patients After Ranibizumab Therapy for Branch Retinal Vein Occlusion With Macular Edema.** *Hidetaka Noma, K. Yasuda, M. Shimura.* Department of Ophthalmology, Tokyo Medical University Hachioji Medical Center

4089 — *B0145* **Relationship between abnormalities of retinal structures and vascular structures determined by optical coherence tomography angiography in eyes with branch retinal vein occlusion.** *Takeshi Iwase, Y. Ogasawara, K. Yamamoto, E. Ra, H. Terasaki.* Ophthalmology, Nagoya University Hospital

4090 — *B0146* **Macular Function in Macular Edema Associated with Branch Retinal Vein Occlusion Treated with Intravitreal Ranibizumab.** *Tomoharu Nishimura, S. Machida.* Ophthalmology, Dokkyo Medical University Saitama Medical Center

4091 — *B0147* **Associations between Retinal Vascular Calibre and Nutrient Intake in Japanese-Americans.** *Diah G. Ibrahim[1, 2], Y. Kiuchi[1], M. Yanagi[1], R. Kawano[3], A. Nagao[4], M. I. Kamaruddin[2].* [1]Department of Ophthalmology and Visual Sciences, Graduate School of Biomedical and Health Sciences, Hiroshima University; [2]Department of Ophthalmology, Faculty of Medicine, Hasanuddin University; [3]Centre For Integrated Medical Research, Hiroshima University Hospital; [4]Division of Nutrition Management, Hiroshima University Hospital

Tuesday Posters
2:45 pm – 4:30 pm

West Exhibition Hall B0408-B0465

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Cornea

387 Corneal Tissue Engineering and Regenerative Medicine

Moderators: Cecilia Chao and Philipp Steven

4092 — *B0408* **Porcine limbus as a model for studying the human limbus – results from clonal analysis.** *Ashkon G. Seyed-safi[1, 2], J. T. Daniels[1].* [1]Institute of Ophthalmology, UCL; [2]Medical School, UCL

4093 — *B0409* **Porcine Cornea Exposed to Human Whole Blood Induces a Proinflammatory Cytokine Response Which Is Strongly Dependent on Activation of C5 and CD14.** *Rakibul Islam[1], M. Islam[2], P. Nilsson[1, 3], K. T. Hagen[4], M. Gonzalez-Andrades[2, 5], T. E. Mollnes[1, 6].* [1]Department of Immunology, Oslo University Hospital/University of Oslo; [2]Massachusetts Eye and Ear and Schepens Eye Research Institute, Department of Ophthalmology, Harvard Medical School; [3]Linnaeus Centre for Biomaterials Chemistry, Linnaeus University; [4]Department of Pathology, Oslo University Hospital/University of Oslo; [5]Maimonides Biomedical Research Institute of Cordoba (IMIBIC), Department of Ophthalmology, Reina Sofia University Hospital and University of Cordoba; [6]Research Laboratory, Nordland Hospital

4094 — *B0410* **Plasma Rich in Growth Factors (PRGF) Enhances Corneal Endothelial Cells Survival and Proliferation.** *Carolina Mercado[1], A. Gomez[1], E. Salero[1], N. Venkateswaran[1], B. de la Sen[2], A. L. Sabater[1].* [1]Cornea, Bascom Palmer Eye Institute; [2]Institute for Regenerative Medicine and Oral Implantology

4095 — *B0411* **Characterizing Mechanical Properties of Silk Films with Atomic Force Microscopy.** *Michael Sun[1], T. Teng[2], Y. Luo[1], Q. Zhou[1], J. Lee[2], M. Rosenblatt[1].* [1]Ophthalmology, University of Illinois at Chicago; [2]Bioengineering, University of Illinois at Chicago

4096 — *B0412* **Static and RCCS dynamic spheroid expansion of Muse cells and the therapeutic potential for corneal scarring wound in mouse and tree shrew.** *Yonglong Guo[1], J. Chen[1, 2], Y. Xue[2], Q. Yu[3], J. Zhang[4].* [1]Key Laboratory for Regenerative Medicine of Ministry of Education, Jinan University; [2]Institute of Ophthalmology, Medical College, Jinan University; [3]Centric Laboratory, Medical College, Jinan University; [4]Key Laboratory of Optoelectronic Information and Sensing Technologies, Guangdong Higher Educational Institutes, Jinan University

4097 — *B0413* **Biophysical characterization of a simultaneous interpenetrating polymer network composed of crosslinked collagen and hyaluronic acid.** *Krystal Y. Lai[1], H. J. Lee[3], S. Hull[2], G. Fernandes-Cunha[1], D. Myung[1, 2].* [1]Ophthalmology, Stanford University School of Medicine; [2]Chemical Engineering, Stanford University; [3]Chemical and Biological Engineering, Gachon University ***CR***

4098 — *B0414* **Optimized photopolymerizable hydrogel for sealing full-thickness corneal lacerations.** *Clotilde Jumelle[1], E. Shirzaei Sani[2], Y. Taketani[1], Z. SUN[1], A. Yung[1], N. Annabi[2], R. Dana[1].* [1]Schepens Eye Research Institute, Harvard Medical School; [2]Chemical and Biomolecular Engineering Department, University of California ***CR***

4099 — *B0415* **The stimulatory effect of ROCK inhibitor on rabbit corneal limbal epithelial spheroids and bioprinting.** *Peiyuan Wang[1], Y. Han[1], Y. Guo[2], Q. Yu[3], J. Zhang[4], J. Chen[5, 6].* [1]Department of Ophthalmology, the First Clinical Medical College of Jinan University; [2]Key Laboratory for Regenerative Medicine of Ministry of Education, Jinan University; [3]Centric Laboratory, Medical College, Jinan University; [4]Key Laboratory of Optoelectronic Information and Sensing Technologies, Jinan University; [5]Institute of Ophthalmology, Medical College, Jinan University; [6]Aier Eye Institute

4100 — *B0416* **Bioengineered Corneal Stromal Lenticule.** *Tuhin Bhowmick[1], T. Gharat[1], S. Selvam[1], A. Chandru[1], S. Asthana[1], A. Indurkar[1], R. Aravind R[1], S. K. Ojha[1], V. Singh[2], S. Basu[2], V. Sangwan[2].* [1]Pandorum Technologies Pvt. Ltd.; [2]L.V. Prasad Eye Institute ***CR***

4101 — *B0417* **Derivation of corneal endothelium from human iPSCs cells.** *Daniel Pelaez, A. Naranjo, Z. Acosta Torres.* University of Miami

4102 — *B0418* **The effect of mesenchymal stem cells on corneal wound healing after chemical injury: A case serials clinical study.** *HE HUI[1, 2], S. Ou[1, 3], L. zhang[1, 2], J. Li[1, 2], Z. Liu[1, 3], W. Li[1, 3].* [1]The Eye Institute of Xiamen University; [2]Medical College of Xiamen University; [3]Xiang'an Hospital of Xiamen University ↗

4103 — *B0419* **Efficacy of bone marrow- *versus* adipose tissue-derived mesenchymal stem cells in a rabbit model of limbal stem cell deficiency.** *Jose-Maria Herreras[1, 2], S. Galindo[2, 3], M. López-Paniagua[2, 3], C. García-Vázquez[2], E. Rey[3, 2], M. Calonge[2, 3], T. Nieto-Miguel[3, 2].* [1]Department of Ophthalmology, Clinic University Hospital; [2]IOBA (Institute of Applied Ophthalmobiology), University of Valladolid; [3]CIBER (Biomedical Research Networking Centre in Bioengineering, Biomaterials and Nanomedicine), Carlos III National Institute of Health

4104 — *B0420* **Low scale production of advanced therapy medicinal products for limbal stem cell deficiency.** *Alvaro Meana[1], S. Berisa[2], M. Chacon[1], N. Vazquez[1], M. P. MEDINA[1], B. Baamonde[1], J. Alfonso[1], L. Fernandez-Vega[1], J. Merayo-Lloves[1].* [1]Instituto Universitario Fernandez-Vega, Fundacion de Investigacion Oftalmologica & Universidad de Oviedo; [2]Instituto Oftalmologico Fernandez-Vega

4105 — *B0421* **Optimisation of Transportation for Limbal Biopsies and Cultured Limbal Epithelial Cells for Worldwide Treatment of Limbal Stem Cell Deficiency.** *Sanja Bojic[1], F. Figueiredo[1, 2], M. Lako[1].* [1]Institute of Genetic Medicine,Newcastle University; [2]Department of Ophthalmology, Royal Victoria Infirmary, Newcastle University

4106 — *B0422* **Reduction of Cellular Antigens of Corneal Xenografts by Detergent-based Decellularization Solution and Gamma Sterilization.** *Mohammad Mirazul Islam[1], R. Sharifi[1], S. Mamodaly[1], R. Islam[2], D. Nahra[1], D. B. Abusamra[1], Y. Adibnia[1, 3], M. Goulamaly[4], E. I. Paschalis[1], J. Kong[4], P. Nilsson[2, 5], P. Argueso[1], T. E. Mollnes[2, 6], J. Chodosh[1], C. H. Dohlman[1], M. Gonzalez-Andrades[1, 7].* [1]Department of Ophthalmology, Harvard Medical School, Massachusetts Eye and Ear and Schepens Eye Research Institute; [2]Department of Immunology, Oslo University Hospital, Rikshospitalet, University of Oslo; [3]Yeditepe University School of Medicine; [4]Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology; [5]Linnaeus Center for Biomaterials Chemistry, Linnaeus University; [6]Research Laboratory, Nordland Hospital, Bodø, and Faculty of Health Sciences, K.G. Jebsen TREC, University of Tromsø; [7]Department of Ophthalmology, Maimonides Biomedical Research Institute of Cordoba (IMIBIC), Reina Sofia University Hospital and University of Cordoba

4107 — *B0423* **Systemic Immunosuppression with Tacrolimus loaded osmotic pumps in a Rabbit Model for Limbal Stem Cell Transplantation.** *Alexander Händel[3], S. E. Siebelmann[3], F. Wabnig[3], T. Ilmarinen[1], B. Budko[2], L. Koivusalo[1], H. Skottman[1], C. Cursiefen[3], B. Bachmann[3].* [1]Faculty of Medicine and Health Technology, Tampere University; [2]Department of Pharmacy, University of Cologne; [3]Department of Ophthalmology, University of Cologne

4108 — *B0424* **Nanotopography of substrates directs the deposition of fibrillar collagen by corneal stromal cells and deposition is accelerated by macromolecular crowding.** *Danielle A. O'Loughlin[1, 2], V. R. Kearns[1], H. J. Levis[1], C. Sheridan[1], E. G. Canty-Laird[2].* [1]Department of Eye and Vision Science, University of Liverpool; [2]Department of Musculoskeletal Biology I, University of Liverpool

4109 — *B0425* **An Investigation of Corneal Keratocytes in the Developing Chick Cornea in Situ and in Culture.** *Kiranjit K. Bains[1], E. Koudouna[1], R. D. Young[1], C. Hughes[2], A. J. Quantock[1].* [1]Optometry & Visions Sciences, Cardiff University; [2]Cardiff School of Biosciences, Cardiff University

4110 — *B0426* **Characterization of bioorthogonally crosslinked collagen gels with encapsulated corneal stromal stem cells.** *Sarah Hull[2, 1], G. Fernandes-Cunha[1], I. Putra[4], M. Eslani[4], A. R. Djalilian[4], S. Heilshorn[3, 2], D. Myung[1, 2].* [1]Ophthalmology, Stanford University; [2]Chemical Engineering, Stanford University; [3]Materials Science and Engineering, Stanford University; [4]Ophthalmology, University of Illinois at Chicago **CR*

4111 — *B0427* **Characterization of a corneal endothelial injury as a platform for evaluation of corneal endothelial cell delivery.** *Lauren Cornell[1, 2], J. McDaniel[1], C. Sprague[1], R. D. Glickman[2], D. O. Zamora[1].* [1]USAISR; [2]Ophthalmology, UTHSCSA

4112 — *B0428* **Efficient expansion of corneal mesenchymal stromal cells with preserved therapeutic effects.** *Sayena Jabbehdari[1], G. Yazdanpanah[1], I. Putra[1], K. Anwar[1], X. Shen[1], B. Rabiee[1], M. Eslani[1], P. Hematti[2], A. R. Djalilian[1].* [1]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, Illinois, United States.; [2]Department of Medicine, Department of Medicine and University of Wisconsin Carbone Cancer Center, University of Wisconsin-Madison, School of Medicine and Public Health, Madison, Wisconsin, United States.

4113 — *B0429* **Enhancing cornea wound healing by using silk films with engineering nano-topographies and extracellular proteins.** *Yuncin Luo, V. H. Guaiquil, M. Rosenblatt.* Ophthalmology, University of Illinois at Chicago

4114 — *B0430* **Biochemical, thermal and anatomical characterization of the decellularized corneal scaffold.** *Itza A. Uribe Santa María[1, 2], D. Chavarría-Bolaños[3], M. Alvarez-Perez[1].* [1]Tissue Bioengineering Laboratory, DEPeI., Facultad de Odontología, UNAM; [2]FES-Iztacala, UNAM; [3]UCR, LANOTEC

4115 — *B0431* **Characterization of a novel biomaterial for the repair or replacement of pathological cornea.** *Gudiseva Chandrasekher, S. BHATTACHARYA.* Pharmaceutical Sciences, South Dakota State University

4116 — *B0432* **Corneal Wound Healing Effects of Solubilized Porcine Cornea Extracellular-Matrix.** *Ghasem Yazdanpanah[1], S. Somala[1], M. Sun[1], Q. Zhou[1], K. Anwar[1], S. Jabbehdari[1], X. Shen[1], I. Putra[1], B. Rabiee[1], T. Shokuhfar[2], M. Rosenblatt[1], A. R. Djalilian[1].* [1]Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, UIC; [2]Department of Bioengineering, University of Illinois at Chicago

4117 — *B0433* **A 3D-hemi-cornea wound healing model for pre-clinical testing.** *Daniel Kampik[1], I. Tarau[1], H. Han[1], H. Walles[2], F. Groeber-Becker[2], J. Hillenkamp[1], C. Lotz[2].* [1]Department of Ophthalmology, University of Wurzburg; [2]Translational Center Regenerative Therapies | TLZ-RT, Fraunhofer ISC

4118 — *B0434* **Postnatal Induction of PAX6 to Alleviate Aniridia Manifestations.** *Behnam Rabiee[1], X. Shen[1], K. Anwar[1], I. Putra[1], N. Afsharkhamseh[1], S. Jabbehdari[1], G. Yazdanpanah[1], J. D. Lauderdale[2], M. Rosenblatt[1], A. R. Djalilian[1].* [1]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]Department of Cellular Biology, University of Georgia **CR*

4119 — *B0435* **Characterization of a collagen-based engineered corneal endothelium.** *Maria Dolores Montalvo, J. Zavala, W. Ortega-Lara, J. Valdez-Garcia.* Tecnologico de Monterrey (ITESM)

4120 — *B0436* **Normal Human Corneal Induced Pluripotent Stem Cell-Derived Retinal Progenitor Cells as a Model to Study Human Retinal Diseases.** *Roy Joseph[1], O. P. Srivastava[1], R. R. Pfister[2].* [1]Department of Optometry and Vision Science, University of Alabama at Birmingham; [2]Eye Research Foundation

4121 — *B0437* **Kinetics of the deswelling process of corneal grafts with dextran-containing culture medium before keratoplasty.** *Loïc Hamon[1], L. Daas[1], S. Maeurer[2], K. Schulz[3], F. Asi[1], A. Langenbucher[2], B. Seitz[1].* [1]Department of Ophthalmology, Saarland University Medical Center; [2]Department of Experimental Ophthalmology, Saarland University; [3]LIONS Cornea Bank Saar-Lor-Lux, Trier/Westpfalz, Saarland University Medical Center

4122 — *B0438* **Extracellular matrix regulation of limbal epithelial stem cell function.** *Ursula Schlotzer-Schrehardt, F. Kruse, K. Kraus, M. Zenkel, F. E. Kruse.* Department of Ophthalmology, University of Erlangen-Nuernberg

4123 — *B0439* **Novel gene expression identifies regenerative potential in adult corneal stem cells.** *Martha L. Funderburgh, I. Khandaker, J. L. Funderburgh.* Department of Ophthalmology, Univ of Pittsburgh Sch of Med

4124 — *B0440* **Organotypical 3D corneal equivalents from decellularized materials.** *Julia Fernández-Pérez[1, 2], M. Ahearne[1, 2].* [1]Trinity Center for Bioengineering, Trinity College Dublin; [2]Department of Mechanical and Manufacturing Engineering, Trinity College Dublin

4125 — *B0441* **In Vivo examination in NZW rabbits of The CorNeat Kpro - a novel keratoprosthesis.** *Gilad Litvin[1, 2].* [1]Ein Tal; [2]CorNeat Vision **CR*

4126 — *B0442* **Limbal stem cell characterization and use for the restoration of cornea transparency.** *Julia I. Khorolskaya[1], O. I. Aleksandrova[1], G. Pisugina[1], D. Perepletchikova[1], T. Mashel[1], K. Zhurenkov[1], A. S. Dubovikov[2], A. V. Besushko[2], N. Mikhailova[1], M. Blinova[1].* [1]Cell Technologies Center, Institute of Cytology of the Russian Academy of Science; [2]Ophthalmology, Kirov Military Medical Academy

4127 — *B0443* **Demographic and clinical features of patients with Limbal Stem Cell Deficiency (LSCD) enrolled in HOLOCORE, a European prospective trial.** *Rudy M. Nuijts[1], F. Figueiredo[2], P. Rama[3], d. harminder[4], b. duchesne[5], P. Fournie[6], O. Gris[7], L. Hoffart[8], H. gaelle[8], C. Macaluso[9], E. Messmer[10], A. Pocobelli[11], E. Wylegala[12], G. Pellegrini[13].* [1]Ophthalmology, Univ Hospital Maastricht; [2]Dept of Ophthalmology, Royal Victoria Infirmary; [3]U.O.Oculistica - Unità Cornea e Superficie Oculare, Istituto Scientifico San Raffaele; [4]B Floor, Eye ENT Centre Queens Medical Centre, University of Nottingham; [5]Service d'ophtalmologie, Centre Hospitalier Universitaire de Liège | CHU de Liège; [6]Service d'Ophtalmologie Hôpital Pierre-Paul Riquet; [7]Cornea and cataract and refractive surgery dept, IMO; [8]Ophthalmologie dept, Hospital de la Timone; [9]Ophthalmology, University of Parma, Italy; [10]Ophthalmology, Augenklinik der LMU; [11]Ophthalmology, Azienda ospedaliera San Giovanni Addolorata; [12]Ophthalmology Department, Railway Hospital Katowice; [13]Department of Surgery, Medicine, Odontoiatry and Morphological Sciences, Center for Regenerative Medicine University of Modena e Reggio Emilia ↗

4128 — *B0444* **Ex vivo expansion of limbal stem cells using Descemet's Membrane as a culture substrate.** *Joshua H. Hou[1, 2], P. Bedard[2], S. Lee[2], C. Yuan[2].* [1]Ophthalmology & Visual Neurosciences, University of Minnesota; [2]Lions Gift of Sight Eye Bank, University of Minnesota

4129 — *B0445* **Human limbal organoid transplantation in a rabbit limbal deficiency model.** *Kazunari Higa[3], J. Higuchi[3], R. Kimono[3], H. Miyashita[2], J. Shimazaki[1, 3], K. Tsubota[2], S. Shimmura[2].* [1]Department of Ophthalmology, Tokyo Dental College, Ichikawa general hospital; [2]Ophthalmology, Keio Univercity School of Medicine; [3]Cornea Center Eyebank, Tokyo Dental College Ichikawa General Hospital

4130 — *B0446* **Tonometry and pachymetry changes after intracameral injection of human amniotic membrane mesenchymal stem cells in a corneal burn model.** *Alejandro Navas[1], F. S. Magaña-Guerrero[1, 2], A. Domínguez-López[1, 2], C. Chávez-García[1], G. Partido[1], E. O. Graue-Hernandez[1], F. J. Sánchez-García[3], Y. Garfias[1, 2].* [1]Institute of Ophthalmology "Conde de Valenciana"; [2]Faculty of Medicine, Departement of Biochemistry, Universidad Nacional Autónoma de México; [3]Escuela Nacional de Ciencias Biológicas, Instituto Politécnico Nacional

4131 — *B0447* **A Novel Mouse Model for Corneal Scarring.** *Irona Khandaker, M. L. Geary, M. L. Funderburgh, J. L. Funderburgh.* Ophthalmology, University of Pittsburgh School of Medicine

4132 — *B0448* **Correlation between corneal endothelial cell morphology parameters and confluence in a two-phase culture system.** *Jorge E. Valdez, M. Montalvo, C. Calzada-Rodríguez, A. Rodríguez-Ramírez, I. Cárdenas-Rodríguez, J. Zavala.* Escuela de Medicina, Tecnologico de Monterrey

4133 — *B0449* ***Anti-infective MRI-trackable glycation-safe pro-regenerative smart biosynthetic cornea: For personalised biotherapeutics.*** *Hirak K. Patra.* Chemical Engineering and Biotechnology, University of Cambridge

4134 — *B0450* **Digital Surgery: Manufacturing corneal Biopatches using a Piezoelectric Inkjet Printer.** *PRISCILA C. CRISTOVAM, J. L. Hoehne, R. Carlstron, s. I. Abensur, P. C. Antoneli, P. Schor.* Ophthalmolgy and Visual Sciences, UNIFESP

4135 — *B0451* **Functional modification of Collagen like peptides for cellular specificity and function.** *Jaganmohan R. Reddy[1], M. Gerasimov[2], M. Griffith[3].* [1]Prof. Brien Holden Eye Research Center, LV Prasad Eye Institute; [2]Linkoping University; [3]Department of Ophthalmology, University of Montreal

4136 — *B0452* **ABCB5-positive limbal stem cell recovery from human donors.** *Yuzuru Sasamoto[1], N. Sasamoto[2], B. Ksander[4], M. H. Frank[3], N. Frank[1].* [1]Medicine, Brigham and Women's Hospital; [2]Obstetrics and Gynecology Epidemiology Center, Brigham and Women's Hospital; [3]Transplant Research Program, Boston Children's Hospital; [4]Schepens Eye Research Institute, Mass Eye & Ear **CR*

4137 — *B0453* **Silk fibroin membranes for the culture of human corneal endothelium.** *Charanya Ramachandran[1], S. Hazra[1], P. Gupta[2], B. Mandal[2].* [1]Hyderabad Eye Research Foundation, LV Prasad Eye Institute; [2]Indian Institute of Technology-Guwahati

4138 — *B0454* **A Comparison Of Endothelial Regeneration With Two Different Rock Inhibitors: An Ex-Vivo Study.** *Francisco Bandeira[2, 1], H. Ong[2, 3], S. Lin[2], K. Adnan[2], X. Seah[2], G. S. Peh[2], J. S. Mehta[2].* [1]Federal University of Sao Paulo; [2]Ocular Tissue Engineering & Stem Cell Group, Singapore Eye Research Institute; [3]Singapore National Eye Center

4139 — *B0455* **Recombinant human collagen type I hydrogels as superior cell carriers for corneal epithelial stem cells and corneal transplantation.** *Michel Haagdorens[1, 2], A. Liszka[3], M. Ljunggren[3], P. Fagerholm[3], R. Valiokas[4, 5], V. Cepla[5], Y. Tal[6], N. Orr[6], T. Shtein[7], O. Shoseyov[7], S. Thys[1], I. Pintelon[1], M. Griffith[8], M. Tassignon[1].* [1]University of Antwerp; [2]Antwerp University Hospital; [3]Linköping University; [4]Ferentis UAB; [5]center for physical sciences and technology; [6]Collplant; [7]Hebrew University; [8]Maisonneuve, Université de Montréal **CR*

4140 — *B0456* **Transdifferentiating reconstructed human epidermis (RHE) to corneal epithelium through retinoic acid.** *Christian Lotz[1], R. Seliger[2], L. Littau[2], D. Akyuerek[2], F. Groeber-Becker[1].* [1]Translational Center Regenerative Therapies, Fraunhofer ISC; [2]Tissue engineering and regenerative medicine, Universtiy hospital Würzburg

4141 — *B0457* **Effects of Media Composition on the Phenotype of Oral Mucosal Epithelial Cell Sheet Cultured for Corneal Epithelium Reconstruction.** *Fawzia Bardag-Gorce[2], K. Narwani[1], D. Cortez[2], I. Yang[2], J. Stark[2], M. Garcia[2], A. Diaz[2], J. Oliva[2], Y. Niihara[3].* [1]TGPS, LA BioMed at Harbor UCLA Medical Center; [2]Pathology, Los Angeles Biomedical Research Institute; [3]Los Angeles Biomedical Research Institute **CR*

4142 — *B0458* **Development of a simple method to generate transparent collagen gel compatible with corneal cells.** *Jingjing You[1, 2], Y. Song[1], M. Hoque[3], L. Wen[3], C. Petsoglou[1, 3], G. Sutton[1, 3].* [1]Save Sight Institute, University of Sydney; [2]School of Optometry and Vision Science, University of New South Wales; [3]NSW Tissue Bank, South East Local Health District

4143 — *B0459* **The OBSERV platform (Ophthalmic Bioreactor Specialized in Experimental Research & Valorization): simulation of a DMEK.** *Gilles Thuret[2, 3], E. CROUZET[2], C. PERRACHE[2], T. GARCIN[2, 1], M. TRONE[1, 2], F. FOREST[2, 4], P. Gain[2, 1], Z. HE[2].* [1]Ophthalmology, University Hospital of St-Etienne; [2]Laboratory Biology, Engineering and Imaging of Corneal Grafts, BiiGC, EA2521, University Jean Monnet; [3]Institut Universitaire de France; [4]Pathology, University Hospital **CR*

4144 — *B0460* **Injection of umbilical endothelial progenitor cells with Y-27632 to repair corneal endothelium injury.** *Chunyi Shao, W. Zhang, F. Yu, Y. Fu, X. Fan.* Department of Ophthalmology, Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine

4145 — *B0461* **Developing a novel ocular adhesive for corneal perforations.** *Ines P. Barroso[1], A. Ghag[1], S. Rauz[2], S. Cox[1].* [1]Chemical Engineering, University of Birmingham; [2]Ophthalmology, Institute of Inflammation and Ageing, University of Birmingham

4146 — *B0462* **Human Limbus-derived Mesenchymal/Stromal Stem Cell Therapy for Superficial Corneal Pathologies: Two-Year Outcomes.** *Sayan Basu[2, 1], M. Damala[2], F. Tavakkoli[2], N. Mitragotri[2], V. Singh[2].* [1]Cornea and Anterior Segment Services, L V Prasad Eye Institute; [2]Center for Ocular Regeneration (CORE), L V Prasad Eye Institute ↗

4147 — *B0463* **Production of human bioinks and 3D bioprinter to fabricate corneal tissues.** *MAIROBI P. MEDINA[1, 5], A. Meana[1, 2], A. PRIERES[3], S. LLAMES[2], M. Chacon[1], N. Vazquez[1], C. Nuñez[1], J. BLÁZQUEZ[1, 5], S. GONZÁLEZ[4], J. CABEZAS[4], D. ÁLVAREZ[3], M. FERNÁNDEZ[3], P. MARTÍN[4], L. Fernández-Vega[1, 5], J. Merayo-Lloves[1].* [1]Instituto Universitario Fernández-Vega**.** Fundación de Investigación Oftalmológica**.** Universidad de Oviedo; [2]Centro de Investigación Biomédica en Red Enfermedades Raras (CIBERER) U714; [3]Fundación Prodintec; [4]IZERTIS; [5]Instituto Oftalmológico Fernández-Vega

4148 — *B0464* **Evaluation of the effects of Rho Kinase Inhibitor on corneal nerve regeneration in vivo using confocal microscopy.** *Sonja Mertsch[2], I. Neumann[1], G. Geerling[1], S. Schrader[2].* [1]Eye clinic Duesseldorf; [2]Laboratory for Experimental Ophthalmology, Department of Ophthalmology Oldenburg

4149 — *B0465* **Electrospun PCL-collagen nanofiber membranes as substitutes for posterior lamellar keratoplasty.** *Marcus Himmler[1, 2], D. Thieme[1, 2], F. Kueng[1], P. Stafiej[1], D. Dippold[1, 3], D. W. Schubert[1, 2], T. A. Fuchsluger[4].* [1]Institute for Polymer Materials, Friedrich-Alexander University Erlangen-Nuernberg; [2]Bavarian Polymer Institute, Friedrich-Alexander University Erlangen-Nuernberg; [3]Department of Plastic and Hand Surgery, Friedrich-Alexander University Erlangen-Nuernberg; [4]Department of Ophthalmology, Heidelberg University Hospital

West Exhibition Hall B0466-B0475

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Cornea

388 Corneal Development and Cell Differentiation

Moderator: Jessica M. Skeie

4150 — *B0466* **Ocular manifestations of chordin-like 1 (Chrdl1) knockout mice.** *Yang Liu[1], M. Warman[2], D. A. Sullivan[1], S. Hann[2], D. Chen[1, 3].* [1]Schepens Eye Research Institute, MEE, HMS; [2]Department of Genetics, Harvard Medical School, Orthopaedic Research Laboratories, Boston Children's Hospital; [3]Department of Ophthalmology, Chinese Academy of Medical Sciences & Peking Union Medical College Hospital

4151 — *B0467* **Development of patient-derived iPSC disease models of TGFBI corneal dystrophies.** *Beatriz Sanchez[1], A. E. Davidson[1], K. Muthusamy[1, 2], S. J. Tuft[2, 1], A. J. Hardcastle[1].* [1]Institute of Ophthalmology, University College London; [2]Moorfields Eye Hospital

4152 — *B0468* **Characterizing the role of Caveolin1 in Limbal and Corneal Epithelium during Homeostasis.** *Jadith Ziegler[1, 2], L. L. Wong[1, 2], M. H. Elliott[1, 2].* [1]The University of Oklahoma Health Sciences Center; [2]Dean McGee Eye Institute

4153 — *B0469* **Phenotypic variation of transition zone in human posterior limbus.** *Gary Hin-Fai Yam[1], X. Seah[1], E. Benson[2], G. S. Peh[1], J. S. Mehta[1].* [1]Singapore Eye Research Institute; [2]Renovo Neural ***CR***

4154 — *B0470* **Primary cilia deficiency in neural crest cells leads to Anterior Segment Dysgenesis (ASD) by disruption of the Indian Hedgehog signaling pathway in the periocular mesenchyme.** *Céline Portal[1], Q. Liu[1], P. Y. Lwigale[2], C. Iomini[1, 3].* [1]Ophthalmology, Icahn School of Medicine at Mount Sinai; [2]BioSciences, Rice University; [3]Cell, Development and Regenerative Biology, Icahn School of Medicine at Mount Sinai

4155 — *B0471* **TGF beta signaling in stroma is essential for corneal development.** *Yen-Chiao Wang[1], Y. Zhang[1], L. Yeh[2], C. Liu[1].* [1]Indiana University School of Optometry; [2]Department of Ophthalmology, Chang-Gung Memorial Hospital Linko

4156 — *B0472* **Modeling of limbal stem cell differentiation using human pluripotent stem cells.** *Heli Skottman, M. H. Vattulainen, K. Viiri, T. Ilmarinen.* Faculty of Medicine and Health Technology, Tampere University

4157 — *B0473* **Construction and application of tissue engineered corneal epithelium from human embryonic stem cells.** *Jia He[1, 2], H. Sun[1, 2], S. Ou[1, 2], X. He[1, 2], Z. Zhao[1, 2], Y. Qu[1, 2], V. Jeyalatha[1, 2], P. Reinach[3], Z. Liu[1, 4], W. Li[1, 4].* [1]Eye insititution of Xiamen university; [2]Medical College of Xiamen University; [3]Departments of Ophthalmology and Optometry, Wenzhou Medical University; [4]Xiang'an Hospital of Xiamen University

4158 — *B0474* **Roles of Disabled-2 in Anterior Segment Development and Corneal Opacity.** *Wensi Tao[1, 2], J. Tse[2], A. L. Sabater[1], D. Pelaez[1, 2], X. Xu[2].* [1]opthalmology, Bascom Palmer Eye Instituten, University of Miami; [2]Cell Biology, University of Miami

4159 — *B0475* **Disruption of Cxcl12-Cxr4 chemokine signaling alters neurovascular patterning during ocular development.** *Peter Y. Lwigale.* BioSciences, Rice University

West Exhibition Hall B0518-B0557

Tuesday, April 30, 2019 2:45 PM-4:30 PM

Cornea

389 Tear film, Lacrimal and Meibomian Glands

Moderators: Matilda F. Chan, James V. Jester and Driss Zoukhri

4160 — *B0518* **The mechanical effects of external pressure and freezing stimulation on meibomian gland morphology in rats.** *Youngsub Eom[1], B. Kang[1], X. Li[1], S. Choi[1], S. Ha[1], H. Hwang[2], H. Lee[3], S. Baek[1], H. Kim[1], J. Song[1].* [1]Ophthalmology, Korea University College of Medicine; [2]Chuncheon Sacred Heart Hospital, Hallym University, South Korea; [3]Yonsei University College of Medicine

4161 — *B0519* **Hyaluronan regulates Meibomian gland morphogenesis.** *Mingxia Sun[1], S. Puri[1], G. J. Parfitt[2], K. N. Mutoji[1], T. F. Gesteira[1], V. J. Coulson-Thomas[1].* [1]Optometry, University of Houston; [2]European Cancer Stem Cell Research Institute

4162 — *B0520* **Identification of motilin-receptor in human eyelid tissue – a potential new insight into eyelid physiology.** *Jonathan Goh, S. L. Watson, K. Ooi, S. Cherepanoff, M. C. Madigan.* Save Sight Institute, The University of Sydney

4163 — *B0521* **Influence of nonpolar lipids chain length on the stability of Tear Film Lipid Layer: a molecular level view by employing in silico modeling.** *Lukasz Cwiklik[1], K. Riedlova[1], A. Olzynska[1], T. Dolejsova[1, 2], P. Daull[3], J. Garrigue[3].* [1]Institute of Physical Chemistry, Czech Academy of Sciences; [2]Department of Genetics and Microbiology, Faculty of Science, Charles University; [3]Novagali Innovation Center, Santen SAS ***CR***

4164 — *B0522* **Protein expression and functional characterization of muscarinic receptors in myoepithelial cells isolated from rat lacrimal gland.** *Martin Johnsson, M. Winder.* Pharmacology, University of Gothenburg

4165 — *B0523* **Role of mucins in the pathogenesis of dry eye associated with graft versus host disease (GVHD).** *Kiumars Shamloo, A. M. Barbarino, S. Alfuraih, A. Sharma.* School of Pharmacy, Chapman University

4166 — *B0524* **Evaluation of the vitamin D3 levels in tear and blood of college students practicing indoor and outdoor physical activities.** *RENATO G. LECA[1, 2], F. Scorza[3], C. Scorza[3], R. Vincentim[4], D. Freitas[1], A. Hofling de Lima[1], F. Fonseca[4, 5].* [1]OPHTHALMOLOGY, UNIFESP; [2]OPHTHALMOLOGY, Faculdade de Medicina do ABC; [3]Neurology, UNIFESP; [4]Faculdade de Medicina do ABC; [5]UNIFESP

4167 — *B0525* **Digital frequency domain approach for pO_2 sensing with a microfluorometer developed for transcorneal measurements.** *Deanna Rankin[1], V. Akshata[2], M. Thanuja[3], S. Lingesh[2], Y. Povrozin[4], B. Barbier[4], S. Murugan[1], S. Ranganathan[3], S. P. Srinivas[1].* [1]Indiana University; [2]Computer Science, DSCE College; [3]Chemical Engineering, SIT; [4]ISS Inc

4168 — *B0526* **Parameter Estimation for Tear Film Breakup Dynamics.** *Rayanne A. Luke[1], R. J. Braun[1], T. A. Driscoll[1], D. Antwi[2], C. G. Begley[2].* [1]Mathematical Sciences, University of Delaware; [2]School of Optometry, Indiana University

4169 — *B0527* **Simple Models of Tear Break Up (TBU) and Fluorescence.** *Richard J. Braun, A. Manchel, R. A. Luke, C. Begley.* School of Optometry, Indiana University

4170 — *B0528* **Differential bacterial colonization and biofilm formation on punctal occluders *in vitro.*** *Lola Grillo[1], M. Hadjiargyrou[2], E. D. Donnenfeld[3, 1], H. D. Perry[3, 1].* [1]Ophthalmology, Nassau University Medical Center; [2]Department of Life Sciences, New York Institute of Technology; [3]Ophthalmic Consultants of Long Island

4171 — *B0529* **Objective assessment of tear film dynamics with a novel optical method.** *Harilaos Ginis[1, 2], M. Kouris[1], D. Theotoka[1], R. Cuevas[2], P. Santos[2], A. Pennos[2].* [1]Department of Research, Athens Eye Hospital; [2]Visiometrics SL **CR*

4172 — *B0530* **Predictive Modelling of Binary Classes Defined using a Subjective Vision Questionnaire.** *Greg Hofmann[1], Z. Fadli[2], J. R. Buch[2].* [1]Clinical Metrology R&D, Johnson and Johnson Vision Care, Inc.; [2]R&D, Johnson and Johnson vision Care, Inc**.** **CR*

4173 — *B0531* **Lipidomic Analysis of Meibomian Gland Secretions from the Tree Shrew: Identification of Candidate Tear Lipids Critical for Reducing Evaporation.** *Jianzhong CHEN, S. Panthi.* University of Alabama at Birmingham

4174 — *B0532* **Effect of Health and Disease on the Inhibition of Evaporation of Tears by Meibomian Lipids.** *Bernardo Yanez-Soto[1], D. Blanco-Campoy[1], R. Velez-Cordero[1], E. O. Graue-Hernandez[2].* [1]Institute of Physics, Universidad Autonoma de San Luis Potosi; [2]Instituto de Oftalmologia Conde de Valenciana

4175 — *B0533* **Side-by-side comparison of branching and elongation patterns of cholesteryl esters of human and mouse meibum.** *Seher Yuksel[1], N. Bhat[1], A. Wilkerson[1], A. McMahon[1], J. Wojtowicz[1, 3], I. A. Butovich[1, 2].* [1]Department of Ophthalmology, University of Texas Southwestern Medical Center; [2]Graduate School of Biomedical Sciences, University of Texas Southwestern Medical Center; [3]Centro Oftalmologico de Valencia

4176 — *B0534* **Feasibility of Silicon quantum dots to study dynamics of the tear film lipids.** *Sidra Sarwat[1], P. Mara[2], R. Tilley[2], J. Gooding[2], F. Stapleton[1], M. Willcox[1], M. Roy[1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]School of Chemistry, University of New South Wales

4177 — *B0535* **Can proteins reduce evaporation through tear-lipid films?** *Meng C. Lin[1, 2], T. F. Svitova[1, 2].* [1]School of Optometry, University of California, Berkeley; [2]Optometry, Clinical research Center, UC Berkeley

4178 — *B0536* **Using molecular dynamics simulations to build a nanoscale in silico model of the tear film lipid layer.** *Riku Paananen[1, 2], L. Cwiklik[2].* [1]University of Helsinki; [2]**J.** Heyrovský Institute of Physical Chemistry of the Czech Academy of Sciences

4179 — *B0537* **The Efficacy of Strip Meniscometry for Detection of Lacrimal Obstructive Diseases among Patients Complaining Epiphora.** *Sho Ishikawa, T. Shoji, K. Shinoda.* Saitama medical university

4180 — *B0538* **A comparison of two methods to analyse and quantify human tear lipids by ultra-high performance liquid chromatography-mass spectrometry (UHPLC_MS).** *Elena Vecino[1], A. Acera[1], X. Pereiro[1], B. Abad-Garcia[2], Y. Rueda[3], N. Ruzafa[1], C. Santiago[4], I. Barbolla[4], B. Ochoa[3], J. A. Duran[5].* [1]Cell Biology and Histology, University of the Basque Country; [2]Servicio Central de Análisis, Facultad de Ciencia y Tecnología, University of the Basque Country; [3]Department of Physiology, Faculty of Medicine and Nursing, University of the Basque Country; [4]Departamento de Química Orgánica II, Facultad de Ciencia y Tecnología, University of the Basque Country; [5]Department of Ophthalmology, University of the Basque Country

4181 — *B0539* **Topical Lacritin Peptides 'N-94/C-6' and 'N-94' Stabilize and Display Long Residence Time in the Tear Lipid Layer.** *Gordon W. Laurie[1], J. Romano[1], M. Odrich[1], D. Ryan[2], K. Sia[2], G. Georgiev[3].* [1]University of Virginia; [2]Fort Belvoir; [3]University of Sofia **CR*

4182 — *B0540* **Automatic tear film and tear meniscus parameter assessment in healthy subjects with ultrahigh-resolution OCT.** *Hannes Stegmann[1, 4], V. Aranha dos Santos[1, 4], A. Messner[1, 4], D. Schmidl[2], G. Garhofer[2], L. Schmetterer[3, 1], R. M. Werkmeister[1, 4].* [1]Center for Medical Physics and Biomedical Engineering, Medical University Vienna; [2]Department of Clinical Pharmacology, Medical University Vienna; [3]Singapore Eye Research Institute, Singapore National Eye Centre; [4]Christian Doppler Laboratory for Ocular and Dermal Effects of Thiomers, Medical University Vienna ↗

4183 — *B0541* **Does inducing tear hyperosmolarity cause a change in inflammatory marker levels?** *Edward Ian Pearce[1], R. Almutairi[1, 2], S. Alshammari[1, 3], S. Hagan[1], L. Madden[1].* [1]Vision Sciences, Glasgow Caledonian University; [2]Department of Optometry, King Saud University, Riyadh; [3]Department of Optometry and Vision Science, Qassim University **CR*

4184 — *B0542* **Experimental study on SMILE-derived corneal stromal lenticule punctal plug for the treatment of rabbit dry eyes.** *Ying Zhou[1], J. Li[2], K. Li[3], G. Tan[1].* [1]Department of Ophthalmology, The First Affiliated Hospital of University of South China, Hengyang, 421001, China; [2]Department of Ophthalmology, Xi'an No.4 Hospital; [3]Department of refractive surgery, Xi 'an AIER eye hospital

4185 — *B0543* **Feasibility of a Novel Blink Detection System for Assessing Corneal Sensitivity.** *Nicholas D. Nolan[1, 2], D. Falk[1, 3], K. Ehrmann[1, 3].* [1]Brien Holden Vision Institute; [2]Whitaker International Foundation; [3]School of Optometry and Vision Science, University of New South Wales **CR*

4186 — *B0544* **The Use of Optical Coherence Tomography to View Eyelid Margin Vasculature.** *khashayar nattagh, J. Schallhorn.* Ophthalmology, University of California San Francisco **CR*

4187 — *B0545* **Effects of Mesenchymal Stem Cells Derived Exosomes on Ultrastructure of Corneal Epithelium and Function of the Tear Film in dry eye BALB/c Mice.** *Juan Li[1], Y. Zhou[2], Q. Long[3].* [1]Department of Ophthalmology, Xi'an No.4 Hospital; [2]Department of Ophthalmology, The First Affiliated Hospital of University of South China; [3]Department of Neurosurgery, Xi'an Central Hospital

4188 — *B0546* **Comparisons between Harderian glands and Harderianized lacrimal glands in mice.** *Masataka Ito[1], M. Takeuchi[2], J. Imaki[1].* [1]Developmental Anatomy, National Defense Med College; [2]Ophthalmology, National Defense Med College

4189 — *B0547* **A novel approach to identifying dry eye disease using acoustically-driven microfluidic extensional rheometry.** *Laura E. Downie[1], J. Lee[1], E. Makrai[1], A. McDonnell[2], L. Yeo[2].* [1]Department of Optometry and Vision Sciences, The University of Melbourne; [2]School of Engineering, RMIT University **CR*

4190 — *B0548* **Short-term High Fructose Intake Reprograms the Transcriptional Clock Rhythm of the Murine Extraorbital Lacrimal Gland.** *Dingli Lu[1], C. Lin[2], X. Jiao[1], Z. Song[1], J. Gu[1], Z. Li[1, 2].* [1]Henan Eye Institute & Henan Eye Hospital, Henan Provincial People's Hospital and People's Hospital of Zhengzhou University; [2]Key Laboratory for Regenerative Medicine&Jinan University Medical School, International Ocular Surface Research Center and Institute of Ophthalmology

4191 — *B0549* **Comparative gene expression in proliferating versus differentiating human meibomian gland epithelial cells.** *David A. Sullivan[1], W. R. Kam[1], Y. Liu[1], J. Ding[2].* [1]Schepens Eye Res Inst/Harvard Med School; [2]Ophthalmology & Visual Sciences, UMass Memorial Medical Center

4192 — *B0550* **Changes in tear dynamics after surgical treatment for nasolacrimal duct obstruction: Comparative study between dacryocystorhinostomy and bicanalicular nasal intubation.** *Sayuri Okamoto, T. Kamao, A. Mitani, X. Zheng, A. Shiraishi.* Ophthalmology, Ehime University, Graduate School of Medicine

4193 — *B0551* **The effect of sex on the genomics and lipidomics of Meibomian glands in humans: Created equal?** *Nita Bhat[1], K. Itani[1], R. Mancini[1], J. Wojtowicz[2], I. A. Butovich[1].* [1]Department of Ophthalmology, University of Texas Southwestern Medical Center; [2]Centro Oftalmologico de Valencia

4194 — *B0552* **Elongase of Very Long Chain Fatty Acids-3 (Elovl3) Is Critical for Meibum Biosynthesis in Mice.** *Amber Wilkerson, N. Bhat, A. McMahon, I. A. Butovich.* Ophthalmology, UT Southwestern Medical Center

4195 — *B0553* **The α_1-adrenergic agonist, phenylephrine, increases tear cathepsin S secretion through a Rab27a-independent pathway.** *Runzhong Fu[1], S. Janga[2], M. Edman[2], F. Yarber[2], S. F. Hamm-Alvarez[2, 1].* [1]Pharmacology and Pharmaceutical Sciences, School of Pharmacy, University of Southern California; [2]Department of Ophthalmology, Roski Eye Institute, Keck School of Medicine, University of Southern California

4196 — *B0554* **Tear biomarkers for Parkinson's disease in basal versus reflex tears.** *Maria C. Edman[1], S. Reddy Janga[1], D. Freire[2], D. Feigenbaum[2], W. Mack[4], C. T. Okamoto[3], M. F. Lew[2], S. F. Hamm-Alvarez[1, 3].* [1]Department of Ophthalmology, Keck School of Medicine of USC; [2]Department of Neurology, Keck School of Medicine of USC; [3]Department of Pharmacology and Pharmaceutical Sciences, USC School of Pharmacy; [4]Department of Preventive Medicine, Keck School of Medicine of USC **CR*

4197 — *B0555* **Characteristics of Dry Eye Patients with Severe Meibomian Gland Dropout.** *Matthew Henderson[1], V. Y. Bunya[1], I. Macchi[2], M. Sulewski[1], S. Orlin[1], M. Massaro-Giordano[1].* [1]Scheie Eye Institute, University of Pennsylvania; [2]Dipartmento Di Oftalmologia, Clinica Accreditata Fabia Mater **CR*

4198 — *B0556* **Expression of inflammatory mediators and goblet cells-specific markers in eyes with glaucoma when exposed to preserved and unpreserved eye drops.** *Javier Moreno-Montanes[1], I. Gutierrez[1], G. Carracedo[2], M. Guirao Navarro[1], A. Guarnieri[1], E. Carnero[1].* [1]Ophthalmology, Clinica Universidad de Navarra.; [2]Biochemistry and Molecular Biology IV, University Complutense

4199 — *B0557* **Patients with Clinical Signs of Dry Eye Disease Demonstrate Presence of Signs of Neuropathic Corneal Pain.** *Neslihan Dilruba Koseoglu[1, 2], G. Dieckmann[1, 2], Y. Seyed-Razavi[1], A. Jamali[1], S. Cox[1, 2], C. Chao[1], A. Akhlaq[1, 2], R. Nose[1, 2], Z. Salem[1, 2], M. C. Ozmen[1, 2], A. Sahin[1], P. Hamrah[1, 2].* [1]Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center,Tufts University School of Medicine; [2]Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine **CR*

West Exhibition Hall

Tuesday, April 30, 2019 4:15 PM-5:45 PM

390 MIT Outstanding Poster Award Competition

West Exhibition Hall

Tuesday, April 30, 2019 4:45 PM-5:45 PM

391 All Posters and Networking

ARVO Ballroom

Tuesday, April 30, 2019 5:45 PM-6:45 PM

392 ARVO/Champalimaud Award Lecture

The 2018 Champalimaud Vision Award recognizes the extraordinary scientific advances made by the 2018 Award winners led to the successful treatment of a genetic cause of childhood blindness, a version of Leber Congenital Amaurosis, and demonstrated the potential for future developments in gene therapy to cure other inherited diseases. Their work resulted in the first gene therapy cure for an inherited human disease. This research opens the way to revolutionary new treatments for genetic conditions. 2018 Awardees: Jean Bennett, MD, PhD and Albert M. Maguire, MD, Scheie Eye Institute, University of Pennsylvania School of Medicine and Children's Hospital of Philadelphia Robin Ali, PhD and James Bainbridge MD, PhD, Institute of Ophthalmology of the University College London and Moorfields Eye Hospital Samuel G. Jacobson, MD, PhD and William W. Hauswirth, PhD, Scheie Eye Institute, University of Pennsylvania School of Medicine and University of Florida College of Medicine Michael Redmond, PhD, National Eye Institute, U. S. National Institutes of Health

Wednesday

May 1, 2019

ARVO Annual Meeting
Registration
Main Lobby
7am – 6pm

Exhibit hours
8:30am – 5pm

All Posters
5 – 6pm

ARVO Classical Concert
8 – 10pm
Vancouver Convention Centre
East 301

ARVO Karaoke Night
9pm – 12midnight
Blackbird Public House
905 Dunsumir St.
(tickets required)

ARVO 2019
APRIL 28 – MAY 2
VANCOUVER, B.C.

Wednesday, May 1 – Minisymposia, papers, workshops/SIGs, lectures and special sessions

Time	Session	Title	Location
8:15 – 10am	401	**P2X7 receptor: One target for inflammatory responses in different ocular diseases** — Minisymposium [PH, CO, IM, RE, RC]	East 2/3
	402	Retinal Degeneration [RC]	East 8&15
	403	**Repurposing drugs for the treatment of retinal diseases —** Minisymposium [RC, BI, RE]	East 11/12
	404	AMD Imaging II [RE]	East Ballroom B
	405	Gene editing & new cell-based and animal models for ocular disease [BI]	East Ballroom C
	406	Corneal imaging and topography [CO]	West 211
	407	ERG: Advances, Disease and Injury [VN]	West 212-214
	408	GWAS & Beyond: Epigenetics and Functional Characterization [GEN]	West 217-219
	409	Epidemiology of Corneal Disease [CL]	West 220
	410	Visual Impairment- Impact on Driving and Mobility [LV]	West 221/222
	411	Refraction, Biometry, and Myopia [VI]	West 223/224
	412	Ocular Blood Flow [GL, RC]	ARVO Ballroom
	413	Corneal Neuropathy and Neovascularization [CO]	Harbour Ballroom
10:15am – 12 noon	432	Advanced imaging technologies [MOI]	East 1
	433	Blood Flow [PH]	East 2/3
	434	Retinopathy of Prematurity [RE]	East 8&15
	435	Stem Cells and Organoids [RC]	East 11/12
	436	**Precision through measurement: Biomarkers in health and disease** — Minisymposium [IM, RE, VN]	East Ballroom A
	437	Diabetic Retinopathy-Screening and Clinical Imaging [RE]	East Ballroom B
	438	Corneal biomechanics, keratoconus and crosslinking [CO]	West 211
	439	Inner Retinal Function [VN]	West 212-214
	440	Lens Biochemistry [LE]	West 217-219
	441	Retinal disease screening and risk factors [CL]	West 220
	442	Optic Neuropathy [EY]	West 221/222
	443	Myopia Progression and Control: Animal and Clinical Studies [AP]	West 223/224
	444	Imaging [GL]	ARVO Ballroom
	445	Corneal Epithelium in Health and Disease [CO]	Harbour Ballroom
12:15 – 1:45pm	457	Eye and Brain - the interrelationship and pathology (Second Edition) — SIG [VN, EY, GL, IM, RE, MOI]	East 1
	458	Excellence in sight: enhancing the methodological rigor of clinical research to inform eye care practice and future research — SIG [CL, CO, GL, LE, RE]	East 2/3
	459	Integrating Robotics into Ophthalmic Surgery — SIG [RE]	East 8&15
	460	Retinal Ganglion Cell Differentiation from Pluripotent Stem Cells: Applications for Studying Development, Modeling Retinal Degeneration, and as a Vehicle for Cellular Replacement — SIG [RC, GL, RE, VN]	East 11/12
	461	Choriocapillaris Imaging with OCT Angiography — SIG [MOI, GL, RE]	East Ballroom A
	462	Genetics Group — Spotlight on retinal ciliopathy from genetics to mechanism [GEN]	East Ballroom B

Symposia, minisymposia and basic clinical lecture highlighted in **boldface**

Time	Session	Title	Location
12:15 – 1:45pm (continued)	463	Developing Eye Drops in Ophthalmology: Practical Considerations for Smooth Translation to the Clinic — SIG [GL, AP, IM, LE, PH, RE, RC]	East Ballroom C
	464	Scientists as entrepreneurs (or how to apply your science to business)	West 211
	465	How do I tell m(e)y(e) story? Why effective communication is needed now more than ever to increase research funding	West 212-214
	466	Clinician-scientist forum: How to become a successful clinician-scientist	West 217-219
	467	The role of the human microbiome in ocular disease — SIG [IM, RE, GEN]	West 220
	468	Overcoming the challenges of international collaboration in ocular research	West 221/222
	469	Ethical challenges and solutions for CRISPR treatment in human eye disorders	West 223/224
	470	Advances and Challenges in Utilization of Artificial intelligence in Ophthalmology Research and Clinical Practice — SIG [RE, CO, GL, MOI]	Harbour Ballroom
2 – 2:45pm	471	Cogan Award and Lecture	ARVO Ballroom
3 – 4:45pm	472	Retinitis Pigmentosa-Clinical [RE]	East 8&15
	473	Neuroprotection [RC]	East 11/12
	474	Ocular surface infection and inflammation [IM]	East Ballroom A
	475	AMD clinical trials [RE]	East Ballroom B
	476	Advanced therapies for ocular disease [BI]	East Ballroom C
	477	Dry eye clinical [CO]	West 211
	478	Trabecular Meshwork and Ciliary Body [GL]	West 212-214
	479	**Physiological biochemistry of the lens** — Minisymposium [LE]	West 217-219
	480	Genetic Epidemiology [CL]	West 220
	481	Imaging in Neuro-ophthalmic Disorders [EY]	West 221/222
	482	The choroid in ocular physiology, pathology and myopia [AP]	West 223/224
	483	Surgery and Wound Healing [GL]	ARVO Ballroom
	484	Corneal Stroma Wound Healing and Repair [CO]	Harbour Ballroom
6:15 – 7:45pm	498	Focal vs global: Is Keratoconus pathology driven by focal corneal tissue changes or is it a global corneal defect influenced by systemic factors? — SIG [CO, BI, GEN, MOI]	East 1
	499	Fluorescence lifetime imaging ophthalmoscopy from bench to bedside — SIG [IM, RE]	East 2/3
	499a	New perspectives on MIGS — SIG [GL]	East 8&15
	499b	Using, fluid biopsies, for decision-making in personalized medicine in ophthalmology — SIG [CO, AP, GL, IM, RE, RC, GEN]	East 11/12
	499d	Pathogenesis of TB-associated uveitis: current status and future directions — SIG [IM, AP, PH, RE]	East Ballroom B
	499e	Wnt Signalling and regenerative medicine for retinal vascular disease — SIG [RE]	East Ballroom C
	499f	Military Relevant Priorities and Strategies for Injury Diagnostics and Treatments — Special Session	West 211
	499g	The Role of the Tie2 Pathway in Ocular Disease — Special Session	West 109/110

Wednesday, May 1 – Posters

Time	Session	Title	Board No.
8:15 – 10am	414	Lens Development [LE]	A0001 - A0014
	415	Anatomical changes during ocular morphogenesis and disease [AP]	A0015 - A0045
	416	Structure, function and optics in physiological and pathological myopia [AP]	A0046 - A0089
	417	Peripheral Vision, Perimetry and Cortical Function [VI]	A0101 - A0113
	418	Muller Cells in Health and Disease [RC, GL]	A0278 - A0293
	419	Retinal Trauma, PVR and Mesenchymal Transition [RC]	A0294 - A0306
	420	Amblyopia: Vision Screening and Epidemiology [EY]	A0307 - A0319
	421	Strabismus: Diagnosis and Evaluation [EY]	A0320 - A0336
	422	Prevalence of vision impairment [CL]	A0337 - A0351
	423	Patient perspectives and reported outcomes [CL]	A0352 - A0366
	424	Retinitis pigmentosa (clinical) I [RE]	A0405 - A0431
	425	Retinitis pigmentosa (clinical) II [RE]	A0432 - A0457
	426	OCTA in Ocular, Cerebral and Systemic Diseases/Disorders [MOI, RC]	A0514 - A0562
	427	Adaptive Optics [MOI]	A0563 - A0598
	428	Fundamentals of ocular infection 2 [IM]	B0108 - B0143
	429	Corneal Stroma and Keratocytes [CO]	B0175 - B0186
	430	Corneal Stroma and Keratocytes [CO]	B0187 - B0215
	431	Microbiome, Ocular Surface Diseases [CO, VN]	B0254 - B0302
10:15am–12 noon	446	Refractive Error. Ocular Biometry and Biomechanics [VI]	A0090 - A0100
	447	Retinal Ganglion Cells and Optic Neuropathies [RC]	A0164 - A0183
	448	Neuroprotection [RC]	A0184 - A0210
	449	Biochemical and molecular mechanisms of age-related macular degeneration [BI, LV]	A0211 - A0242
	450	Retinal disease: molecular mechanisms and gene editing [BI, LV]	A0243 - A0277
	451	Visual Impairment and Patient Reported Outcomes [LV]	A0367 - A0380
	452	Retinal Prostheses [RE]	A0381 - A0404
	453	Macular Diseases Excluding AMD [RE, RC]	A0458 - A0513
	454	Cornea surgery: refractive [CO]	B0144 - B0174
	455	Corneal Cell and Molecular Biology [CO]	B0216 - B0253
	456	Trabecular Meshwork and Ciliary Body [GL]	B0522 - B0568
3 – 4:45pm	485	ipRGCs and Circadian Rhythms [VN]	A0114 - A0128
	486	Ganglion cells and Beyond [VN, VI]	A0129 - A0163
	487	Screening and Risk Factors in Diabetic Retinopathy [RE, VN]	B0001 - B0016
	488	Diabetic Retinopathy Imaging [RE, RC]	B0017 - B0048
	489	Diabetic retinapathy, cytokines and growth factors [PH]	B0049 - B0071
	490	AMD and Antiangiogenic agents [PH]	B0072 - B0107
	491	Cornea and diabetes-related disorders [GEN]	B0303 - B0322
	492	Healthcare Delivery [CL]	B0323 - B0374
	493	Medical education, training, and EHR implementation [CL]	B0375 - B0403
	494	Imaging I [GL]	B0404 - B0453
	495	Imaging II [GL]	B0454 - B0504
	496	Ocular Blood Flow [GL]	B0505 - B0521

Poster board numbers correspond to poster location in Exhibit Hall; A = Poster Area A , B = Poster Area B

East 2/3

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Physiology/Pharmacology / Cornea / Immunology/Microbiology / Retina / Retinal Cell Biology

401 P2X7 receptor: One target for inflammatory responses in different ocular diseases - Minisymposium

Considering the high impact of purinergic signaling in ocular function, this minisymposium aims to provide the complex role od P2X7 receptor in different ocular systems; beside the minisymposium will highlight current efforts to use P2X7 ligands for treatment.

Moderators: Claudio Bucolo, Claire H. Mitchell and Julie Sanderson

— 8:15 **Introduction**

4200 *— 8:18* **P2X7 receptor in relation to glaucoma: Friend or Foe?** *Julie Sanderson.* School of Pharmacy, University of East Anglia

— 8:34 **Q&A**

4201 *— 8:35* **Life beyond death; beneficial signaling by the P2X7 receptor.** *Claire H. Mitchell.* University of Pennsylvania

— 8:51 **Q&A**

4202 *— 8:52* **P2X7 as a potential target in age related macular degeneration.** *Erica L. Fletcher.* Dept Anatomy/Neuroscience, University of Melbourne

— 9:08 **Q&A**

4203 *— 9:09* **P2X7 receptor: implications in diabetic retinopathy.** *Claudio Bucolo.* Biomedical and Biotechnological Sciences, University of Catania

— 9:25 **Q&A**

4204 *— 9:26* **P2X7 receptor - the communicator in the cornea.** *Vickery E. Trinkaus-Randall.* Ophthalmology and Biochemistry, Boston University Sch of Med

— 9:42 **Q&A**

4205 *— 9:43* **P2X7 receptors in the lacrimal gland: Role in health or disease?** *Darlene A. Dartt[1, 2].* [1]Schepens Eye Research Institute/MEEI; [2]Ophthalmology, Harvard Medical School

— 9:59 **Q&A**

East 8&15

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Retinal Cell Biology

402 Retinal Degeneration

Moderators: Rui Chen and Beatrice M. Tam

4206 *— 8:15* **Unfolded Protein Response Regulator, ATF6, is Essential for Stress Survival in Cone Photoreceptors.** *Wei-Chieh J. Chiang[1], X. Bi[1], H. Kroeger[1], S. Landeros[2], L. Cheng[2], J. H. Lin[1, 2].* [1]Pathology, University of California, San Diego; [2]Ophthalmology, University of California, San Diego

4207 *— 8:30* **The Contribution of Endoplasmic Reticulum Calcium Deficiency to Mistrafficking of Cone Outer Segment Proteins in CNG Channel Deficiency.** *Hongwei Ma[1], F. Yang[1], M. R. Butler[1], J. Rapp[1], Y. Le[2], K. Mikoshiba[3], M. Biel[4], S. Michalakis[4], X. Ding[1].* [1]The Department of Cell Biology, Univ of Oklahoma Health Sci Ctr; [2]The Department of Physiology, Univ of Oklahoma Health Sci Ctr; [3]RIKEN Brain Science Institute; [4]Center for Integrated Protein Science Munich (CIPSM) and Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-Universität München

4208 *— 8:45* **Protective effect of shifting protein degradation from autophagy to proteasome on retinal degeneration in P23H mice.** *Jingyu Yao[1], Y. Qiu[1, 2], L. Jia[1], K. Feathers[1], D. A. Thompson[1], D. N. Zacks[1].* [1]Department of Ophthalmology & Visual Science, University of Michigan; [2]Department of Ophthalmology, Xiangya School of medicine, The Second Xiangya Hospital

4209 *— 9:00* **Single cell RNA-Seq to elucidate the mechanism of photoreceptor degeneration heterogeneity in retinal dystrophy.** *Rui Chen, R. Dharmat, S. Kim, Y. Li.* Molecular and Human Genetics, Baylor College of Medicine

4210 *— 9:15* **Retbindin plays a protective role in degenerating retina of *Prph2^{R172W}* mouse model.** *Ayse M. Genc, M. Makia, T. Sinha, M. I. Naash, M. R. Al-Ubaidi.* Biomedical Engineering, University of Houston

4211 *— 9:30* **A Patient-Specific Point Mutation Mouse Model of X-Linked Retinoschisis by CRISPR/Cas9 System.** *Mao Shengru[1, 2], Y. Zhou[1, 2], X. Yan[1, 2], Y. Li[3], Q. Sun[3], J. Chen[2, 4], S. Tang[1, 2].* [1]Aier School of Ophthalmology, Central South University; [2]Aier Eye Institute; [3]Institute of Neuroscience, Chinese Academy of Sciences (CAS) Key Laboratory of Primate Neurobiology, CAS Center for Excellence in Brain Science and Intelligence Technology, Shanghai Institutes for Biological Sciences; [4]Institute of Ophthalmology, Medical College, Jinan University

4212 *— 9:45* **AAV2/4-RS1 gene therapy in the retinoschisin knockout mouse model of X-linked retinoschisis.** *Brittni A. Scruggs[1, 2], S. Bhattarai[1, 2], I. Cherascu[1, 2], M. Helms[1, 2], A. Salesevic[1, 2], J. Laird[2, 3], S. A. Baker[2, 3], B. Tucker[1, 2], A. V. Drack[1, 2].* [1]Department of Ophthalmology and Visual Sciences, University of Iowa; [2]Institute for Vision Research, University of Iowa; [3]Department of Biochemistry, University of Iowa

East 11/12

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Retinal Cell Biology / Biochemistry/Molecular Biology / Retina

403 Repurposing drugs for the treatment of retinal diseases - Minisymposium

Repurposing of drugs used for other indications that may be successful in ameliorating pathogenic pathways important in retinal disease development is emerging as an important strategy for small molecule discovery in industry and academia**.** This minisymposium will focus on how already identified and approved drugs for other indications are being selected and considered as a potential treatment for retinal diseases**.** It will include an overview of platforms used in drug discovery, preclinical studies necessary to support the new indication for the drug, as well as protocols used to move forward to clinical trials.

Moderators: Roxana A. Radu, Konstantin Petrukhin and Joanne A. Matsubara

4213 *— 8:15* **Phenotype based drug discovery for the treatment of retinopathies.** *Breandan N. Kennedy[1, 2].* [1]Sch of Biomolecular and Biomedical Sci, University College Dublin; [2]UCD Conway Institute, University College Dublin **CR*

4214 *— 8:32* **Therapeutic potential of targeting ceramides for the treatment of retinal diseases.** *Nawajes A. Mandal.* Ophthalmology, Univ of Tennessee, Health Science Center **CR*

4215 *— 8:49* **FDA-approved drugs to combat inflammation and metabolic dysfunction in macular degenerations.** *Aparna Lakkaraju.* School of Medicine, University of California, San Francisco

4216 *— 9:06* **Supplementation with alpha lipoic acid to treat geographic atrophy from AMD.** *Benjamin J. Kim.* Ophthalmology, Scheie Eye Institute / UPenn **CR*, ↗

4217 *— 9:23* **Repurposing an orally available drug to protect RPE cells and treat geographic atrophy.** *Alfred S. Lewin.* Molecular Genetics & Microbio, University of Florida **CR*

4218 — *9:40* **Parkinson drug may prevent and delay AMD.** *Brian S. McKay.* Ophthalmology and Vision Science, University of Arizona **CR*, ↗

East Ballroom B

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Retina

404 AMD Imaging II

Moderators: Netan Choudhry, Pearse A. Keane and Nadia K. Waheed

4219 — *8:15* **Choriocapillaris Flow Deficits Around Geographic Atrophy Correlate with Enlargement Rates Based on Swept Source OCT Angiographic Imaging.** *Philip J. Rosenfeld[1], M. Thulliez[1], Q. Zhang[2], Y. Shi[1], H. Zhou[2], Z. Chu[2], L. De Sisternes[3], M. K. Durbin[3], W. Feuer[1], C. Lyu[1], G. Gregori[1], R. K. Wang[2].* [1]Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Department of Bioengineering, University of Washington, Seattle; [3]Research and Development, Carl Zeiss Meditec **CR*

4220 — *8:30* **Relationship between CC Impairment and GA Growth: An Optical Coherence Tomography Angiography Study.** *Eric Moult[1], A. Alibhai[2], B. Lee[1], S. B. Ploner[3], A. K. Maier[3], J. S. Duker[2], N. K. Waheed[2], J. G. Fujimoto[1].* [1]MIT; [2]New England Eye Center, Tufts Medical Center; [3]Computer Science, Friedrich-Alexander University **CR*

4221 — *8:45* **Two-Year Natural History of Subclinical Neovascularization in Non-Exduative Age-Related Macular Degeneration using Swept Source OCT Angiography.** *Jin Yang[1], Q. Zhang[2], E. Motulsky[1], M. Thulliez[1], Y. Shi[1], C. Lyu[1], L. De Sisternes[3], M. K. Durbin[3], W. Feuer[1], R. K. Wang[2], G. Gregori[1], P. J. Rosenfeld[1].* [1]Ophthalmology, Bascom Palmer Eye Institute, Universtiy of Miami Miller School of Medicine; [2]Department of Bioengineering, University of Washington; [3]Carl Zeiss Meditec,Inc**.** **CR*

4222 — *9:00* **Deep learning identifies hyperreflective foci as predictors of geographic atrophy progression.** *Ursula Schmidt-Erfurth[1, 2], S. M. Waldstein[1, 2], C. Grechenig[1, 2], G. S. Reiter[1], M. Baratsits[1], P. Bui[1, 2], M. Fabianska[1, 2], M. Arikan[1, 2], A. Sadeghipour[1, 2], H. Bogunovic[1, 2].* [1]Department of Ophthalmology, Medical University of Vienna; [2]Christian Doppler Laboratory for Ophthalmic Image Analysis, Medical University of Vienna **CR*

4223 — *9:15* **Retinal morphology and risk factors for the development of macular atrophy during extended follow up in the IVAN trial.** *Usha Chakravarthy[1], T. Peto[1], R. Evans[2], S. P. Harding[3], B. Reeves[4].* [1]Ctr for Vascular & Vision Sciences, Queens University of Belfast; [2]University of Brisol; [3]St Paul's eye unit Liverpool; [4]University of Bristol **CR*, ↗

4224 — *9:30* **How reliable is the clinical diagnosis of subretinal fibrosis in neovascular age-related macular degeneration?** *Markus Schranz[1, 2], P. K. Roberts[1], S. Sacu[1, 2], W. Buehl[1], S. Desissaire[3], M. Pircher[3], M. Baratsits[2], G. Mylonas[1], C. K. Hitzenberger[3], U. Schmidt-Erfurth[1].* [1]Department for Ophthalmology, Medical University of Vienna; [2]Vienna Clinical Trial Center, Medical University of Vienna; [3]Center F Med Physics & Biomed Eng, Medical University of Vienna **CR*

East Ballroom C

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Biochemistry/Molecular Biology

405 Gene editing & new cell-based and animal models for ocular disease

Moderators: Deb A. Ferrington and Roxana A. Radu

4225 — *8:15* **Micro-homology-mediated end joining allows precise excision-insertion genome editing by a single adeno-associated virus vector to restore visual function in blind mice.** *Koji M. Nishiguchi, K. Fujita, S. Katayama, T. Nakazawa.* Ophthalmology, Tohoku University **CR*

4226 — *8:30* **Comparison of CRISPR/Cas endonuclease gene editing efficiency of retinal cells *in vivo*.** *Fan Li[1, 2], K. Wing[1], J. Wang[3, 5], J. Bender[6], C. D. Luu[3, 5], J. Chen[4, 1], V. Lu[1], Q. Wang[1], Q. Lu[1], P. Tran[1], K. Young[1], A. King[6], S. Hung[3], G. Liu[1, 5], A. W. Hewitt[1, 3].* [1]Menzies Institute for Medical Research, University of Tasmania; [2]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Centre, Sun Yat-sen University; [3]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [4]Department of Ophthalmology, the First Affiliated Hospital of Jinan University; [5]Ophthalmology, Department of Surgery, University of Melbourne; [6]Wicking Dementia Research and Education Centre, University of Tasmania

4227 — *8:45* **Generation and phenotypic characterization of a transgenic pig for the Usher syndrome type 1C.** *Uwe Wolfrum[1], S. Grotz[2], K. Wunderlich[1, 3], J. Plutniok[1, 2], G. Dhom[2], A. Fischer[4], B. Andreas[5], A. Döring[4], H. May-Simera[1], K. Nageel-Wolfrum[1, 6], M. Fischer[7], E. Wolf[2, 8], N. Klymiuk[2].* [1]Institute of Molecular Physiology, Johannes Gutenberg University of Mainz; [2]Institute of Molecular Animal Breeding and Biotechnology, LMU; [3]Department of Neurogenomics, LMU; [4]Small Animal Surgery, LMU; [5]Veterinary Pathology, LMU; [6]Institute of Developmental Biology and Neurobiology, Johannes Gutenberg University of Mainz; [7]Centre for Ophthalmology, University Eye Hospital, Univ of Tubingen; [8]Gene Center, LMU

4228 — *9:00* **Homology-Independent Targeted Integration in Photoreceptors.** *MANEL LLADO SANTAEULARIA[1], F. Esposito[1], C. Iodice[1], E. Marrocco[1], A. Auricchio[1, 2].* [1]Telethon Institute of Genetics and Medicine; [2]Department of Advanced Biomedicine, Federico II University, Naples 80131, Italy

4229 — *9:15* **Allele-specific Gene Editing Induces Rod Function in a Transgenic Swine Model of Autosomal Dominant Retinitis Pigmentosa.** *Maureen A. McCall[1], A. Jalligampala[1], g. Pangeni[1], M. Jabbar[1], H. J. Kaplan[1], W. Wang[1], B. Sahu[1], J. E. Chatterton[2], J. Smith[2], V. Bartsevich[2], K. Viles[2].* [1]Ophth**.** & Visual Sciences, University of Louisville; [2]Precision Biosciences **CR*

4230 — *9:30* **Somatic or germline *ABCA4* editing to generate a pig model of Stargardt disease type 1.** *Ivana Trapani[1, 2], A. Perota[3], P. Tiberi[1], L. Colecchi[1], I. Lagutina[3], R. Duchi[3], G. Lazzari[3], C. Gesualdo[4], S. Rossi[4], F. Testa[4], F. Simonelli[4], A. Auricchio[1, 5], C. Galli[3].* [1]Telethon Institute of Genetics and Medicine (TIGEM); [2]Medical Genetics, Department of Translational medicine, Federico II University; [3]Avantea, Laboratory of Reproductive Technologies; [4]Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania Luigi Vanvitelli; [5]Department of Advanced Biomedicine, Federico II University

4231 — *9:45* **Congenital knock-out of transition zone protein BBS5 reveals cone-rod dystrophy with light-dependent protein mislocalization.** *Alecia K. Gross[1, 2], K. Bales[1], M. Bentley[2], M. Croyle[2], B. Yoder[2].* [1]Optometry and Vision Science, Univ of Alabama at Birmingham; [2]Cellular Developmental and Integrative Biology, University of Alabama at Birmingham

West 211

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Cornea

406 Corneal imaging and topography

Moderators: Pedram Hamrah, Sangly P. Srinivas and Osama Ibrahim

4232 — *8:15* **Refining models characterising age-related changes in the human cornea.** *Janelle Tong[1, 2], J. Phu[1, 2], M. Kalloniatis[1, 2], B. Zangerl[1, 2].* [1]Centre for Eye Health; [2]School of Optometry and Vision Science, University of New South Wales **CR*

4233 — *8:30* **High-resolution three-dimensional Gabor-domain optical coherence microscopy for corneal tissue evaluation.** *Cristina Canavesi[1], A. Cogliati[1], A. Hayes[1], J. J. Stone[2], H. B. Hindman[3], J. P. Rolland[1, 4].* [1]LighTopTech Corp.; [2]Cummings School of Veterinary Medicine, Tufts University; [3]The Eye Care Center; [4]The Institute of Optics, University of Rochester **CR*

4234 — *8:45* **A Coincident-Thinning Index for Identification of Keratoconus Based on OCT Pachymetry and Epithelial Thickness Maps.** *Elias Pavlatos, Y. Li, D. Huang.* Casey Eye Institute, Oregon Health & Science University **CR*

4235 — *9:00* **Corneal Higher-order Aberrations in Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis.** *Osama Ibrahim[2, 1], T. Yamaguchi[2, 1], A. Takahashi[2, 1], H. Nakagawa[2], Y. Yagi-Yaguchi[2, 1], D. Tomida[2], S. Den[2], Y. Satake[2], J. Shimazaki[2, 1].* [1]Department of Ophthalmology, Keio University; [2]Department of Ophthalmology, Tokyo Dental College Ichikawa General Hospital

4236 — *9:15* **Artificial intelligence based detection of infectious keratitis using slit-lamp images.** *Kiran K. Vupparaboina[1], S. Vedula[2], S. Aithu[2], S. Bin Bashar[3], K. Challa[4], A. Loomba[4], M. Taneja[4], S. Channapayya[2], A. Richhariya[1].* [1]Srujana Center for Innovation, L V Prasad Eye Institute; [2]Electrical Engineering, Indian Institute of Technology Hyderabad; [3]Brien Holden Institute of Optometry and Vision Sciences, L V Prasad Eye Institute; [4]Tej Kohli Cornea Institute, L V Prasad Eye Institute

4237 — *9:30* **Automatic tracing of corneal sub-basal nerves using deep learning.** *Alessia Colonna, F. Scarpa, A. Ruggeri.* University of Padova

4238 — *9:45* **Spatially-resolved measurement of corneal water content using Brillouin microscopy: A first pilot study of Fuchs' patients.** *Amira M. Eltony[1, 2], P. Shao[1, 2], F. Clouser[1, 2], R. Pineda[3, 2], S. Yun[1, 2].* [1]Wellman Center for Photomedicine, Massachusetts General Hospital; [2]Harvard Medical School; [3]Massachusetts Eye and Ear **CR*

West 212-214

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Visual Neuroscience

407 ERG: Advances, Disease and Injury

Moderators: Laura J. Frishman and Avinash J. Aher

4239 — *8:15* **Rod and cone contributions to light-driven electrical responses of RPE and Müller cells in living mouse.** *Gabriel Peinado[1], K. Ronning[1], R. Meleppat[2], M. E. Burns[3, 2], E. N. Pugh[2, 4].* [1]Center for Neuroscience, UC Davis; [2]Cell Biology & Human Anatomy, University of California Davis; [3]Ophthalmology, University of California Davis; [4]Physiology & membrane biology, University of California Davis

4240 — *8:30* **AAV-induced re-expression of Dp71 in retinal Müller glial cells recovers electroretinographic responses in Dp71-null mice.** *Mirella T. Barboni[1, 2], C. Vaillend[4], A. Joachimsthaler[5], A. Liber[1], H. Khabou[3], M. J. Roux[6], l. vignaud[3], D. Dalkara[3], X. Guillonneau[3], D. Ventura[1], A. Rendon[3], J. J. Kremers[5].* [1]Experimental Psychology, University of Sao Paulo; [2]Ophthalmology, Semmelweis University; [3]Institut de la Vision; [4]Neuroscience Paris-Saclay Institute (Neuro-PSI), Université Paris Sud, CNRS, Université Paris Saclay; [5]University Hospital Erlangen; [6]University of Strasbourg

4241 — *8:45* **Rod photoresponse recovery and pigment regeneration in bright, persistent light.** *Rikard Frederiksen, A. Morshedian, A. P. Sampath, G. L. Fain.* Jules Stein Eye Institute, UCLA

4242 — *9:00* **Photopic Negative Response in Carriers and Affected Patients with Leber's Hereditary Optic Neuropathy.** *Melanie R. Lalonde[1], A. Kantungane[1], A. A. Sadun[2, 3], S. G. Coupland[1], R. Karanjia[1, 3].* [1]Ophthalmology, University of Ottawa Eye Institute, Ottawa Hospital Research Institute; [2]Ophthalmology, David Geffen School of Medicine at UCLA; [3]Ophthalmology, Doheny Eye Institute **CR*

4243 — *9:15* **Extracting the ON and OFF Contributions to the Full-Field Photopic Flash Electroretinogram Using Serial Logistic Growth Curves.** *James D. Akula[1, 2], L. Ambrosio[1, 2], F. Howard[3, 1], R. M. Hansen[1, 2], A. B. Fulton[1, 2].* [1]Ophthalmology, Boston Children's Hospital; [2]Ophthalmology, Harvard Medical School; [3]Psychology, Northeastern University

4244 — *9:30* **Effect of Postmortem Time on *Ex Vivo* Human and Mouse Electroretinogram.** *Fatima Abbas[1], A. M. Hanneken[2], F. Vinberg[1].* [1]Department of Ophthalmology, University of Utah; [2]Department of Molecular and Experimental Medicine, The Scripps Research Institute

4245 — *9:45* **Prolonged cone b-wave on electroretinography is associated with more severe inflammation in non-infectious uveitis.** *Anna Brouwer[1, 2], M. M. van Genderen[2, 1], G. de Wit[2], N. ten Dam[1], R. Wijnhoven[1], J. de Boer[1].* [1]Ophthalmology, University Medical Centre Utrecht; [2]Ophthalmology, Bartimeus Diagnostic Centre for Complex Visual Disorders

West 217-219

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Genetics Group

408 GWAS & Beyond: Epigenetics and Functional Characterization

Moderators: Yelena Bykhovskaya, Tin Aung and Sayoko E. Moroi

4246 — *8:15* **Beyond GWAS: Functional genomics of age-related macular degeneration.** *Anand Swaroop[1], F. Van Asten[1], M. Kwiklis[1], K. Sosina[1], M. Starostik[1], N. Singh[1], D. Hernandez[4], E. Y. Chew[5], A. Singleton[4], A. Battle[3], D. A. Ferrington[2], N. Chatterjee[3], R. Ratnapriya[1].* [1]N-NRL, Bldg 6, National Eye Institute; [2]Univ Minnesota; [3]Johns Hopkins Univ; [4]National Institute of Aging; [5]National Eye Institute

4247 — *8:30* **Whole genome methylation profiling of retinal pigment epithelium reveals differential methylation and gene expression associated with AMD.** *Louise F. Porter[1, 2], N. Saptarshi[1], Y. Fang[3], S. Rathi[4], A. I. Den Hollander[5], E. de Jong[5], S. Clark[6], P. N. Bishop[6], T. W. Olsen[8], T. Liloglu[7], V. R. Chavali[4], L. Paraoan[1].* [1]Eye and Vision Science, University of Liverpool; [2]Ophthamology, St Paul's Eye Unit, Royal Liverpool Hospital; [3]Centre for Genomic Research, University of Liverpool; [4]University of Pennsylvania; [5]Radboud University; [6]University of Manchester; [7]North West Cancer Research, University of Liverpool; [8]Mayo Clinic

4248 — *8:45* **The effect of genetic variants associated with age-related macular degeneration decreases in individuals aged 90 years and older. Findings from the International AMD Genomics Consortium.** *Laura Lorés de Motta[1], T. Schick[2], L. Altay[2], C. C. Hoyng[1], A. I. Den Hollander[1], S. Fauser[2].* [1]Department of Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud umc; [2]Department of Ophthalmology, University Hospital of Cologne

4249 — *9:00* **Genome-wide association study on a large multi-ethnic sample identifies new genetic loci that predispose to keratoconus.** *Alison J. Hardcastle[1, 2], P. G. Hysi[3], K. Rojas-Lopez[1], P. Liskova[4], A. E. Davidson[1], M. Ali[5], K. P. Burdon[6], D. O'Brart[7], C. Inglehearn[5], P. N. Baird[8], C. J. Hammond[3, 7], S. J. Tuft[2, 1].* [1]UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital; [3]King's College London; [4]Charles University and General University Hospital; [5]University of Leeds; [6]University of Tasmania; [7]St. Thomas' Hospital; [8]University of Melbourne

4250 — *9:15* **Loss of optineurin C-terminus causes significant retinal ganglion cell degeneration.** *Hannah Webber, H. Huang, L. Li, J. Zhang, P. Zhuang, Q. Wang, Y. Hu.* Ophthalmology, Stanford School of Medicine

4251 — *9:30* **Genetic studies towards determining disease mechanisms in *Lmx1b* mutant mice.** *Nicholas Tolman[1], S. Kneeland[1], S. Nair[2], K. MacNicoll[1], S. Cross[3], K. Kizhatil[1], S. John[1].* [1]The Jackson Laboratory; [2]University of California San Francisco; [3]University of Edinburgh

4252 — *9:45* **Integrative analysis of GWAS and eQTLs proposes new genetic associations and causal genes for Primary Open Angle Glaucoma.** *Ayellet Segre[1, 2], A. Hamel[1, 2], J. Rouhana[1, 2], A. P. Khawaja[3, 4], M. J. Simcoe[5, 6], C. J. Hammond[5], P. G. Hysi[5, 6], G. consortium[7], J. L. Wiggs[1, 2].* [1]Ocular Genomics Institute and Department of Ophthalmology, Massachusetts Eye and Ear; [2]Department of Ophthalmology, Harvard Medical School; [3]NIHR Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [4]Department of Public Health and Primary Care, Institute of Public Health, University of Cambridge School of Clinical Medicine; [5]Department of Ophthalmology, King's College London, St**.** Thomas' Hospital; [6]Department of Twin Research & Genetic Epidemiology, King's College London, St**.** Thomas' Hospital; [7]Broad Institute of Harvard and MIT

West 220

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Clinical/Epidemiologic Research

409 Epidemiology of Corneal Disease

Moderator: Meraf A. Wolle

4253 — *8:15* **Medication exposure and cataract risk using a medication-wide association study approach.** *Qinqin Liu[1, 2], S. Su[1, 3], X. Yan[1], X. Shang[1], L. Zhang[1, 3], M. He[1, 4].* [1]Centre for Eye Research Australia; [2]University Hospital Geelong, Barwon Health; [3]Monash University; [4]Ophthalmology, The University of Melbourne

4254 — *8:30* **Solid fuel exposure and the development of cataracts.** *Vikram Paranjpe[1, 2], E. P. Rabinovich[1, 2], N. Sharma[3], A. Srivastava[7], A. Galor[2, 4], A. Hackam[2], B. H. Jeng[5], N. Kumar[6].* [1]University of Miami Miller School of Medicine; [2]Bascom Palmer Eye Institute; [3]Dr**.** Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Science; [4]Ophthalmology, Miami Veterans Administration Medical Center; [5]Ophthalmology, University of Maryland; [6]Public Health Sciences, University of Miami Miller School of Medicine; [7]School of Environmental Sciences

4255 — *8:45* **Progression of Scarring in a Cohort of Women in Kongwa Tanzania.** *Meraf A. Wolle[1], B. Munoz[1], H. Mkocha[2], S. K. West[1].* [1]Ophthalmology, Wilmer Eye Institue, Johns Hopkins School of Medicine; [2]Kongwa Trachoma Project

4256 — *9:00* **Comparing methods for estimating seropositivity thresholds in trachoma research.** *Chris Bradley, R. W. Massof, S. K. West.* Ophthalmology, Johns Hopkins School of Medicine

4257 — *9:15* **Demographic and temporal variation in incidence of herpes zoster ophthalmicus in the United States population.** *Nakul Shekhawat, N. Talwar, J. D. Stein.* Ophthalmology and Visual Sciences, University of Michigan

West 221/222

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Low Vision Group

410 Visual Impairment- Impact on Driving and Mobility

Moderators: Shirin E. Hassan and Alex A. Black

4258 — *8:15* **Predicting early hazard detection from head scanning magnitude in individuals with hemianopia.** *Garrett Swan, A. Ahmadi, A. R. Bowers.* Schepens Eye Research Institute of Mass Eye and Ear, Dept Ophthalmology, Harvard Medical School

4259 — *8:30* **Predictors of driving performance in older adults with and without visual impairment.** *Joanne M. Wood[1], A. A. Black[1], K. Mallon[1], K. Anstey[2, 3].* [1]School of Optometry, Queensland Univ of Technology; [2]School of Psychology, UNSW; [3]Neuroscience Research Australia, UNSW

4260 — *8:45* **The effect of visual impairment on balance and mobility in adults over age 50.** *Kierstyn Napier-Dovorany[1], V. Graham[2], B. Naimy[3].* [1]Western University, College of Optometry; [2]Physical Therapy, California State University, Northridge; [3]Special Education and Counseling, California State University, Los Angeles ***CR***

4261 — *9:00* **Fall-related change in fear of falling and physical activity in persons with glaucoma.** *Sagar Chapagain, A. Mihailovic, D. S. Friedman, S. K. West, P. Y. Ramulu.* Wilmer Eye Institute, Johns Hopkins University School of Medicine

4262 — *9:15* **Progressive central vision impairment and concern about falling: a longitudinal study.** *Ursula White[1], A. A. Black[1], J. M. Wood[1], K. Delbaere[2].* [1]School of Optometry and Vision Science, Queensland University of Technology; [2]Falls, Balance and Injury Centre, Neuroscience Research Australia

4263 — *9:30* **Adaptations for fall preventions in patients with glaucoma.** *Joseph Da, A. Mihailovic, D. S. Friedman, S. K. West, P. Y. Ramulu.* Wilmer Eye Institute, Johns Hopkins School of Medicine

West 223/224

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Visual Psychophysics/Physiological Optics

411 Refraction, Biometry, and Myopia

Moderators: David A. Atchison and John R. Phillips

4264 — *8:15* **Using Artificial Intelligence and Novel Polynomials to Accurately Predict Subjective Refraction from Ocular Wavefront Aberrometry.** *Damien Gatinel, G. Debellemanière, R. Rampat, J. Malet.* Ophthalmology, Rothschild Foundation

4265 — *8:30* **Direct subjective refraction with temporal defocus waves.** *Victor Rodríguez-Lopez, C. Dorronsoro.* Spanish National Reseach Council ***CR***

4266 — *8:45* **The association between L:M cone ratio, cone opsin genes and myopia susceptibility.** *Lene A. Hagen[1], S. Arnegard[1], J. A. Kuchenbecker[2], S. J. Gilson[1], M. Neitz[2], J. Neitz[2], R. C. Baraas[1].* [1]National Centre for Optics, Vision and Eye Care, University of South-Eastern Norway; [2]Department of Ophthalmology, University of Washington Medical School

4267 — *9:00* **The role of video display viewing in myopia.** *James A. Kuchenbecker, S. Patterson, M. Neitz, J. Neitz.* Ophthalmology, University of Washington ***CR***

4268 — *9:15* **A potential optical mechanism of bifocal contact lenses in myopia control.** *Yifei Wu[1], Q. Ji[3, 1], J. Lyu[3, 1], G. Yoon[1, 2].* [1]Flaum Eye Institute, University of Rochester; [2]Center for Visual Science, University of Rochester; [3]The Institute of Optics, University of Rochester ***CR***

4269 — *9:30* **Symmetry of ocular biometry and refraction parameters in 4 year old children.** *Andrew Carkeet[1, 2], H. M. Warnken[1], A. G. Bingham[1], H. Lee[1], E. Major[1], L. Ogi[1], P. Sivasuthan[1], S. Hopkins[1, 2].* [1]Optometry and Vision Science, QUT; [2]IHBI

4270 — *9:45* **Retinal and Optic Nerve Head Imaging in Children.** *Ashutosh Jnawali, H. Mirhajianmoghadam, G. Musial, J. Porter, L. A. Ostrin.* University of Houston College of Optometry

Wednesday Papers/ Minisymposia 8:15 am – 10:00 am

ARVO Ballroom

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Glaucoma

412 Ocular Blood Flow

Moderators: Leopold Schmetterer and Louis R. Pasquale

4271 — *8:15* **Central Retinal Venous Pressure in Asymmetric Primary Open Angle Glaucoma (POAG).** *Lutz E. Pillunat, R. Herber, C. Carl, K. R. Pillunat.* Dept of Ophthalmology, University Eye Hospital Dresden ↗

4272 — *8:30* **Systemic Determinants of Peripapillary Vessel Density in the African American Eye Disease Study.** *Ryuna Chang[2], A. Nelson[2], V. LeTran[2], B. Vu[2], B. Burkemper[4], Z. Chu[3], A. Fard[1], A. H. Kashani[2], B. Xu[2], R. K. Wang[3], R. Varma[4], G. M. Richter[2].* [1]Carl Zeiss Meditec, Inc.; [2]Ophthalmology, USC Roski Eye Institute, Keck School of Medicine of USC; [3]Bioengineering, University of Washington; [4]Southern California Eyecare and Vision Research Institute **CR*

4273 — *8:45* **Bilateral disc haemorrhages in the United Kingdom glaucoma treatment study (UKGTS): a probabilistic approach to explore a possible systemic pathophysiological mechanism.** *Georgios Lazaridis[1, 2], J. Mohamed-Noriega[1, 3], D. F. Garway-Heath[1].* [1]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]Centre for Medical Image Computing, University College London; [3]Ophthalmology department, Autonomous University of Nuevo Leon (UANL) **CR*, ↗

4274 — *9:00* **Compelling structural and functional evidence for glymphatics and lymphatics in human posterior eye: Enhanced immune response and glymphatic/lymphatic changes in glaucoma pathogenesis.** *Tailoi Chan-Ling[1], M. N. Uddin[1], M. E. Koina[2], F. F. Behar-Cohen[3], P. Hu[1].* [1]Department of Anatomy & Histology, University of Sydney; [2]Canberra Hospital, ACT Pathology; [3]UMRS 872 Team 17, Centre de Recherche des Cordeliers

4275 — *9:15* **One beam-one vessel is not true: lamina cribrosa vessel and collagen beam networks have distinct topologies.** *Bryn Brazile, B. Yang, A. Gogola, P. Lam, A. Voorhees, I. A. Sigal.* University of Pittsburgh

4276 — *9:30* **Effect of intraocular pressure on vascular autoregulation of the mouse trilaminar network.** *Jeremiah K. Lim, R. H. Wu, V. H. Wong, A. J. Vingrys, C. T. Nguyen, B. V. Bui.* Optometry and Vision Sciences, University of Melbourne

4277 — *9:45* **A web-based interface for ocular hemodynamics and biomechanics analysis via the Ocular Mathematical Virtual Simulator.** *Lorenzo Sala[1], G. Guidoboni[2, 3], C. Prud'homme[1], M. Szopos[5], A. Verticchio Vercellin[6, 7], B. A. Siesky[4], A. Harris[4].* [1]Université de Strasbourg; [2]Department of Electrical Engineering and Computer Science, University of Missouri; [3]Department of Mathematics, University of Missouri; [4]Ophthalmology, Indiana University School of Medicine; [5]Université Paris Descartes; [6]Ophthalmology, University of Pavia; [7]IRCCS - Fondazione Bietti **CR*

Harbour Ballroom

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Cornea

413 Corneal Neuropathy and Neovascularization

Moderators: Susmit Suvas, Claus Cursiefen and Sandeep Jain

4278 — *8:15* **Epigenetic regulation of miRNA boundaries by Ephrin-A3 in ocular anterior segmental epithelia.** *Nihal Kaplan[1], H. Peng[1], J. Park[1, 2], W. Yang[1], S. Getsios[1], R. M. Lavker[1].* [1]Dermatology, Northwestern University; [2]Department of Biomedical Science, Hallym University

4279 — *8:30* **Pigment Epithelium Derived Factor Secreted by Corneal Epithelial Cells Regulates Dendritic Cell Maturation in Dry Eye Disease.** *Rohan B. Singh, P. Jha, T. Blanco, A. Amouzegar, R. Dana.* Department of Ophthalmology, Harvard Medical School

4280 — *8:45* **Immune Mediated Early Corneal Nerve Damage Ocular Graft-Versus-Host Disease.** *Victor L. Perez, L. Lin, j. Echegaray, D. J. Royer.* Ophthalmology, Duke Eye Center

4281 — *9:00* **Isolation and functional characterization of epithelial and dendritic cell released exosomes in the mouse models of corneal epithelial wound healing and sensory nerve regeneration.** *Fushin X. Yu, N. Gao, P. S. Lee.* Dept of Ophthalmology, Wayne State Univ/ Kresge Eye Inst

4282 — *9:15* **Subconjunctival injection of low-dose mesenchymal stem cells promotes corneal allograft survival in a mouse cornea transplantation model.** *Thomas Ritter[1], E. Donohoe[1], O. Treacy[2, 1], K. Lynch[2, 1], X. Chen[1], G. Fahy[3], A. E. Ryan[2, 1], N. Murphy[1].* [1]Regenerative Medicine Institute, National University of Ireland Galway; [2]Discipline of Pharmacology and Therapeutics, National University of Ireland Galway; [3]University Hospital Galway, Department of Ophthalmology, National University of Ireland Galway

4283 — *9:30* **Roles of VEGFR2 and R3 in the progression and regression of injury-induced corneal lymphangiogenesis.** *Jin-Hong Chang, K. Han, D. T. Azar.* Ophthalmology, Univ of Illinois at Chicago

4284 — *9:45* **Vegf Trap$_{r1r2}$ Suspended In Semifluorinated Alkanes Inhibits Inflammatory Corneal Hem- And Lymphangiogenesis.** *Viet Nhat Hung Le[1], Y. Hou[1], M. Witt[2], F. Bock[1], C. Cursiefen[1].* [1]Department of Ophthalmology, University of Cologne; [2]Novaliq GmbH **CR*

West Exhibition Hall A0001-A0014

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Lens

414 Lens Development

Moderator: Melinda K. Duncan

4285 — *A0001* **Extracellular Domain of Connexin in Cell-cell Adhesion and Lens Development.** *Zhen Li.* Departments of Biochemistry and Structural Biology, University of Texas Health Science Center, San Antonio

4286 — *A0002* **Genome-wide chromatin mapping and transcriptome analysis reveals chromatin regulation as a novel mechanism for controlling gene expression during lens differentiation.** *Joshua Disatham[1], D. Chauss[2], R. Gheyas[3], L. A. Brennan[1], D. Blanco[1], L. Daley[1], A. Menko[3], M. Kantorow[1].* [1]Charles E**.** Schmidt College of Medicine, Florida Atlantic University; [2]National Institute of Health NIDDK; [3]Thomas Jefferson University

4287 — *A0003* **Microspherophakia: incidence and clinical and ophthalmologic features in a series of Mexican patients.** *Adriana M. Arias Amador, E. Martinez Sanchez, M. Garzón.* Instituto de Oftalmología FAP Conde de Valenciana

4288 — *A0004* **Comparison of clinical performance between trifocal IOL and EDOF IOL.** *yingjie lin, X. Liang, J. Guo, X. CHEN, Z. Dong.* Aier School of Ophthalmology,Central South University

4289 — *A0005* **Developmental expression of zebrafish αBa- and αBb-crystallin and the effect of their loss by CRISPR gene editing.** *Mason Posner[1], B. Andrew[1], K. L. Murray[1], E. Kepp[1], D. Farnsworth[2], A. Miller[2], L. L. David[3].* [1]Biology, Ashland University; [2]Institute of Neuroscience, University of Oregon; [3]Biochemistry and Molecular Biology, Oregon Health and Science University

4290 — *A0006* **Transcriptional regulation of Gja8 (Cx50) promoter in lens epithelial and fiber cells.** *Guannan Zhao[1, 2], M. Li[1], C. Xia[1], Y. Zhao[3], D. Zheng[3], A. Cvekl[3], X. Gong[1, 2].* [1]School of Optometry, University of California, Berleley; [2]Tsinghua-Berkeley Shenzhen Institute; [3]Department of Ophthalmology&Visual Sciences, Albert Einstein College of Medicine

4291 — *A0007* **Conditional Knockout of the Msx2 Leads to Anterior Segment Dysgenesis via the Activation of a Calcium Signaling Pathway.** *Zhao Jiangyue, W. Yu, Z. Yu, J. Zhang.* Ophthalmology, China Medical University

4292 — *A0008* **Rbm24 post-transcriptionally controls key transcription factors in mouse eye development.** *Shaili Patel[1], S. Dash[2], L. Brastrom[3], A. Scott[3], D. Slusarski[3], S. A. Lachke[1].* [1]Biological Sciences, University of Delaware; [2]Stowers Institute; [3]University of Iowa

4293 — *A0009* **Characterization of lens defects in *Cap2* knockout mice.** *Salil A. Lachke[1], S. Al Saai[1], Y. Xiong[2], C. Toensing[1], J. Field[2].* [1]Department of Biological Sciences, University of Delaware; [2]Department of Systems Pharmacology and Translational Therapeutics, University of Pennsylvania

4294 — *A0010* **Characterization of epithelial cell proliferation and differentiation in connexin mutant mice.** *Chun-hong Xia, N. Tjahjono, R. Li, S. Chu, X. Gong.* School of Optometry and Vision Science Program, University of California, Berkeley

4295 — *A0011* **Lanosterol reverses the opacity of congenital cataract patient-specific-lentoid bodies derived from human iPSCs.** *Qiuli FU, D. Lyu, K. Yao.* Eye Center, the 2nd Affiliated Hospital of Zhejiang University

4296 — *A0012* **Generating lentoids from human iPSCs using an alternative substrate to Matrigel.** *Yvette Wormstone, M. Wormstone.* School of Biological Sciences, University of East Anglia

4297 — *A0013* **Leucine-rich repeats of PXDN is essential for lens development.** *Xiaohe Yan, J. Wang, Q. Chen, L. Kuang.* Shenzhen Eye Hospital, Jinan University

4298 — *A0014* **Lamellar Cataract Transcriptome Analyses Suggest Developmental Delay in The Onset of the Differentiation Program in the Ocular Lens.** *Rajendra K. Gangalum[1], M. Brooks[2], D. Kim[3], L. Gieser[2], A. Swaroop[2], S. P. Bhat[3, 4].* [1]Ophthalmology, Stein Eye Institute, UCLA; [2]National Eye Institute, N.I.H.; [3]Stein Eye Institute, UCLA; [4]Molecular Biology Institute and Brain Research Institute, UCLA

West Exhibition Hall A0015-A0045

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Anatomy and Pathology/Oncology

415 Anatomical changes during ocular morphogenesis and disease

Moderators: Jennifer R. Chao and Falk Schroedl

4299 — *A0015* **Patient factors predicting higher rate of failure in pediatric surgical correction of nasolacrimal duct obstruction.** *Jamie Dietze[1], D. Suh[2, 1].* [1]Ophthalmology, University of Nebraska Medical Center; [2]Ophthalmology, Children's Hospital and Medical Center

4300 — *A0016* **Surface Imaging of Parasol™ and Quintess™ Punctal Plugs following extrusion.** *Abid Haseeb[1], D. J. Oh[1], O. Thomson[2], S. Osmanovic[1], D. P. EDWARD[1, 3].* [1]Ophthalmology, University of Illinois at Chicago; [2]Research Resources Center, University of Illinois at Chicago; [3]King Khaled Eye Specialist Hospital

4301 — *A0017* **IncobotulinumtoxinA (Xeomin) to treat lower eyelid entropion.** *Milap Mehta[1], E. Ahn[2].* [1]Ophthalmology, Northwestern University; [2]Casey Eye Institute

4302 — *A0018* **Defining the Role of ELOVL6 in Meibogenesis in Mice.** *Anne McMahon[1], S. Yuksel[1], A. Wilkerson[1], N. Bhat[1], I. A. Butovich[1, 2].* [1]Ophthalmology, University of Texas Southwestern Medical Center; [2]Graduate School of Biomedical Sciences, University of Texas Southwestern Medical Center

4303 — *A0019* **Qualitative assessment of human posterior poles procured with the RE-One chamber versus the traditional method.** *Rahul Raghu[1], Y. Shan[2], P. E. Fort[2], K. Jones[3], K. McCoy[3], C. Vrba[3], C. Zeleny[3].* [1]University Hospitals Eye Institute; [2]University of Michigan; [3]Eversight

4304 — *A0020* **Comparison of Orbital Volume in Young Versus Senescent Human Skulls.** *Kevin Zhang[1], C. Hwang[2], J. Perry[2].* [1]Case Western Reserve University School of Medicine; [2]Cleveland Clinic Cole Eye Institute

4305 — *A0021* **Loss-of-function Mutations in FREM2 Undermine the Morphogenesis of Eye.** *Xiayin Zhang, D. Wang, M. Dongye, R. Wang, Z. Liu, X. Wu, H. Lin.* Cataract, State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

4306 — *A0022* **Ciliary Muscle Thickness in Adults with Down Syndrome.** *Heather A. Anderson[1], M. D. Bailey[2], C. Kao[3].* [1]College of Optometry, University of Houston; [2]College of Optometry, The Ohio State University; [3]Department of Mathematical Sciences, Claremont McKenna College ***CR***

4307 — *A0023* **Diverse eye defects occur by varying the developmental timing of *Hedgehog* signaling.** *Nadean L. Brown, S. Cheema, A. La Torre.* Cell Biology and Human Anatomy, University of California Davis

4308 — *A0024* **Correlation of axial lengths with aqueous humor concentrations of cytokines in eyes with congenital cataract.** *pingjun chang[1], F. Zhang[1, 2], Y. zhao[1].* [1]Eye Hospital of Wenzhou Medical University; [2]Wenzhou medical university

4309 — *A0025* **Foxc2 is required in the neural crest for proper development of Schlemm's Canal.** *Pieter Norden[1], L. Beckmann[2], X. Zhang[2], H. F. Zhang[2], T. Kume[1].* [1]Feinberg Cardiovascular and Renal Research Institute, Northwestern University; [2]Biomedical Engineering, Northwestern University

4310 — *A0026* **Characterization of lymphatic and blood vessels during limbal development.** *Eun-Ah Ye, Z. Zhang, M. Zhang, L. Chen.* Optometry, University of California Berkeley

4311 — *A0027* **Higher retinal microvascular fractal dimensions are associated with lower albuminuria in a subset of the UK Biobank population.** *Euan N. Paterson[1], C. Cardwell[1], T. MacGillivray[2], R. E. Hogg[1], B. McGuinness[1], P. Patel[3], A. Doney[4], E. Trucco[5], A. P. Maxwell[1], G. McKay[1].* [1]Centre for Public Health, Queen's University Belfast; [2]The VAMPIRE project, Centre for Clinical Brain Sciences, University of Edinburgh; [3]Moorfields Eye Hospital and UCL Institute of Ophthalmology; [4]School of Medicine, University of Dundee; [5]School of Science and Engineering, University of Dundee

4312 — *A0028* **Dynamic retinal arterial oscillations are changed in old and very old adults.** *Konstantin E. Kotliar[1], R. Günthner[2], P. Glaser[2], F. Schicktanz[2], S. Angermann[2], T. Grimmer[6], I. Digel[1], I. Lanzl[3], G. Drozdova[4], H. Hanssen[5], C. Schmaderer[2].* [1]FH Aachen, Biomedical Engineering, University of Applied Sciences; [2]Nephrology, Technische Universität München; [3]Ophthalmology, Technische Universität München; [4]Peoples' Friendship University of Russia; [5]Sport, Exercise and Health, Universität Basel; [6]Psychiatry and Psychotherapy, Technische Universität München

4313 — *A0029* **Assessing Foveal Morphology in Individuals with Fragmented Foveal Avascular Zones.** *Rachel E. Linderman[1], J. Cava[2], A. L. Huckenpahler[1], B. Rego[2], T. Y. Chui[3], R. B. Rosen[3], J. Carroll[1, 2].* [1]Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin; [2]Ophthalmology & Visual Science, Medical College of Wisconsin; [3]Ophthalmology, New York Ear and Eye Infirmary of Mount Sinai **CR*

4314 — *A0030* **SEAM Organoids Model Iris Muscle Cell Development from the Optic Cup.** *Bar Nachmani.* Icahn School of Medicine at Mount Sinai

4315 — *A0031* **Investigating the role of *Kit* in ocular melanocyte development and vision.** *Marina Han[1], I. F. Onojafe[1], M. R. Ahmed[1], M. M. Campos[2], T. D. Fufa[1], T. Cogliati[1], M. S. Abu-Asab[3], B. Brooks[1], R. Hufnagel[1].* [1]Ophthalmic Genetics and Visual Function Branch, National Eye Institute; [2]Histology Core, National Eye Institute; [3]Electron Microscopy Laboratory, National Eye Institute

4316 — *A0032* **Cellular and molecular mechanism of CASK-linked optic nerve hypoplasia.** *Konark Mukherjee.* VirginiaTech Carilion Research Institute

4317 — *A0033* **Spatial Variations in Optic Nerve Mechanical Properties.** *Andrew Soltisz[1], M. N. Ruzga[1], M. A. Reilly[1, 2], K. E. Swindle-Reilly[1, 2].* [1]Biomedical Engineering, Ohio State University; [2]Department of Ophthalmology & Visual Science, Ohio State University

4318 — *A0034* **Peripapillary border tissue of the choroid and peripapillary ccleral flange in human eyes.** *Rahul A. Jonas, L. Holbach.* Department of Ophthalmology, Friedrich-Alexander University Erlangen-Nürnberg, Erlangen, Germany **CR*

4319 — *A0035* **Telomerase In Choroidal Neovascularization.** *Nagaraj Kerur, J. Ambati, S. Wang, D. BANERJEE, S. Hirahara, E. Odermatt.* Ophthalmology, University of Virginia **CR*

4320 — *A0036* **Observation of ranibizumab treatment in real-life conditions – an interim analysis of the myopic choroidal neovascularization (mCNV) population within the observational, non-interventional PACIFIC study.** *Kristina Markova[1], C. Haritoglou[1], M. Iwersen[2], U. Michel[2], M. Junge[2], P. Geuking[3], K. Lorenz[4], T. Ach[5], R. Khoramnia[6], A. Schmidt[7], J. Becker[8], E. Beeke[9], M. Müller-Holz[10], D. Barthelmes[11], F. Ziemssen[12].* [1]Augenklinik Herzog Carl Theodor; [2]Novartis Pharma GmbH; [3]Novartis Pharma Switzerland AG; [4]Augenklinik und Poliklinik der Universitätsmedizin Mainz; [5]Augenklinik und Poliklinik des Universitätsklinikums Würzburg; [6]Augenklinik des Universitätsklinikums Heidelberg; [7]Augenzentrum Andernach; [8]Augenärzte im Basteicenter; [9]visual eins, MVZ für Augenheilkunde und Anästhesie GmbH; [10]Augenärztliche Gemeinschaftspraxis Dr**.** Müller-Holz & Dr**.** Riedel; [11]Universitäts Spital Zürich; [12]Universitäts-Augenklinik Tübingen **CR*

4321 — *A0037* **Modeling choriocapillaris and retinal pigment epithelium interactions in co-culture and engineered 3D system *in vitro*.** *Abbi Engel, J. Xue, D. Lih, T. Khuu, Y. Zhang, J. R. Chao.* University of Washington

4322 — *A0038* **Fractal Dimensional Analysis of Choroidal Vasculature using Wide Field Indocyanine Green Angiography.** *Benjamin K. Young[1], K. D. Kovacs[2], R. A. Adelman[1].* [1]Ophthalmology and Visual Sciences, Yale University School of Medicine; [2]Ophthalmology, Cornell University

4323 — *A0039* **Discovering Macrophage Role in Ocular Pathologies Using 3D Bioprinted RPE/Choroid.** *Russell Quinn[1], M. Song[1], A. Singh[2], M. Dashnyam[2], D. Bose[1], M. Ferrer[2], K. Bharti[1].* [1]National Eye Institute, National Institutes of Health; [2]NCATS, National Institutes of Health

4324 — *A0040* **The TAME cCSC (Treat and Maintain for Eplerenone for chronic Central Serous Chorioretinopathy) Study with the Use of Predictive Biomarkers.** *Guneet Sodhi[1], H. D'Souza[1], D. Barmas-Alamdari[1], H. Mohammadi[2], A. Wagner[3, 1], K. Kapoor[3, 1].* [1]Ophthalmology, Eastern Virginia Medical School; [2]Moffit Cancer Center; [3]Wagner Macula and Retina Center

4325 — *A0041* **Corticosteroids and central serous chorioretinopathy: the role of the mineralocorticoid and glucocorticoid receptor in human choroidal endothelial cells.** *Joost Brinks[1], E. H. van Dijk[1], O. C. Meijer[3], C. Boon[1, 2].* [1]Ophthalmology, Leiden University Medical Center; [2]Ophthalmology, Amsterdam University Medical Center; [3]Endocrinology, Leiden University Medical Center

4326 — *A0042* **The Influence of Corticosteroids on Choroidal Endothelial Cells in Central Serous Chorioretinopathy.** *Rebecca Kaye, D. R. Christensen, A. Lotery.* Ophthalmology, University of Southampton

4327 — *A0043* **Interactions between Uveal Choroidal Melanocytes and Monocytes *in vitro*.** *Maja S. Udsen[1], A. L. Ingerslev[1], T. Jehs[1], C. Faber[1, 2], S. J. Clark[3], M. H. Nissen[1].* [1]Department of Immunology and Microbiology, University of Copenhagen; [2]Department of Ophthalmology, Rigshospitalet; [3]Division of Evolution and Genomic Sciences, University of Manchester

4328 — *A0044* **Choroidal Thickness in Central Serous Retinopathy in Patients with Active and Inactive Disease.** *Walter I. Rivera[1], S. E. Miller[2], R. Alhabshan[1], V. H. Gonzalez[1].* [1]Valley Retina Institute; [2]School of Medicine, University of Texas Rio Grande Valley **CR*

4329 — *A0045* **Quantitative evaluation of vessels of Haller's layer in pachychoroid spectrum diseases.** *Hideki Shiihara, S. Sonoda, H. Terasaki, N. Kakiuchi, T. Sakamoto, T. Yamashita.* Kagoshima university

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West Exhibition Hall A0046-A0089

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Anatomy and Pathology/Oncology

416 Structure, function and optics in physiological and pathological myopia

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Moderator: Fuensanta A. Vera-Diaz

4330 — *A0046* **Evaluation of peripapillary changes in myopia with swept source optical coherence tomography.** *Hua Fan.* Retina, Shanghai Aier Eye Hospital

4331 — *A0047* **Foveal Thickness in Myopia in Central India.** *Sheetal L. Bajoria[1], V. Nangia[2], S. Lambat[2], H. Rathi[1], D. Jain[1].* [1]Ophthalmology, Suraj Eye Institute; [2]Retina, Suraj Eye Institute

4332 — *A0048* **Sub-foveal choroidal thickness in highly myopic Nepalese subjects.** *Parash Gyawali[1], S. N. Joshi[1], R. Kharel (Sitaula)[1], S. Mishra[1], N. Paudel[2], A. Kharal[1].* [1]Ophthalmology, Institute of Medicine; [2]Center for Eye Research Ireland, Dublin Institute of Technology

4333 — *A0049* **Effects of low concentration atropine on pupillary size and accommodative amplitude in children with myopia.** *Huy D. Tran[1, 2], Y. H. Tran[2], M. Coroneo[3], T. D. Tran[4], T. Pham[2], V. T. Ho[2, 5], T. Naduvilath[1], P. Sankaridurg[1, 6].* [1]Brien Holden Vision Insitute; [2]Research and Innovation, Hai Yen Eye Care; [3]Ophthalmology, University of New South Wales; [4]Pediatrics, University of Medicine and Pharmacy at Ho Chi Minh City; [5]Ophthalmology, An Sinh Hospital; [6]School of Optometry and Vision Science, University of New South Wales **CR*, ↗

4334 — *A0050* **A metrological approach to the analysis of choroidal thickness by OCT in the context of myopia research.** *Katharina Breher[1], A. Ohlendorf[1, 2], S. Wahl[1, 2].* [1]Institute for Ophthalmic Research; [2]Carl Zeiss Vision International GmbH **CR*

4335 — *A0051* **Low dose concentrations of atropine 0.01% and 0.1% increase subfoveal choroidal thickness in young healthy adults.** *Franklin Bui, X. Zhu, A. Benavente-Perez.* Biological and Vision Sciences, SUNY College of Optometry ↗

4336 — *A0052* **Effect of 0.05%, 0.025%, and 0.01% atropine eye drops on corneal parameters over one year: Low-concentration Atropine for Myopia Progression (LAMP) Study.** *Fen Fen Li, S. Tang, K. Kam, L. Chen, J. YAM.* Department of Ophthalmology & Visual Sciences, The Chinese University of Hong Kong ↗

4337 — *A0053* **The Effect of Long-Term Low-Dose Atropine on Refractive Progression in Myopic Australian School Children.** *Catherine Dunlop[1], W. Myles[2], S. A. McFadden[2, 3].* [1]Faculty of Health, University of Newcastle; [2]Faculty of Science, University of Newcastle; [3]Hunter Medical Research Institute **CR*

4338 — *A0054* **The effect of hyperopic blur administered one day after low dose (0.01%) atropine on the choroidal thickness of young myopes.** *Beata P. Sander, M. J. Collins, S. A. Read.* School of Optometry, QUT

4339 — *A0055* **Effects of short-term imposed optical defocus on central and peripheral eye length and choroidal thickness in healthy subjects.** *Ingrid O. Mekountchou Koumbo[1, 2], F. Conrad[1, 2], P. Sankaridurg[1, 2], K. Ehrmann[1, 2].* [1]The Brien Holden Vision Institute; [2]School of Optometry and Vision Science, University of New South Wales ↗

4340 — *A0056* **Changes in Choroidal Thickness Following Sustained VR Play.** *Elise N. Harb, A. Godinez, S. Davuluru, J. Grimes, D. M. Levi, C. F. Wildsoet.* UC Berkeley School of Optometry

4341 — *A0057* **Distribution and Association of Peripapillary Choroidal Vascularity Index and Ganglion Cell Inner Plexiform Layer thickness in Myopic Children.** *Ajay Kumar[2], N. Khandelwa[1], D. Bohan[2], J. Goh[3], J. Lam[2], C. Ngo[2], R. Agrawal[1].* [1]Tan Tock Seng Hospital SIngapore; [2]Ophthalmology, National University Hospital; [3]National University of Singapore

4342 — *A0058* **Blood perfusion MRI responses of the human choroid to myopic retinal defocus.** *Safal Khanal[1], P. R. Turnbull[1], E. Vaghefi[1], J. Phillips[1, 2].* [1]School of Optometry and Vision Science, University of Auckland; [2]Department of Optometry, Asia University ↗

4343 — *A0059* ***The effects of the novel multifocal soft contact lenses on myopic eye's peripheral refraction while looking at distance and near.*** *Xinjie Mao.* optometry center, Wenzhou eye hospital

4344 — *A0060* **Myopia Control Intervention Produces Absolute, Rather than Relative, Treatment Effect Across the Progression Range.** *Noel A. Brennan[1], X. Cheng[1], M. A. Bullimore[2].* [1]R&D, Johnson & Johnson Vision; [2]College of Optometry, University of Houston **CR*

4345 — *A0061* **Modelling of cumulative treatment efficacy in myopia progression interventions.** *Xu Cheng[1], N. A. Brennan[1], Y. Toubouti[1], M. A. Bullimore[2].* [1]Johnson & Johnson Vision; [2]College of Optometry, University of Houston **CR*

4346 — *A0062* **Relationship of axial length with retinal nerve fiber layer, ganglion cell layer thicknesses and estimated retinal ganglion cell count in myopic preperimetric glaucomatous eyes.** *Teresa Rolle, A. Mazzucco, B. Bonetti, L. Dallorto, G. Rovera, R. Nuzzi.* Surgical Sciences, University of Torino -AOU Città della Salute e della Scienza- Eye Clinic

4347 — *A0063* **Amphiregulin and Ocular Axial Length.** *wenbin wei.* BEIJING TONGREN HOSPITAL,CMU

4348 — *A0064* **Retinal autoantibodies in high myopia.** *Chee Wai Wong[1, 2], S. S. Sim[1], G. C. Cheung[1, 2].* [1]Ophthalmology, Singapore National Eye Centre, Singapore Eye Research Institute; [2]Ophthalmology, Duke-NUS graduate medical school

4349 — *A0065* **Grading of retinal complications in high myopia occurring in Europeans.** *Annechien Haarman[2], M. S. Tedja[2], C. Brussee[2], G. A. van Rijn[4], J. R. Vingerling[1], J. Keunen[3], C. Boon[4, 3], A. J. Geerards[5], G. P. Luyten[4], V. J. Verhoeven[2, 6], C. C. Klaver[2, 3].* [1]Ophthalmology, Erasmus MC; [2]Ophthalmology & Epidemiology, Erasmus MC; [3]Ophthalmology, Radboudumc; [4]Ophthalmology, LUMC; [5]Ophthalmology, The Rotterdam Eye Hospital; [6]Clinical Genetics, Erasmus MC **CR*

4350 — *A0066* **Histomorphometry of the choriocapillaris in high myopia.** *Songhomitra Panda-Jonas[1], J. B. Jonas[2].* [1]Augenpraxis Dr**.** Panda-Jonas Prof**.** Jonas, Heidelberg; [2]Medical Faculty Mannheim, University Heidelberg, Germany **CR*

4351 — *A0067* **Macular Microvasculature in High Myopia: An Optical Coherence Tomography Angiography Study.** *Chan Hong Min, J. Lee, J. Kim, Y. Yoon, Y. Kim.* Ophthalmology, Asan medical center

4352 — *A0068* **Presence and progression of atrophic areas in pathological myopia.** *Charlotte A. Melzer[1], F. Ziemssen[2], N. Eter[3], C. K. Brinkmann[1], H. Agostini[4], G. Haeusser-Fruh[5], U. Rose[5], M. Schargus[6], K. Lorenz[7], F. G. Holz[1], S. Schmitz-Valckenberg[1].* [1]Department of Ophthalmology, University of Bonn; [2]Department of Ophthalmology, Eberhard Karls University Tuebingen; [3]Department of Ophthalmology, University of Muenster; [4]Eye Center, University of Freiburg; [5]Novartis Germany; [6]Asklepios Klinik North-Heidberg Hamburg; [7]Department of Ophthalmology, University of Mainz **CR*,↗

4353 — *A0069* **Detection of Early Changes of Posterior Staphylomas in Children and Young Adults by Ultra wide-field OCT.** *Noriko Tanaka[1, 2], K. Shinohara[1, 3], T. Yokoi[1], K. Uramoto[1], H. Takahashi[1], Y. Onishi[1], S. Horie[1], T. Yoshida[1], K. Ohno-Matsui[1].* [1]Tokyo Medical and Dental University; [2]Tokyo Metropolitan Hiroo Hospital; [3]Musashino Red Cross Hospital

4354 — *A0070* **Histology of myopic scleral staphylomas.** *Jost B. Jonas[1], K. Ohno-Matsui[2], L. Holbach[3], S. Panda-Jonas[1].* [1]Ophthalmology, Medical Faculty Mannheim-Heidelberg; [2]Department of Ophthalmology and Visual Science, Tokyo Medical and Dental University; [3]Department of Ophthalmology, Friedrich-Alexander University Erlangen-Nürnberg **CR*

4355 — *A0071* **The tilted disc and its association with ocular parameters in myopia.** *Vinay Nangia, C. Begum, H. Rathi.* Glaucoma, Suraj Eye Institute

4356 — *A0072* **Curvature Differences in Myopic Eyes With and Without Staphyloma using OCT.** *Anthony N. Kuo[1, 2], A. Liu[3], C. Wong[4, 5], R. P. McNabb[3], S. Lee[5, 2], G. C. Cheung[6], S. Saw[4, 2], Q. V. Hoang[6, 7].* [1]Ophthalmology and Biomedical Engineering, Duke University; [2]Duke-NUS; [3]Ophthalmology, Duke University; [4]Singapore Eye Research Institute; [5]Singapore National Eye Centre; [6]Singapore Eye Research Institute, Singapore National Eye Centre, Duke-NUS Medical School; [7]Ophthalmology, Columbia University Medical Center

4357 — *A0073* **Optic nerve displacements during horizontal eye movements in healthy and high myopic subjects.** *Xiaofei Wang[1, 2], Q. V. Hoang[3, 4], S. Chang[3], L. Yannuzzi[5], K. Freund[5], D. Milea[4, 6], M. J. Girard[2, 4].* [1]Beijing Advanced Innovation Center for Biomedical Engineering, School of Biological Science and Medical Engineering, Beihang University; [2]Ophthalmic Engineering & Innovation Laboratory, Department of Biomedical Engineering, Faculty of Engineering, National University of Singapore; [3]Department of Ophthalmology, Edward S. Harkness Eye Institute, Columbia University College of Physicians and Surgeons; [4]Singapore Eye Research Institute, Singapore National Eye Centre; [5]Vitreous Retina Macula Consultants of New York; [6]Duke-NUS Medical School

4358 — *A0074* **Length and width of the peripapillary scleral flange in relation to axial length and lamina cribrosa thickness.** *Shefali B. Jonas[1], R. A. Jonas[1], L. Holbach[2], J. B. Jonas[2].* [1]Augenarztpraxis Dr. Panda-Jonas Prof. Jonas Heidelberg; [2]Department of Ophthalmology, Friedrich-Alexander University Erlangen-Nürnberg, Erlangen, Germany **CR*

4359 — *A0075* **Differential Regional Stiffening of Sclera by Collagen Cross-linking.** *Bola A. Gawargious[1], A. Le[1, 2], M. Lesgart[1], S. Ugardar[1], J. L. Demer[1].* [1]Ophthalmology, University of California, Los Angeles; [2]Bioengineering, University of California, Los Angeles

4360 — *A0076* **Short-term changes in ocular biometry during accommodation in children.** *Rohan P. Hughes, S. J. Vincent, S. A. Read, M. J. Collins.* Contact Lens and Visual Optics Laboratory, Queensland University of Technology

4361 — *A0077* **Myopic eyes may not expand symmetrically: investigation based on anterior and posterior scleral thickness.** *Pavan K. Verkicharla[1], R. Dhakal[1], K. K. Vupparaboina[2].* [1]Myopia Research - Prof Brien Holden Eye Research Centre, L V Prasad Eye Institute; [2]Centre for innovation, L V Prasad Eye Institute

4362 — *A0078* **Anterior scleral changes with accommodation and convergence.** *Hamed Niyazmand, S. A. Read, M. J. Collins, D. A. Atchison.* Optometry and Vision Science, Queensland University of Technology

4363 — *A0079* **Distribution of Ocular Biometry and its Relationship to Cycloplegic Refraction in Young Adults: Anyang University Students Eye Study (AUSES).** *Yunyun Sun, S. Wei, S. Li, N. Wang.* Eye Center, Beijing Tongren Hospital, Capital Medical University

4364 — *A0080* **Peripheral Retinal Profiles and Thickness in Anisomyopia.** *Enian Kallamata[1], N. J. Coletta[2], G. M. Velonias[1], F. A. Vera-Diaz[1].* [1]New England College of Optometry; [2]MCPHS University

4365 — *A0081* **Assessing peripheral visual function in myopia – a qCSF study.** *Zhipeng Chen[1], Z. Lu[2], F. Hou[3], S. Deng[1], S. Zhang[1], J. Li[1].* [1]Zhongshan Ophthalmic Center, Sun Yat-sen University; [2]Department of Psychology, The Ohio State University,; [3]Wenzhou Medical University **CR*

4366 — *A0082* **Variance of peripheral refraction in young twins.** *Dibyendu Pusti[1], A. Benito[1], J. Tabernero[2], J. R. Ordoñana[3], F. González-Javier[3], P. Artal[1].* [1]Laboratorio de Optica, Universidad de Murcia; [2]Vision and Eye Research Unit, Anglia Ruskin University; [3]Murcia Twin Registry, Area of Psychobiology, Universidad de Murcia

4367 — *A0083* **Peripheral refraction and eye shape measurements using methods based on clinical retinal imaging.** *Conor Leahy[1], K. G. Foote[2, 1], J. Straub[1], M. H. Chen[1], M. J. Everett[1], H. Bagherinia[1].* [1]Carl Zeiss Meditec, Inc.; [2]School of Optometry and Vision Science Graduate Group, UC Berkeley **CR*

4368 — *A0084* **Early changes in fundus reflectivity and retinal nerve fiber layer thickness in chickens during induction of deprivation myopia.** *Barbara Swiatczak, M. P. Feldkaemper, F. Schaeffel.* University of Tuebingen

4369 — *A0085* **Cross-Retinal ERG Responses to Simulated Optical Blur in Myopia.** *Stephanie Aigbe[1], T. Panorgias[1], E. Jeong[1], C. Otero[3], P. Bex[2], F. A. Vera-Diaz[1].* [1]New England College of Optometry; [2]Northeastern University; [3]Anglia Ruskin University

4370 — *A0086* **Investigating the Effect of Axial Myopia on Spatial Summation.** *Victoria Stapley[1], R. Anderson[1, 2], K. Saunders[1], P. J. Mulholland[1, 2].* [1]Optometry & Vision Science Research Group, Ulster University; [2]National Institute for Health Research (NIHR) Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust & UCL Institute of Ophthalmology **CR*

4371 — *A0087* **Remotely monitoring the face-device distance and face illuminance using mobile devices: a pilot study.** *Norberto Lopez-Gil[1], M. T. Jaskulski[2], R. Salmerón-Campillo[1], S. Lara-Cánovas[1], J. Gonzalez-Meijome[3].* [1]Physics, UNIVERSIDAD DE MURCIA; [2]Optometry, University of Indiana; [3]Physics, Universidade do Minho **CR*

4372 — *A0088* **Objective Evaluation of Daily Near Activities Distance in Progressive Myopic Children.** *BURCU NUROZLER TABAKCI[1], C. TANRIVERDI[1], A. Kilic[1], M. C. Mrochen[2].* [1]Ophthalmology Department, Istanbul Medipol University; [2]VIVIOR AG

4373 — *A0089* **Feasibility of a simple in vivo scleral tensometer: a finite element model.** *Christopher Chiu[1], S. Kanapathipillai[1], P. Sankaridurg[2, 3], A. Ho[2, 3].* [1]School of Mechanical & Manufacturing Engineering, University of New South Wales; [2]Brien Holden Vision Institute; [3]School of Optometry & Vision Science, University of New South Wales

West Exhibition Hall A0101-A0113

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Visual Psychophysics/Physiological Optics

417 Peripheral Vision, Perimetry and Cortical Function

Moderator: Henk A. Weeber

4374 — *A0101* **Dark Chocolate Enhances Multi-focal Electroretinograms Compared to White Chocolate.** *Jeff C. Rabin, L. Renteria, M. Nguyen, C. Cha, F. Abebe, A. Wastani.* Optometry, UIW Rosenberg School of Optometry ↗

4375 — *A0102* **The effect of visual field location and speed on global motion perception in children and adults.** *Yousef M. Shahin[1], K. Meier[2], D. Giaschi[1].* [1]Department of Ophthalmology & Visual Sciences, University of British Columbia; [2]Psychology, University of Washington

4376 — *A0103* **Participation of different cortical networks in discriminating the number of motor acts and their targets revealed by fMRI.** *Hiromasa SAWAMURA[2], G. A. Orban[1].* [1]Department of Neuroscience, University of Parma; [2]Department of Ophthalmology, University of Tokyo Graduate School of Medicine

4377 — *A0104* **Mapping contrast sensitivity of visual field with Bayesian adaptive qVFM method.** *Pengjing Xu[2], L. A. Lesmes[1], D. Yu[3], Z. Lu[2].* [1]Adaptive Sensory Technology; [2]Psychology, The Ohio State University; [3]College of Optometry, The Ohio State University **CR*

4378 — *A0105* **Phosphene Mapping for Intracortical Visual Prostheses.** *Samuel F. Weinreb[1], L. Yang[1], G. Kaskhedikar[3], R. Sadeghi[2, 1], P. Troyk[3], G. Dagnelie[1].* [1]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [2]Biomedical Engineering, Johns Hopkins University; [3]Biomedical Engineering, Illinois Institute of Technology **CR*

4379 — *A0106* **What does an "artificial scotoma" simulate?** *Mehmet N. Ağaoğlu, W. Fung, S. T. Chung.* School of Optometry, University of California, Berkeley

4380 — *A0107* **Near-Optimal Combination of Disparity across the Visual Field in Glaucoma.** *Guido Maiello[1], M. Devereux[2], R. Liu[2], M. Kwon[2].* [1]Department of Experimental Psychology, Justus-Liebig University Giessen; [2]Department of Ophthalmology and Visual Sciences, University of Alabama at Birmingham

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

4381 — *A0108* **Effects of myopia-associated factors and aging on visual field (VF) subfield sensitivities in normal eyes.** *Aiko Iwase[1], M. Fujii[2], Y. Ohno[2], M. Araie[3].* [1]Ophthalmology, Tajimi Iwase Eye Clinic; [2]Division of Health Sciences, Osaka University; [3]Ophthalmology, Kanto Central Hospital, Mutual Aid Association of Public School Teachers **CR*

4382 — *A0109* **A Reinforcement Learning method for Perimetry Testing.** *Raphael Sznitman[1], S. Kucur[1], P. Marquez-Neila[1], M. Abegg[2], S. Wolf[2].* [1]ARTORG Center, University of Bern; [2]Department of Ophthalmology, Bern University Hospital

4383 — *A0110* **Evaluation of the results of manual kinetic perimetry using a training system for the Goldmann perimeter.** *Hokuto Ubukata[1], F. Maeda[1], O. Masuda[1], A. Kobayashi[2], K. Kani[3], H. Abe[1].* [1]Niigata University of Health and Welfare; [2]Tokyo Medical University Hospital; [3]Kyushu University of Health and Welfare

4384 — *A0111* **Relationships between handheld Radial Shape Discrimination (hRSD) and Contour Integration Macular Perimetry (CIMP) testing.** *Meshary Alrumizan, S. P. Harding, P. Knox.* Eye and Vision Science, University of Liverpool **CR*

4385 — *A0112* **Virtual Opportunistic Reaction Perimetry (VORP).** *Wolfgang Fink, J. Cerwin, C. Adams.* Ceeable Technologies Inc**.** **CR*

4386 — *A0113* **Threshold versus intensity functions in two-color perimetry.** *Matthew P. Simunovic[1, 2], N. Avery[2], Z. Mammo[2].* [1]Ophthalmology, University of Sydney; [2]Vitreoretinal Unit, Sydney Eye Hospital

Wednesday Posters 8:15 am – 10:00 am

West Exhibition Hall A0278-A0293

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Retinal Cell Biology

418 Muller Cells in Health and Disease

Moderator: Rachael A. Pearson

4387 — *A0278* **Neuroprotective Effects Of Cord Blood Serum (Cb-S) In Rat Muller Cells Under Oxidative Stress.** *Piera Versura[1], C. Ciavarella[1], M. Buzzi[2], C. Coslovi[1], E. Bergantin[2], G. Giannaccare[1], S. Bisti[1], E. C. Campos[1].* [1]DIMES-Ophthalmology Unit-Alma Mater Studiorum University of Bologna; [2]Emilia Romagna Cord Blood Bank-Transfusion Service, S**.** Orsola-Malpighi Teaching Hospital

4388 — *A0279* **Müller cell remodeling and phagocytosis in Choroidoremia.** *Malia M. Edwards, R. Grebe, R. Baldeosingh, G. A. Lutty.* Wilmer Eye Institute, Johns Hopkins University

4389 — *A0280* **Transcriptome and methylome analyses suggest molecular roadblocks restricting mouse müller glia regeneration ability.** *Lin Siyuan, S. Chen.* State Key Laboratory of Ophthalmology ZhongShan Ophthalmic Center, Sun Yat-sen University

4390 — *A0281* **TNFα-induced transcriptomic changes of neuroprotective antioxidants in human Müller glia.** *Weixin Wang, N. Owen, K. Eastlake, G. Limb.* UCL Institute of Ophthalmology

4391 — *A0282* **Altered glial response in a tenascin-C deficient autoimmune glaucoma mouse model.** *Susanne Wiemann[1], J. Reinhard[1], S. Reinehr[2], Z. Cibir[1], S. C. Joachim[2], A. Faissner[1].* [1]Cell Morphology and Molecular Neurobiology, Ruhr-University Bochum; [2]Experimental Eye Research Institute, University Eye Hospital, Ruhr-University Bochum

4392 — *A0283* **The differential expression of aquaporin-4 (AQP4) in Müller cells from human macular and peripheral retina.** *Ling Zhu, Y. You, T. Zhang, M. C. Gillies.* Save Sight Institute, the University of Sydney

4393 — *A0284* **A theoretical investigation of the role of arachidonic acid in astrocyte vasoactive agent production.** *Riccardo Sacco[1], G. Guidoboni[2], A. G. Mauri[1], B. A. Siesky[3], A. Harris[3].* [1]Mathematics, Politecnico di Milano, Italy; [2]Department of Electrical Engineering and Computer Science, College of Engineering, University of Missouri; [3]Eugene and Marilyn Glick Eye Institute, Indiana University **CR*

4394 — *A0285* **Anoctamin-1 – a Ca^{2+} dependent chloride channel (CaCC) in Müller cells.** *Nadine Reichhart[1], S. Kühs[1], D. C. Otteson[2], O. Strauss[1].* [1]Experimental Ophthalmology, Charite Universitätsmedizin Berlin; [2]College of Optometry Department, University of Houston

4395 — *A0286* **The stressed optic nerve: gliopathy in hypoxic injury and potential for therapy.** *Louise A. Mesentier-Louro[1], A. Camargo[1], A. Shariati[1], A. Nathan[2], R. Dalal[1], V. Kumar[1], M. E. Dardet[1], V. De Jesus Perez[2], Y. J. Liao[1].* [1]Ophthalmology, Stanford University; [2]Medicine, Stanford University

4396 — *A0287* **A Novel Method Facilitates Acute Isolation of Rat Retinal Astrocytes.** *Paul Cullen, J. G. Flanagan.* Optometry, UC Berkeley

4397 — *A0288* **Extracellular vesicles released by microglia exposed to elevated hydrostatic pressure promote retinal neural cell loss and microglia reactivity.** *Ana Raquel Santiago[1, 2], I. Aires[1, 2], T. Ribeiro-Rodrigues[1, 2], R. Boia[1, 2], S. Catarino[1, 2], D. Almeida[1, 2], H. Girao[1, 2], A. F. Ambrosio[1, 2].* [1]Coimbra Institute for Clinical and Biomedical Research (iCBR), Faculty of Medicine; [2]CNC.IBILI Consortium

4398 — *A0289* **Dynamic Transcriptional Profiling of Reactive Muller Glia Following Retinal Injury.** *Masoumeh Ashouri, A. Madaan, M. Nahmou, S. Wang, J. L. Goldberg, E. G. Cameron.* Stanford Medicine, Stanford

4399 — *A0290* **Electrostimulation improves progenitor cell potential of Muller glial cells.** *Sam Enayati[1, 2], H. Achour[1, 2], K. Cho[1, 3], L. Lu[4], F. Xu[4], T. P. Utheim[1, 2], D. F. Chen[1].* [1]Schepence Eye Research Institute; [2]Department of Medical Biochemistry, Oslo University hospital; [3]Office of Research and Development, Edith Nourse Rogers Memorial Veterans Hospital, Geriatric Research Education and Clinical Center; [4]Department of Genetics, Genomics and Informatics, University of Tennessee Health Science Center

4400 — *A0291* **Morphology of a human central bouquet Müller cell explored using 3-dimensional volume reconstruction via connectomics.** *Deepayan Kar[1], R. Singireddy[2], J. W. Lichtman[3], D. M. Dacey[4], C. A. Curcio[2].* [1]Vision Science Graduate Program, University of Alabama at Birmingham; [2]Department of Ophthalmology, School of Medicine, University of Alabama at Birmingham; [3]Department of Molecular and Cellular Biology and Center for Brain Science, Harvard University; [4]Department of Biological Structure, University of Washington **CR*

4401 — *A0292* **Alcama is expressed in zebrafish Müller glia following retinal injury.** *Kristin Allan[1, 2], M. Ramos[1, 3], R. DiCicco[1, 3], A. Yuan[1, 3].* [1]Cole Eye Institute; [2]Molecular Medicine, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University; [3]Ophthalmic Research, Cleveland Clinic Lerner Research Institute

4402 — *A0293* **Mechanism of BDNF-mediated neuroprotection: critical role of Müller glia in diabetic retinopathy and age-related macular degeneration.** *Yun-Zheng Le[1, 2], F. Qiu[1], M. Zhu[1].* [1]Medicine/Endocrinology, Univ of Oklahoma Health Sciences Center; [2]Cell Biology and Ophthalmology and Harold Hamm Diabetes Center, University of Oklahoma Health Sciences Center

West Exhibition Hall A0294-A0306

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Retinal Cell Biology

419 Retinal Trauma, PVR and Mesenchymal Transition

Moderator: Leo A. Kim

4403 — *A0294* **Quantitative analysis of gliosis, microglia distribution, and cytokine expression profiles in rat retina following acoustic blast overpressure exposure.** *Lara A. Skelton[1], R. S. Allen[2], C. Motz[2], S. Ramachandra Rao[1, 3], M. T. Pardue[2, 4], S. J. Fliesler[1, 3].* [1]Research Service, VA Western NY Healthcare System; [2]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Healthcare System; [3]Ophthalmology, Biochemistry, and Neuroscience Program, SUNY- University at Buffalo; [4]Biomedical Engineering, Georgia Institute of Technology

4404 — *A0295* **Necroptosis in a murine repeated primary blast injury model.** *Chloe N. Thomas[1, 2], T. S. Rex[3], A. Bernardo-Colon[3], E. Courtie[1], G. Essex[1], Z. Ahmed[1], R. J. Blanch[4, 1].* [1]Neuroscience and Ophthalmology, Institute of Inflammation and Ageing, University of Birmingham; [2]Institute of Clinical Research, University of Birmingham; [3]Vanderbilt University Medical Center, Vanderbilt Eye Institute; [4]Academic Department of Military Surgery and Trauma, Royal Centre for Defence Medicine

4405 — *A0296* **Raloxifene through its Cannabinoid Type-2 Receptor Inverse Agonism Mitigates Visual Deficits and Pathology after Mild TBI.** *Anton Reiner[2, 1], N. Del Mar[2], D. Henderson[2], A. Perry[2], T. Ragsdale[2], J. Doty[2], J. Driver[2], N. Guley[2], W. Mitchell[2], C. Li[2], B. M. Moore[3], M. Honig[2].* [1]Ophthalmology, The University of Tennessee Health Science Center; [2]Anatomy & Neurobiology, The University of Tennessee Health Science Center; [3]Pharmaceutical Sciences, The University of Tennessee Health Sciences

4406 — *A0297* **Post-trauma therapy with microparticle-mediated delivery of erythropoietin.** *Alexandra Bernardo Colon[1], S. Naguib[1], M. Erwin[1], T. Kavanaugh[2], M. Gupta[2], C. Duvall[2], T. S. Rex[1].* [1]Ophthalmology & Visual Science, Vanderbilt Medical Center; [2]Biomedical Engineering, Vanderbilt University

4407 — *A0298* **Galantamine confers neuroprotection in a model of indirect traumatic optic neuropathy.** *Sarah Naguib[1, 2], A. Bernardo-Colon[2], C. Cencer[1], T. S. Rex[2, 1].* [1]Vanderbilt University; [2]Vanderbilt University Medical Center

4408 — *A0299* **Retina microglial activation and functional deficits in an impact concussion mouse model.of traumatic brain injury (TBI).** *Lee E. Goldstein[1], O. Minaeva[1], J. A. Moncaster[1], M. Wojnarowicz[4], E. Franz[4], M. Mujat[3], R. D. Ferguson[3], I. Arellano[2], L. E. Smith[2], A. B. Fulton[2], B. R. Huber[4], D. G. Hunter[2], J. Akula[2].* [1]Radiology, Boston University; [2]Ophthalmology, Boston Children's Hospital; [3]Physical Sciences Inc.; [4]School of Medicine, Boston University **CR*

4409 — *A0300* **Myocardin-related Transcription Factor signaling is required for Myofibroblast Transdifferentiation of retinal pigment epithelial cells.** *Shunichiro Ueda[1, 2], K. McDonald[2], H. Goto[1], S. Tamiya[2].* [1]Ophthalmology, Tokyo Medical University; [2]Ophthalmology and Visual Sciences, University of Louisville

4410 — *A0301* **IL-6 Promotes Proliferative Vitreoretinopathy by Inducing Epithelial-Mesenchymal Transition via the JAK-STAT3 Signaling Pathway.** *Wei Xiao, X. Chen, W. Yang, X. Deng.* Sun Yat-sen University, State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center

4411 — *A0302* **Inhibitory of MRTF-A signaling suppresses epithelial mesenchymal transition in RPE cells.** *Masaaki Kobayashi, K. Tokuda, Y. Kobayashi, C. Yamashiro, S. Uchi, M. Hatano, K. Kimura.* Yamaguchi University

4412 — *A0303* **Metabolic normalization protects RPE against TGFβ-induced epithelial-to-mesenchymal transition.** *Magali Saint-Geniez[2, 3], S. Satish[2, 1], H. Philipose[2], M. Rosales[2, 3].* [1]Graduate Medical Sciences, Boston University School of Medicine; [2]Schepens Eye Research Institute of Massachusetts Eye and Ear; [3]Department of Ophthalmology, Harvard Medical School **CR*

4413 — *A0304* **The microRNAs miR-199 and miR-17 inhibit TGFB-induced Epithelial to mesenchymal Transition of ARPE-19 cells.** *Heiko R. Fuchs, R. Meister, C. Framme.* Ophthalmology, Hannover Medical School

4414 — *A0305* **Exosome mediates epithelial mesenchymal transition cascade in retinal pigment epithelial cells.** *Yao Zhang[1, 2], H. Li[1], H. Bao[1], L. Wu[1], S. Yang[1], H. Yao[1], J. Zhang[2], G. Xu[2], F. Wang[1].* [1]shanghai tenth people's hospital; [2]Tongji Eye Institute, Tongji university

4415 — *A0306* **ARPE-19 cells exhibit different responses to inflammatory stimuli depending on their time in culture.** *Megan Jabour, F. Liu, T. Vollmer, C. Wilson, H. MacLeod.* Novartis Institutes for Biomedical Research **CR*

West Exhibition Hall A0307-A0319

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

420 Amblyopia: Vision Screening and Epidemiology

Moderators: Krista R. Kelly and Jingyun Wang

4416 — *A0307* **Quantitative visual acuity measurement in young children using tablet-based optokinetic nystagmus videography.** *Monte Mills[1, 2], E. Ciner[3], G. Ying[2], E. Daniel[2], E. Martin[2], S. Meiyeppen[3], E. DeSouza[4], L. Peirish[3].* [1]Ophthalmology, Children's Hospital of Philadelphia; [2]Scheie Eye Institute, University of Pennsylvania; [3]Optometry, Salus University; [4]Vifant, LLC **CR*

4417 — *A0308* **The Refraction Test using Spot™ Vision Screener for Health Examination for 3 year-old Children.** *Shunya Tatara[1, 2], F. Maeda[1, 2], N. Mizuno[3], A. Noguchi[3], K. Yaoeda[4, 5], H. Abe[1, 2].* [1]Department of Orthoptics and Visual Sciences, Niigata University Health and Welfare; [2]Field of Visual Sciences, Graduate School, Nigata University of Health and Welfare; [3]Fujieda Municipal General Hospital; [4]Department of Ophthalmology, Yaoeda Eye Clinic; [5]Division of Ophthalmology and Visual Sciences, Niigata University Graduate School of Medical and Dental Sciences

4418 — *A0309* **Accuracy of the Red Reflex Test to Detect Unequal Refractive Error.** *Aldo Vagge[1, 2], K. La Mattina[2], L. Nelson[2].* [1]DiNOGMI, University Eye Clinic of Genoa; [2]Wills Eye Hospital

4419 — *A0310* **Vision screening using a photoscreening device doubles referral rate accuracy when compared to the chart method.** *Joannah Vaughan, T. Dale, D. Herrera, C. Mercado.* Casey Eye Institute, OHSU

4420 — *A0311* **Refractive amblyopia risk factors in a Baltimore school population who failed vision screening: prevalence and association with visual acuity.** *Megan E. Collins, A. F. Shakarchi, X. Guo, M. X. Repka, D. S. Friedman.* Ophthalmology, Johns Hopkins University School of Medicine **CR*

4421 — *A0312* **The Oregon Elks Preschool Vision Screening Program's follow-up methodology.** *Daniel Herrera, T. Dale, C. Mercado, J. Vaughan.* Casey Eye Institute, OHSU

4422 — *A0313* **Sight for Kids: Improving the Vision of Children in an At-Risk Population.** *Saidah Yusuf[3, 1], S. Yalamanchili[2], A. A. Parikh[2], S. Erzurum[4, 1].* [1]Sight for All United; [2]Northeast Ohio Medical University; [3]Youngstown State University; [4]Eye Care Associates

4423 — *A0314* **An analysis of vision screening data from children in disadvantaged schools in Victoria, Australia.** *Kai Lyn Goh, D. Guest, A. J. Anderson.* Department of Optometry and Vision Sciences, The University of Melbourne

4424 — *A0315* **Landolt-C at 45 months by youth health-care physicians or nurses in Dutch population-wide vision screening.** *Marieke A. Telleman[1], F. Sloot[1], J. S. Benjamins[2], H. J. Simonsz[1].* [1]Ophthalmology, Erasmus Medical Center; [2]Public Health Service Icare ↗

4425 — *A0316* **Evaluation of the NSW Statewide Eyesight Preschooler Screening (StEPS) Program.** *Amanda French, K. A. Rose.* Discipline of Orthoptics, University of Technology Sydney **CR*

4426 — *A0317* **Epidemiological characteristics of astigmatism among a population of pre-school children in Los Angeles, California.** *Jack B. Margines[2], A. Young[1], C. Huang[3], F. Yu[1], A. L. Coleman[1].* [1]Ophthalmology, UCLA Stein Eye Institute; [2]David Geffen School of Medicine at UCLA; [3]UCLA

4427 — *A0318* **EUSCREEN study, stage 1: Data collection on vision and hearing screening programs in 40 European countries and Turkey, Israel, Russia, Malawi, Ruanda, Suth-Africa and India.** *Huibert J. Simonsz[1, 2], J. Carlton[6], H. Griffith[6], I. Úhlen[7], C. Vladutiu[8], M. Ghititu[3], B. Qirjazi[9], E. Roshi[9], A. Horwood[5], M. Fronius[4], H. Hoeve[1], H. de Koning[1].* [1]Erasmus MC Rotterdam; [2]Netherlands Institute for Neuroscience; [3]Directia de Asistenta Sociala si Medicala; [4]Goethe University Frankfurt, Frankfurt; [5]University of Reading; [6]University of Sheffield; [7]Karolinska Institutet; [8]University of Medicine and Pharmacy; [9]University of Medicine

4428 — *A0319* **Associations between follow-up after vision screening referral and demographic factors in the UCLA Preschool Vision Program.** *Andrew Young, F. Yu, A. L. Coleman.* Ophthalmology, UCLA Stein Eye Institute

West Exhibition Hall A0320-A0336

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

421 Strabismus: Diagnosis and Evaluation

Moderator: Joanna Black

4429 — *A0320* **Automated assessment of ocular deviations using a consumer-grade eye tracker and 3D display.** *Tina Y. Gao[1], L. M. Hamm[1], J. Black[1], P. R. Turnbull[1], P. Bex[2], S. Dai[3, 4], S. C. Dakin[1].* [1]School of Optometry and Vision Science, The University of Auckland; [2]Department of Psychology, Northeastern University; [3]Department of Ophthalmology, Queensland Children's Hospital; [4]Department of Ophthalmology, Auckland District Health Board

4430 — *A0321* **Abnormal temporal integration for stereoscopic vision in intermittent exotropia.** *Haoran Wu[1, 2], X. Li[1, 2], Y. Tang[1, 2], B. Zhang[3], Z. Yang[1, 2].* [1]Aier School of Ophthalmology, Central South University; [2]Aier Institute of Optometry and Vision Science; [3]Nova Southeastern University

4431 — *A0322* **Longitudinal change in smooth pursuit in patients with intermittent exotropia after strabismus surgery.** *Miharu Mihara[1, 2], A. Hayashi[1], K. Kakeue[1], R. Tamura[2].* [1]Ophthalmology, University of Toyama; [2]Integrative Neuroscience, University of Toyama ↗

4432 — *A0323* **An investigation of anatomical and molecular mechanisms of Congenital Special Forms of Strabismus Based on High-Resolution MRI and High-Throughput Sequencing.** *Yonghong Jiao[1], H. Jia[1], Y. Liang[1], Y. Liang[2], Q. Chang[1], H. Wang[1], S. Lin[1].* [1]Beijing Tongren Hospital; [2]University of Maryland

4433 — *A0324* **Comparison of contrast sensitivity based on the surgical results for intermittent exotropia: success group *vs* overcorrection group.** *Soo Jung Lee, H. Kim, J. Park.* Haeundae Paik Hospital

4434 — *A0325* **Evaluation of the Iris Thickness Changes for the Chinese Families with *GPR143* Gene Mutations.** *Ningdong Li, J. Jiang, J. Zhu.* Ophthalmology, Beijing Children Hospital

4435 — *A0326* **Detection of strabismus by the Spot Photoscreener.** *Hilary Gaiser.* Primary Care, New England College of Optometry

4436 — *A0327* **Did Leonardo da Vinci have Strabismus? Assessment of binocular alignment in a historical figure.** *Christopher W. Tyler.* SK Brain Imaging Center, Smith-Kettlewell Eye Research Institute

4437 — *A0328* **Incidence of strabismus in children initially diagnosed with pseudostrabismus using the Optum® dataset.** *Won Yeol Ryu[1, 2], A. Shariati[1], S. R. Lambert[1].* [1]Byers Eye Institute at Stanford; [2]Department of Ophthalmology, Dong-A University College of Medicine

4438 — *A0329* **Short-term efficacy of botulinum toxin type A in the treatment of concomitant strabismus in children.** *Han Su, J. Fu, X. Wu, A. Sun, B. Zhao.* Beijing Tongren Eye Center, Beijing Tongren Hospital, Capital Medical University, Beijing Key Laboratory of Ophthalmology-Visual Science ↗

4439 — *A0330* **The Efficacy of horizontal extraocular muscle insertions distances in Ultrasound Biomicroscopy using a combination modalities.** *Rui Duan[1, 2], J. Yang[1, 2], J. Liu[2].* [1]Aier School of Ophthalmology, Central South University; [2]Aier eye hospital Group Shenyang Aier Eye Hospital

4440 — *A0331* **Extraocular muscle differentiation was inhibited in paralytic esotropia patients.** *xia qing, J. Yan.* Zhongshan Ophthalmic Center, Sun Yat-sen University

4441 — *A0332* **Evaluation of Early and Late Anatomic Alignment Rates in Pediatric Patients with Intermittent Type of Exodeviation.** *Talisa E. de Carlo, D. Maidana, I. Jang, M. Rouhbakhshzaeri, N. F. Azar, C. Mocan.* Ophthalmology, UIC - IEEI **CR*

4442 — *A0333* **Visual function responses to extraocular muscle surgery for intermittent exotropia in young and elderly patients.** *Yoshihito Mochizuki, M. Okamoto, A. Kimura, M. Fukuda, M. Kondo, O. Mimura, F. Gomi.* Hyogo College of Medicine **CR*

4443 — *A0334* **Topical use of corticosteroids in the treatment of ocular myasthenia gravis.** *Minghua Shi.* Department of Pediatric Ophthalmology and Strabismus, Hanyang Aier Eye Hospital

4444 — *A0335* **Clinical and genetic analysis for the Chinese patients with CCDDs.** *yuan wang, J. Jiang, J. Zhu, x. Bai, L. Huang, H. Li, N. Li.* Beijng children's hospital

4445 — *A0336* **Virtual Reality Training Program for the Diagnosis of Strabismus.** *Hwan Heo[1], S. Park[1], J. Ryu[2].* [1]Ophthalmology, Chonnam National University Medical School; [2]Education, Chonnam National University

West Exhibition Hall A0337-A0351

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Clinical/Epidemiologic Research

422 Prevalence of vision impairment

Moderator: Muhammad Sohail Halim

4446 — *A0337* **The Ubiquity of Ocular Surface Diseases: Identifying Eye Issues Plaguing Asian Americans.** *Jai G. Parekh[1, 2], D. Patel[3], M. Ajaj[3], T. Parekh[3], S. Parekh[4].* [1]Ophthalmology, The New York Eye & Ear Infirmary of Mt. Sinai; [2]The Icahn School of Medicine at Mt. Sinai, New York; [3]EyeCare Consultants Center for Ocular Surface Excellence of New Jersey; [4]New York Medical College, New York

4447 — *A0338* **Evaluation of timely Cerebral Visual Impairment diagnosis at Cincinnati Children's Hospital Division of Pediatric Ophthalmology.** *Katherine Castleberry[1], P. Cobb[1], D. Tadesse[2], M. Rice[1].* [1]Ophthalmology, Cincinnati Children's Hospital Medical Center; [2]Biostatistics & Epidemiology, Cincinnati Children's Hospital Medical Center

4448 — *A0339* **Temporal trends in prevalence and causes of vision impairment in the south Indian state of Telangana – The LVPEI Trends study.** *Srinivas Marmamula, R. C. Khanna, R. Challa, S. Yellapragada, J. Mohd, G. N. Rao.* L V PRASAD EYE INSTITUTE

4449 — *A0340* **Physician interventions for children diagnosed with cerebral visual impairment at Cincinnati Children's Hospital Medical Center (CCHMC).** *Melissa L. Rice[1, 2], K. Castleberry[1], P. Cobb[1], D. Tadesse[3].* [1]Ophthalmology, Cincinnati Children's Hospital Medical Center; [2]Ophthalmology, University of Cincinnati; [3]Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center

4450 — *A0341* **Effectiveness of an educational intervention on glaucoma for a Mandarin-speaking population in Philadelphia: A proof of concept study.** *Stephanie Wey[1], C. Ramsay[1], L. Li[1], D. Lee[2, 1].* [1]Sidney Kimmel Medical College at Thomas Jefferson University; [2]Glaucoma, Wills Eye Hospital

4451 — *A0342* **Relative influences of clusters of individual characteristics, behavioral patterns and socio-economic status on the risk of age-related eye conditions.** *Simon Nusinovici, L. Zhang, M. Chee, X. Chai, Y. Tham, C. Sabanayagam, T. Y. Wong, C. Cheng.* Singapore Eye Research Institute

4452 — *A0343* **Prevalence and Correlates of Vision Impairment and Age-Related Eye Diseases Among Post-Menopausal Women: Study of Women's Health Across the Nation, Michigan Site.** *Navasuja Kumar[1, 2], S. Wood[1], D. C. Musch[1, 2], S. Harlow[2], C. Karvonen-Gutierrez[2], S. Moroi[1].* [1]Department of Ophthalmology and Visual Sciences, University of Michigan; [2]Department of Epidemiology, University of Michigan School of Public Health **CR*

4453 — *A0344* **Ophthalmological Care and Eyeglasses Distribution in Brazil's Countryside: Descriptive and Epidemiological Data of Nearly Five Thousand Patients.** *Bruna G. Ferreira[1, 2], R. F. Toenjes[2], P. G. de Sousa[2], V. d. Souza[2], G. T. Torres[2], M. S. Vieira[1], A. A. Jammal[3, 1], P. H. Rim[1], M. Alves[1].* [1]State University at Campinas (UNICAMP); [2]Renovatio; [3]Duke University

4454 — *A0345* **A study of incidence of visual disabilities in Asian patients with cerebrovascular accidents.** *Wing Lau Ho[1], J. Lai[2], J. Ng[1], T. Alice[1].* [1]Ophthalmology, Grantham Hospital; [2]Ophthalmology, University of Hong Kong

4455 — *A0346* **Prevalence, Causes and Risk factors for Visual Impairment: The African American Eye Disease Study (AFEDS).** *Bruce Burkemper[1], R. McKean-Cowdin[2], X. Jiang[3], m. torres[1], A. Fairbrother-Crisp[1], R. Varma[1].* [1]Southern California Eyecare and Vision Research Institute; [2]Preventive Medicine, University of Southern California; [3]Ophthalmology, University of Southern California **CR*

4456 — *A0347* **Monitoring America's Vision Health and Eye Care - Healthy People 2020 Vision Objectives.** *Asel Ryskulova.* National Center for Health Statistics, Centers for Disease Control and Prevention

4457 — *A0348* **Using head mounted display technology to document the prevalence of trachoma.** *Sheila K. West[1], H. Mkocha[2], C. Bradley[1], R. W. Massof[1].* [1]Johns Hopkins Wilmer Eye Inst; [2]Kongwa Trachoma Project

4458 — *A0349* **Effect of chronic exposure to high ultraviolet radiation on human eyes on the banks of Lake Titicaca, Bolivia.** *Marcelo Murillo Sasamoto[1], M. Aparicio[3, 4], S. Batliwala[2], A. Reddy[2], R. Agrawal[5].* [1]Retina and UV investigator, Instituto Privado de Oftalmologia; [2]Dean McGee Eye Institute; [3]Bolivian Institute of Biology of Altitude, IBBA-UMSA University; [4]Heading Chief, UV light Study Group; [5]Retina Global

4459 — *A0350* **Visual impairment and spectacle use in university students in central China: The Anyang University Students Eye Study.** *shifei wei, Y. Sun, N. Wang.* Beijing Institute of Ophthalmology, Beijing Tongren Eye Center, Beijing Tongren Hospital

4460 — *A0351* **Comparing Eye Care at a Tertiary Eye Care Clinic to a Free Homeless Clinic.** *Ashlie Bernhisel[1, 2], J. B. Hekzco[1], B. Stagg[1, 3], J. Pettey[1], A. T. Vitale[1].* [1]Moran Eye Center; [2]Ophthalmology, Shiley Eye Center; [3]Ophthalmology, Duke

West Exhibition Hall A0352-A0366

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Clinical/Epidemiologic Research

423 Patient perspectives and reported outcomes

Moderator: Bamini Gopinath

4461 — *A0352* **The relationship between personality and eye disorders: from neuroticism in dry eye to excitement-seeking and invulnerability in refractive surgery patients.** *Jelle Vehof[1, 2], C. J. Hammond[2].* [1]Ophthalmology, Rijnstate Hospital; [2]Academic Ophthalmology, King's College London **CR*

4462 — *A0353* **Are commonly used patient-reported outcome measure (PROM) questionnaires easy to read?** *Deanna J. Taylor, L. Jones, L. Edwards, D. P. Crabb.* Optometry and Vision Science, City University **CR*

4463 — *A0354* **Adherence patterns of glaucoma patients - a qualitative study based on narrative interviewing technique.** *Stefanie Frech[1], M. Ritzke[2], A. Wollny[2], A. Gamael[3], A. Altiner[2], R. F. Guthoff[1], C. Helbig[2].* [1]Department of Ophthalmology, Rostock University Medical Center; [2]Institute of General Practice, Rostock University Medical Center; [3]Ophthalmic Care Unit, Rostock University Medical Center

4464 — *A0355* **Utility values for central vision with unilateral and bilateral ocular conditions for Korean population.** *Young Joo Park[1], Y. Park[2], S. Ahn[2], S. Byun[1], S. Park[1].* [1]Ophthalmology, Seoul National University Bundang Hospital; [2]Medical Research Collaborating Center, Seoul National University Bundang Hospital

4465 — *A0356* **Patient Journey After Intensification of Topical Glaucoma Therapy - a US Claims-Based Analysis.** *Anik Patel[1], G. Schwartz[2], J. Campbell[1], C. Chen[3], C. McGuiness[3], O. Smith[4].* [1]Allergan; [2]Glaucoma Consultants; [3]QuintilesIMS; [4]Glaucoma Associates of Texas, **CR*

4466 — *A0357* **Estimation of Impact of *RPE65*-Mediated Inherited Retinal Disease on Quality of Life.** *Thomas A. Ciulla[1, 2], A. Lloyd[3], N. Piglowska[3], S. Pitluck[4], S. Johnson[5], M. Buessing[5], T. O'Connell[5].* [1]Retina, Midwest Eye Institute; [2]Spark Therapeutics (previously); Clearside Biomedical; [3]Acaster Lloyd Consulting Ltd; [4]Spark Therapeutics; [5]Medicus Economics **CR*

4467 — *A0358* **How patients perceive glaucoma therapy.** *Christian Wolfram[1, 2], L. Eggert[1], N. Pfeiffer[1].* [1]Ophthalmology, University Medical Center Mainz; [2]Ophthalmology, University Medical Center Hamburg **CR*

4468 — *A0359* **Patient-centred care in glaucoma: the patients' perspective.** *Panayiota Founti[1], U. Patel[2], R. Mathew[1, 2], A. Aubrey[3], E. Preston[3], T. Withers[3], N. Okhravi[2], E. Nikita[1].* [1]Glaucoma Unit, Moorfields Eye Hospital NHS Foundation Trust; [2]Department of Undergraduate Education, Moorfields Eye Hospital NHS Foundation Trust; [3]Service Improvement and Sustainability, Moorfields Eye Hospital NHS Foundation Trust

4469 — *A0360* **The Visual Quality and its Related Life Quality of Pterygium.** *Jin Yuan[1], z. jing[1], Z. Lu[3], F. Hou[4], M. Dorr[5], Z. Chen[2], S. Zhang[2], J. Li[2].* [1]cornea, ZhongShan Opthalmic Center; [2]zhongshan ophthalmic center; [3]Ohio State University; [4]School of Ophthalmology & Optometry and Eye Hospital, Wenzhou Medical University; [5]Technical University of Munich **CR*, ↗

4470 — *A0361* **Vision-Specific Quality of Life and Visual Field Loss in the African American Eye Disease Study.** *Dominic J. Grisafe[1], R. McKean-Cowdin[1], B. Burkemper[2], M. Barrett[1], m. torres[2], A. Fairbrother-Crisp[2], X. Jiang[1], B. Xu[1], R. Varma[2].* [1]Preventive Medicine, University of Southern California; [2]Southern California Eyecare and Vision Research Institute **CR*

4471 — *A0362* **Does repeated intravitreal injections impact the quality of life of patients, about 40 patients?** *SARAH VERRECCHIA[1, 2], H. El Chehab[1], R. Chudzinski[1], M. Chaperon[1], A. Levron[1], E. Agard[1], C. Dot[1].* [1]69008, Desgenettes military hospital; [2]69004, Croix Rousse University Hospital Center

4472 — *A0363* **Quality of Life and Psychosocial Aspects in Patients With Ocular Toxoplasmosis: A clinical study in a tertiary care hospital in Brazil.** *Aristofanes Canamary Jr, C. Muccioli, L. Silva, M. Mangeon, I. Ribeiro.* Visual Science, Federal University of São Paulo

4473 — *A0364* **Social Impact Indicators In Patients Diagnosed Of Senile Cataract Treated With Phacoemulsification Plus Intraocular Lens Implantation.** *Perla Onofre Déciga, C. Palacio Pastrana, C. Solis Hernandez.* Fundacion Hospital Nuestra Señora de la Luz

4474 — *A0365* **The Psychosocial Impact of Glaucoma: Preliminary Results on Depression.** *Michael Groff[1, 2], B. Choi[1, 2], M. Malvankar[1, 2].* [1]St. Joseph's Health Care London; [2]The University of Western Ontario

4475 — *A0366* **Using patient-reported outcome measures (PROMs) in routine paediatric ophthalmology practice: Knowledge, experience and attitudes of clinicians.** *Alexandra O. Robertson[1], J. Rahi[1, 2].* [1]UCL Great Ormond Street Institute of Child Health; [2]Great Ormond Street Hospital NHS Foundation Trust, UK

West Exhibition Hall A0405-A0431

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Retina

424 Retinitis pigmentosa (clinical) I

Moderator: Eric A. Pierce

4476 — *A0405* **Annual change in ellipsoid zone (EZ) length in patients with choroideremia.** *David G. Birch[1, 2], K. G. Locke[1], Y. Qui[3], J. Holt[3], D. Kim[3], P. Francis[3].* [1]Retina Foundation of the Southwest; [2]Ophthalmology, UT Southwestern Medical Center; [3]4D Molecular Therapeutics **CR*, ↗

4477 — *A0406* **Goldmann-Favre Phenotype in a Chinese Autosomal Dominant Retinitis Pigmentosa Family with p.G56R Mutation in NR2E3 Gene.** *Yupu Liu, X. Zhang, q. liu, F. Liu, Y. Wang, C. Liu, T. Yan, Y. He, J. Kong.* Ophthalmology, China Medical University

4478 — *A0407* **Key pathways and genes influenced by a drug, NK-4, in RCS rats.** *Shihui Liu[1], T. Matsuo[1], M. Miyaji[2], O. Hosoya[2].* [1]Ophthalmology, Medical School and Graduate School of Interdisciplinary Science and Engineering in Health Systems, Okayama University; [2]Medical Neurobiology, Graduate School of Medicine, Dentistry, and Pharmaceutical, Okayama University

4479 — *A0408* **Molecular studies of a novel RPGR gene mutation in a Chinese family with X-linked retinitis pigmentosa.** *Xinxin Zhang[1], Y. Liu[1], F. Liu[1], T. Yan[1], Y. Wang[1], Y. He[1], C. Liu[1], q. liu[2], s. lei[1], X. Wang[1], J. Kong[1].* [1]China Medical University; [2]China Medical University

4480 — *A0409* **Identification of a novel mutation in the IMPDH1 gene in a Chinese family with Autosomal Dominant Retinitis Pigmentosa.** *Youjin Wang, F. Liu, X. Zhang, Y. Liu, T. Yan, q. liu, Y. He, C. Liu, s. lei, X. Wang, H. Liu, J. Kong.* China Medical University

4481 — *A0410* **Mutations in MYO7B gene–a new suspected pathogenic gene–result in Autosomal Recessive Retinal Pigmentosa in a Chinese family.** *Yanyan He, X. Zhang, Y. Wang, X. Wang, Y. Liu, T. Yan, F. Liu, q. liu, C. Liu, s. lei, J. Kong.* China Medical University

4482 — *A0411* **North-Carolina Macular dystrophy like phenotype in a three generation pedigree wit autosomal dominant inheritance and exclusion of MCRD1.** *Ulrich Kellner[1, 2], H. Stohr[4], B. Budde[3], S. Kellner[1, 2], S. Weinitz[1, 2], G. Farmand[1], B. Lindau[1], B. H. Weber[4].* [1]AugenZentrum Siegburg, MVZ ADTC Siegburg GmbH; [2]RetinaScience; [3]Cologne Center for Genomics, Universität Köln; [4]Institut für Humangenetik, Universität Regensburg

4483 — *A0412* **30 Hz Flicker ERG Correlates with Fundus Autofluorescence in Patients with Retinitis Pigmentosa.** *Thiago Cabral[1, 2], J. R. Carvalho-Jr[1, 3], K. S. Park[4, 1], J. Park[5], K. Boudreault[6], R. N. Belfort[3], S. H. Tsang[4, 1].* [1]Department of Ophthalmology, Columbia University; [2]Department of Specialized Medicine - CCS and Ebserh - Cassiano Antonio Moraes University Hospital (HUCAM), Federal University of Espirito Santo; [3]Departament of Ophthalmology, Federal University of Sao Paulo; [4]Jonas Children's Vision Care and Bernard & Shirlee Brown Glaucoma Laboratory, Columbia University; [5]Department of Statistics, University of California; [6]Department of Ophthalmology, University of Montreal

4484 — *A0413* **Comparison of standard automated perimetry and short wavelength automated perimetryto evaluate the structure-function relationship in retinitis pigmentosa.** *So Makino, T. Inoue, H. Zhou, T. Hara, H. Murata, R. Asaoka, R. Obata.* The University of Tokyo Hospital

4485 — *A0414* **Preserving functional vision through combined treatment of the retina and brain using genetically modified autologous mesenchymal stem cells in a canine model of CLN2 disease.** *Rebecca Whiting[1], G. Robinson[1], C. Tracy[1], J. Pearce[2], J. Ota-Kuroki[1], L. Gillespie[1], L. Castaner[1, 2], J. R. Coates[2], M. L. Katz[1].* [1]Ophthalmology, University of Missouri; [2]Veterinary Medicine & Surgery, University of Missouri **CR*

4486 — *A0415* **Evaluation of Clinical Features in Patients with Optic Disc Drusen.** *Jasmine Serpen, L. Prasov, W. M. Zein, C. A. Cukras, A. Turriff, B. P. Brooks, L. Huryn.* Ophthalmic Genetics and Visual Function, National Eye Institute, National Institutes of Health ↗

4487 — *A0416* **Progressive asymptomatic choroidal neovascularization in late-onset retinal degeneration.** *Catherine A. Cukras, T. D. Keenan, W. T. Wong, D. Cunningham, P. A. Sieving.* National Eye Institute, NIH

4488 — *A0417* **Mutation Screening of Multiple Genes in a Chinese Cohort of Sporadic Patients with Retinitis Pigmentosa.** *Jialiang Yang, Z. Yang, L. Huang.* University of Electronic Science and Technology of China

4489 — *A0418* **Whole-exome sequencing identifies a novel homozygous missense variant in REEP6 gene in a retinitis pigmentosa patient complicated with macular hole.** *Bo Lei.* Ophthalmology, Henan Eye Institute, People's Hospital of Henan

4490 — *A0419* **Macular retinal vessel density assessment of the superficial, deep plexus and choriocapillaris in patients with retinitis pigmentosa and in healthy individuals using SS-OCT Angiography.** *Camila Valencia-Pérez[1], M. Duch-Hurtado[2], D. Salom[3, 4], A. Hervas[3], C. Marin[3], R. Rodrigo[5, 4], J. M. Millan[5, 4].* [1]Ophthalmology, Clinic University Hospital; [2]Catholic University - Medical School; [3]Ophthalmology Department, Manises Hospital; [4]CIBERER; [5]IIS La Fe

4491 — *A0420* **Comparison of two color vision tests in patients with Usher syndrome.** *Mathias Chapon[1], I. S. Audo[1, 2], A. Costa[1], M. Nassisi[1, 2], S. Mohand Saïd[1], J. Sahel[1, 2].* [1]CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DGOS CIC1423; [2]Sorbonne Université, INSERM, CNRS, Institut de la Vision

4492 — *A0421* **A novel mutation in *PEX1* gene causes an Usher-like Syndrome with early onset of Retinitis Pigmentosa and Sensorineural Hearing Loss.** *Maria Rosaria Barillari[1], R. Brunetti-Pierri[2], V. Di lorio[2], A. De Benedictis[2], A. Nesti[2], P. Melillo[2], N. Angelillo[1], G. Cappuccio[4], N. Brunetti-Pierri[4, 5], U. Barillari[1], S. Banfi[3], F. Testa[2], F. Simonelli[2].* [1]Division of Phoniatrics and Audiology, Department of Mental and Physical Health and Preventive Medicine, University of Campania Luigi Vanvitelli; [2]Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania Luigi Vanvitelli; [3]Medical Genetics, Department of Precision Medicine, University of Campania Luigi Vanvitelli; [4]Telethon Institute of Genetics and Medicine; [5]Section of Pediatrics, Department of Translational Medical Sciences, University of Naples Federico II

4493 — *A0422* **Analysis of Macular Vessel Density in Retinitis Pigmentosa with Ring of Hyper-Autofluorescence in the Posterior Pole using OCT-A.** *Bushra Usmani[1], S. A. Shah[1], M. Iftikhar[2], K. K. Dansingani[1], E. Schönbach[2], H. P. Scholl[3].* [1]Department of Ophthalmology, University of Pittsburgh; [2]Wilmer Eye Institute, Johns Hopkins University; [3]Ophthalmology, University of Basel

4494 — *A0423* **Evaluation of choroidal characteristics and their association with cystoid macular edema in patients with retinitis pigmentosa.** *CLAUDIO IOVINO[1, 2], A. Au[1], S. Violanti[1], M. B. Gorin[1], D. Sarraf[1].* [1]Retinal disorders and ophthalmic genetic disorders, Stein Eye Institute, UCLA; [2]Eye Clinic, University of Cagliari **CR*

4495 — *A0424* **Spatial Variation of Rod-Mediated Function in Late-Onset Retinal Degeneration (L-ORD).** *Brett G. Jeffrey[1], L. Huryn[1], P. A. Sieving[2], C. A. Cukras[3].* [1]Ophthalmic Genetics and Visual Function Branch, National Eye Institute; [2]National Eye Institute; [3]Division of Epidemiology and Clinical Applications, National Eye Institute

4496 — *A0425* **Phenotype variations of retinal dystrophies caused by mutations in the *PDE6β* gene (MIM#613801).** *Le Meur Guylene[1], P. Lebranchu[1], M. Giraud[2], F. Billaud[1], B. BOCQUET[5], M. Delyfer[6], D. Lacombe[3], S. Bézieau[2], I. A. Meunier[4], M. Weber[1].* [1]Ophthalmology Department, University Hospital of Nantes; [2]Molecular Genetics Laboratory, University Hospital of Nantes; [3]Genetic Department, University Hospital of Bordeaux; [4]MAOLYA, Centre for Rare Eye Diseases; [5]INSERM U1051, Institut des Neurosciences; [6]Ophthalmology, University Hospital of Bordeaux **CR*

4497 — *A0426* **Identification of novel PROM1 mutations responsible for autosomal recessive maculopathy with rod-cone dystrophy.** *Xueting Luo, J. Liang, X. Sun.* Shanghai Jiao-Tong University

4498 — *A0427* **Relationship Between Changes in Densities of Photoreceptor and Retinal Vessel from Patients with Retinitis Pigmentosa.** *Rui Lin[1], D. Pan[1], F. Lu[2], Z. Jin[1].* [1]Laboratory for Stem Cell & Retinal Regeneration, Institute of Stem Cell Research, Division of Ophthalmic Genetics, The Eye Hospital, State Key Laboratory for Ophthalmology, Optometry & Visual Science, National Center for International Research in Regenerative Medicine and Neurogenetics, Wenzhou medical university; [2]Ocular Imaging Laboratory, The Eye Hospital, Wenzhou Medical University

4499 — *A0428* **Non-identical monozygotic twins with RPGR-associated Retinitis Pigmentosa.** *Anika Nanda[1], P. Clouston[2], R. E. MacLaren[3].* [1]Oxford Eye Hospital, Oxford University Hospitals NHS foundation Trust; [2]Oxford Medical Genetic Laboratories; [3]Nuffield department of Clinical Neurosciences, University of Oxford

4500 — *A0429* **Comparison of structural progression between ciliopathy and non-ciliopathy associated with autosomal recessive retinitis pigmentosa.** *Christine L. Xu[1], V. Takahashi[1], M. Apatoff[1], J. T. Takiuti[1], J. K. Duong[1], V. B. Mahajan[2], S. Tsang[1].* [1]Ophthalmology, Columbia University Medical Center; [2]Stanford University

4501 — *A0430* **Visual Field Progression in Retinitis Pigmentosa.** *Manlong Xu, Y. Zhai, I. M. MacDonald.* Department of Ophthalmology and Visual Sciences, University of Alberta

4502 — *A0431* **Is Visual Field Assessment Necessary in Retinitis Pigmentosa?** *Rebecca Cairns[2], J. Jackson[2], V. Silvestri[1], K. Graham[2], G. Silvestri[1].* [1]Ophthalmology, Belfast Health and Social Care Trust; [2]Optometry, Belfast Health and Social Care Trust **CR*

West Exhibition Hall A0432-A0457

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Retina

425 Retinitis pigmentosa (clinical) II

Moderator: Isabelle S. Audo

4503 — *A0432* **Oxalate retinopathy is irreversible despite early combined liver-kidney transplantation in primary hyperoxaluria type 1.** *Yevgeniya Atiskova, S. Dulz, J. Oh, E. Grabhorn, M. Kemper, F. Brinkert.* UKE

4504 — *A0433* **Novel Incomplete Retinal Vascularization in a Joubert Syndrome patient and an *AHI1* deletion.** *Robert K. Koenekoop[1], C. Liu[2], A. Khan[2].* [1]McGill Ocular Genetics Laboratory, McGill University Health Centre; [2]McGill University Health Centre **CR*

4505 — *A0434* **The disease course of *rhodopsin (RHO)*-associated retinitis pigmentosa (RP): a follow-up study.** *Xuan-Thanh-An Nguyen[1], M. Talib[1], M. J. van Schooneveld[4], C. Van Cauwenbergh[2, 3], J. B. ten Brink[5], R. J. Florijn[5], N. Schalij-Delfos[1], M. M. van Genderen[6], F. P. Cremers[7], L. I. van den Born[8], A. A. Thiadens[9], C. C. Hoyng[11], C. C. Klaver[8, 9], A. A. Bergen[5, 10], B. P. Leroy[2, 3], C. Boon[1, 4].* [1]Ophthalmology, Leiden University Medical Centre; [2]Ophthalmology, Ghent University and Ghent University Hospital; [3]Center for Medical Genetics; [4]Ophthalmology, Amsterdam UMC, Academic Medical Center; [5]Clinical Genetics, Amsterdam UMC, Academic Medical Center; [6]Bartimeus, Diagnostic Center for complex visual disorders; [7]Human Genetics and Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center; [8]Rotterdam Eye Hospital; [9]Ophthalmology, Erasmus Medical Center; [10]The Netherlands Institute for Neuroscience (NIN-KNAW); [11]Ophthalmology, Radboud University Medical Center

4506 — *A0435* **Perceived Stress and Biomarkers in Retinitis Pigmentosa.** *Eva Sobas Abad[1, 2], A. Vazquez[1, 2], T. Isabel[2], C. Lopez[2], L. Leal[2], S. Pastor[1, 3], J. Pastor[1, 3].* [1]IOBA (Institute of Applied Ophthalmobiology), University of Valladolid, Valladolid, Spain; [2]Nursing school, University of Valladolid, Valladolid, Spain; [3]RETICS (Networks for Cooperative Research in Health), Oftared, Instituto de Salud Carlos III, Valladolid, Spain

4507 — *A0436* **Significant Relationship of Posterior Staphyloma to Choroidal Thikness in nonhighly myopic eyes with Retinitis Pigmentosa.** *Leila El Matri[1, 2].* [1]B, Hedi Rais Institute of Ophthalmology; [2]oculogenetics laboratory

4508 — *A0437* **Emerging Phenotypic Characteristics and Identification of Novel Mutations in Autosomal Recessive Retinitis Pigmentosa (ARRP) Associated with the *EYS* Gene.** *Roberto Gattegna[1, 2], I. Bleicher[1], A. Iannaccone[1].* [1]Duke University Medical Center, Duke Eye Center; [2]IRCCS-Fondazione Bietti

4509 — *A0438* **Structural and Functional Abnormalities in Leber Congenital Amaurosis Caused by Mutations in *RDH12:* A Short-Term Longitudinal Study.** *Katherine E. Uyhazi[1, 2], L. Serrano[1, 2], G. Vergilio[1], D. J. Pearson[1, 2], A. M. Maguire[1, 2], J. Bennett[1, 2], T. S. Aleman[1, 2].* [1]Ophthalmology, University of Pennsylvania; [2]Ophthalmology, Center for Advanced Retinal and Ocular Therapeutics **CR*

4510 — *A0439* **Agreement between eyes and correlation of structural and functional data in patients with Usher Syndrome-associated retinitis pigmentosa.** *Marco Nassisi[1, 2], S. Mohand-Saïd[1, 2], C. Devisme[2], C. Da Silva[2], C. Bonnet[3], C. Zeitz[1], S. Marlin[4], C. Petit[3, 5], B. Bodaghi[6], J. A. Sahel[1, 2], I. S. Audo[1, 2].* [1]Sorbonne Université, INSERM, CNRS, Institut de la Vision, 17 rue Moreau, F-75012 Paris, France; [2]CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DGOS CIC1423, 28 rue de Charenton, F-75012 Paris, France; [3]INSERM UMRS 1120, Institut de la Vision, Paris, France; [4]Centre de référence des Surdités Génétiques, Service de Génétique, APHP Hôpital Necker, Paris, France; [5]Unité de Génétique et Physiologie de l'Audition, Institut Pasteur, Paris, France; [6]Hôpital Pitié-Salpêtrière, 47-83, boulevard de l'hôpital, 75013 Paris, France

4511 — *A0440* **Identification of a novel mutation in the PRPF8 gene in a Chinese family with Autosomal Dominant Retinitis Pigmentosa.** *Xiaochen Wang[1, 2], Y. He[1], X. Zhang[1], F. Liu[1, 2], Y. Wang[1], H. Liu[1], Y. Liu[1], T. Yan[1], J. Kong[1].* [1]Department of Ophthalmology, The Fourth Affiliated Hospital of China Medical University; [2]Department of Ophthalmology, The Second Affiliated Hospital of Dalian Medical University

4512 — *A0441* **Characteristic ocular features in cases of autosomal recessive *PROM1* cone-rod dystrophy.** *Frederick T. Collison[1], G. A. Fishman[1, 2], T. Nagasaki[3], J. McAnany[2], J. C. Park[2], R. Allikmets[3, 4].* [1]Pangere Center for Inherited Retinal Diseases, The Chicago Lighthouse; [2]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago College of Medicine; [3]Department of Ophthalmology, Columbia University; [4]Department of Pathology & Cell Biology, Columbia University

4513 — *A0442* **Chromatic Pupillometry for Screening and Monitoring of Retinitis Pigmentosa.** *Paolo Melillo[1], A. De Benedictis[1], E. Villani[2], M. Ferraro[2], E. Iadanza[4], M. Gherardelli[4], F. Testa[1], S. Banfi[3, 5], P. Nucci[2], F. Simonelli[1].* [1]Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania Luigi Vanvitelll; [2]Department of Clinical Sciences and Community Health, University of Milan; [3]Department of Precision Medicine, University of Campania Luigi Vanvitelli; [4]Department of Information Engineering, University of Florence; [5]Telethon Institute of Genetics and Medicine

4514 — *A0443* **Age-related changes in ERG and genotype-phenotype comparison in patients with achromatopsia.** *Anthony G. Robson[1, 2], S. Khoda[1], S. Lewis[1], M. Neveu[1, 2], A. Calcagni[1, 3], A. Webster[2, 4], M. Michaelides[2, 4].* [1]Electrophysiology, Moorfields Eye Hospital; [2]Institute of Ophthalmology, University College London; [3]School of Life and Health Sciences, Aston University; [4]Moorfields Eye Hospital

4515 — *A0444* **Genotype-Phenotype Correlation in Inherited Retinal Diseases Caused By Biallelic *CEP290* Variations.** *Birgit Lorenz[1, 2], U. Schneider[1], H. J. Bolz[3], C. Friedburg[1, 2], M. Andrassi-Darida[1, 2], M. N. Preising[1, 2].* [1]Ophthalmology, Justus-Liebig-University Giessen; [2]Ophthalmology, Universitaetsklinikum Giessen and Marburg GmbH, Giessen Campus; [3]Institute of Human Genetics, University Hospital Cologne **CR*

4516 — *A0445* **Investigation of macular fundus shape in patients with retinitis pigmentosa using curvature maps constructed from optical coherance tomography.** *Monika Meinert[1], S. Komori[2], S. Ueno[2], H. Terasaki[2].* [1]Ophthalmology, University of Lund; [2]Ophthalmology, Nagoya University School of Medicine

4517 — *A0446* **Steeper macula curvature in eyes with non-highly myopic retinitis pigmentosa.** *Shinji Ueno[1], S. Komori[1], Y. Ito[1], M. Meinert[1, 2], H. Terasaki[1].* [1]Ophthalmology, Nagoya Univ School of Med; [2]Ophthalmology, University of Lund

4518 — *A0447* **Investigation on light-induced retinal damage in retinitis pigmentosa.** *Yuki Otsuka, A. Oishi, M. Miyata, A. Uji, m. oishi, t. hasegawa, S. Numa, A. Tsujikawa.* Kyoto University **CR*

4519 — *A0448* **Retinitis pigmentosa caused by variants in *SNRNP200.*** *Imran H. Yusuf[1, 2], J. Birtel[3], M. Shanks[4], P. Clouston[4], S. M. Downes[2, 1], P. Charbel Issa[2, 3], R. E. MacLaren[1, 2].* [1]Oxford University; [2]Oxford Eye Hospital, John Radcliffe Hospital; [3]Department of Ophthalmology, University of Bonn; [4]Oxford Medical Genetics Laboratories, Oxford University Hospitals NHS Foundation Trust **CR*

4520 — *A0449* **Prevention of cone degeneration in Retinitis Pigmentosa by engagement of TAM family receptors on RPE.** *Henry J. Kaplan, W. Wang, D. C. Dean.* Ophthal & Vis Science, University of Louisville

4521 — *A0450* **Optical coherence tomography derived macular volume loss over 5 years in Stargardt disease.** *Fred K. Chen[3, 4], S. Arunachalam[4], N. Vallis[4], D. Huang[1, 4], Y. Chen[4], J. A. Thompson[2], T. McLaren[2], T. Lamey[3, 2], J. Roach[3, 2], S. McLenachan[4].* [1]Centre for Comparative Genomics, Murdoch University; [2]Australian Inherited Retinal Disease Registry, Sir Charles Gairdner Hospital; [3]Centre for Ophthalmology and Visual Science, The University of Western Australia; [4]Lions Eye Institute

4522 — *A0451* **Detailed characteristics of *EYS* variants in Japanese patients with retinitis pigmentosa.** *Shogo Numa, A. Oishi, m. oishi, t. hasegawa, K. Ishihara, M. Miyata, Y. Otsuka, T. Hirashima, A. Tsujikawa.* Kyoto University **CR*

4523 — *A0452* **Structural Markers Predictive of Visual Acuity in Choroideremia.** *Kurt Scavelli[1, 2], D. Scoles[1, 2], L. Serrano[1, 2], K. E. Uyhazi[1, 2], J. I. Morgan[1, 2], T. S. Aleman[1, 2].* [1]Ophthalmology, Scheie Eye Institute; [2]Center for Advanced Retinal and Ophthalmic Therapeutics, University of Pennsylvania **CR*

4524 — *A0453* **Enhanced autofluorescence ring findings in RPGR-associated retinitis pigmentosa.** *Won Kyung Song[1, 2], A. Nanda[3], J. Kapetanovic[1], R. E. MacLaren[1].* [1]Nuffield Department of Opthalmology, University of Oxford; [2]Ophthalmology, CHA University; [3]Oxford Univeristy Hospital NHS foundation Trust, John Radcliffe Hospital **CR*

4525 — *A0454* **Assessing residual cone function in Retinitis Pigmentosa: electrophysiological and optical coherence tomography findings and correlation with visual acuity.** *Tasneem Arsiwalla[1, 2], E. E. Cornish[1, 2], V. Nguyen[1], R. V. Jamieson[3], J. R. Grigg[1].* [1]Save Sight Institute; [2]Sydney eye hospital; [3]Children's medical research Institute **CR*

4526 — *A0455* **Correlation of Pregnancy and Use of the Oral Contraceptive Pill with Reported Deterioration of Vision in Patients with Inherited Retinal Dystrophies.** *Evelyn Moore[1], S. Alexander[1], L. Cushley[2], G. Silvestri[1].* [1]Royal Victoria Hospital Belfast UK; [2]Queen's University

4527 — *A0456* **Is cataract extraction and intraocular lens implant surgery a benefit for patients with Retinitis Pigmentosa.** *Sharon Alexander[1], E. Moore[1], L. Cushley[2], G. Silvestri[1].* [1]Ophthalmology, Royal Victoria Hospital; [2]Queen's University

4528 — *A0457* **Multimodal structural disease progression of retinitis pigmentosa according to mode of inheritance.** *Ruben Jauregui[2, 1], V. K. Takahashi[1], K. S. Park[1], J. Takiuti[1], S. H. Tsang[1].* [1]Ophthalmology, Columbia University; [2]Weill Cornell Medical College

Wednesday Posters
8:15 am – 10:00 am

West Exhibition Hall A0514-A0562

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Multidisciplinary Ophthalmic Imaging Group

426 OCTA in Ocular, Cerebral and Systemic Diseases/Disorders

Moderators: Toco Y. Chui and Giovanni Gregori

4529 — *A0514* **Reduced Retinal Microvasculature with Increasing Axial Length and Older Age in Healthy Myopic and Non-Myopic Eyes.** *Jason H. Lee, R. Voora, R. N. Weinreb, M. Moghadam, C. Bowd, J. Proudfoot, S. Moghimi, R. Penteado, H. Hou, E. Ghahari, P. C. Manalastas, M. Christopher, A. Belghith, L. M. Zangwill.* Hamilton Glaucoma Center, Shiley Eye Institute, Viterbi Family Department of Ophthalmology, UC San Diego School of Medicine **CR*, ↗

4530 — *A0515* **Optical Coherence Tomographic Angiography in Children With A History of Cataract.** *Zhangliang Li, S. Liu, Y. Zhao, P. Chang, Y. Zhao.* Eye Hospital of Wenzhou Medical University

4531 — *A0516* **Influence of significant astigmatism error in the quantitative analysis of OCT-A images.** *Rosa Dolz-Marco[1], C. Vinacua[2], V. Esteve[1], M. Palomares[1], C. Zapata-Rodriguez[2], R. Gallego-Pinazo[1].* [1]Department of Ophthalmology, OFTALVIST CLINIC; [2]Optics, Optometrhy and Visual Science, Faculty of Physics**.** University of Valencia **CR*

4532 — *A0517* **Retinal Vascular Changes after ERM and ILM Peeling Measured with OCT Angiography.** *Nicole K. Scripsema, J. I. Lim.* Ophthalmology, Illinois Eye and Ear Infirmary **CR*

4533 — *A0518* **Relationship between shape of foveal avascular zone determined by OCT angiography and metamorphopsia in epiretinal membrane patients.** *Hiroto Terasaki[1, 2], H. Shiihara[1], H. Yamaji[3], T. Uno[3], S. Yamaoka[4], M. Watanabe[4], N. Kakiuchi[1], S. Sonoda[1], T. Sakamoto[1].* [1]Kagoshima University, Japan; [2]Seiunkai Hospital; [3]Shirai Eye Hospital; [4]Graduate School of Science and Engineering, Kagoshima University

4534 — *A0519* **Evaluating diurnal changes in choroidal sublayer perfusion in patients diagnosed with epiretinal membrane using optical coherence tomography angiography.** *Felix Rommel, F. Siegfried, M. Brinkmann, S. Grisanti, M. Ranjbar.* Department of Ophthalmology, University of Lubeck

4535 — *A0520* **Temporal changes of fractal characteristics of perifoveal microvasculature and visual outcomes after epiretinal membrane surgery: an optical coherence tomography angiography study.** *Jongshin Kim, K. Park.* Ophthalmology, Seoul National University Bundang Hospital

4536 — *A0521* **Sectoral association between postoperative retinal sensitivity and preoperative macular vessel density in surgery for idiopathic epiretinal membrane.** *Urara Osada, H. Kunikata, M. Yasuda, K. Hashimoto, N. Aizawa, K. Nishiguchi, T. Abe, T. Nakazawa.* Opthalmology, 1**.** Tohoku University Graduate School of Medicine **CR*

4537 — *A0522* **Study of alterations in retinal and choroidal vasculature after pars plana vitrectomy (PPV) using optical coherence tomography angiography (OCTA).** *Sean T. Berkowitz, M. Aziz, S. Patel.* Vanderbilt Eye Institute, Vanderbilt University School of Medicine

4538 — *A0523* **Quantification of microvascular changes after pars plana vitrectomy with peeling of the internal limiting membrane in patients with idiopathic macular hole using optical coherence tomography angiography.** *Peer Lauermann, J. Duelk, C. van Oterendorp, H. Hoerauf, N. Feltgen, S. Bemme.* Department of Ophthalmology, University Hospital Goettingen

4539 — *A0524* **Evaluation of the imaging features of Presumed Ocular Histoplasmosis Syndrome using Optical Coherence Tomography Angiography.** *Jack Li, F. Davidorf.* Ophthalmology, The Ohio State University - Havener Eye Institute

4540 — *A0525* **Idiopathic Foveal Hypoplasia: Quantitative Analysis Using Optical Coherence Tomography Angiography.** *Hoang Mai LE[2, 1], A. Miere[2], A. PEDINIELLI[2], E. H. Souied[2, 3].* [1]Université Pierre Et Marie Curie; [2]Ophthalmology, Centre Hospitalier Intercommunal de Créteil; [3]Université Paris Est Créteil

4541 — *A0526* **Polyps in Polypoidal Choroidal Vasculopathy Appear as Tangled Vascular Structures Using Swept-Source OCT Angiography.** *Qiyu Bo[1, 2], Q. Yan[1], M. Shen[1, 2], M. Song[1, 2], M. Sun[1, 2], Y. Yu[1], P. J. Rosenfeld[3], F. Wang[1, 4], X. Sun[1, 4].* [1]Ophthalmology, Shanghai General Hospital; [2]Shanghai Jiao Tong University School of Medicine; [3]Bascom Palmer Eye Institute; [4]Shanghai Key Laboratory of Fundus Diseases

4542 — *A0527* ***Effect of Low-dose Photodynamic Therapy at the Choriocapillaris Level on Optical Coherence Tomography Angiography in Patients with Chronic Central Serous Chorioretinopathy.*** *Elisa Reifeltshammer, L. Bechstein, N. Feucht, C. Lohmann, M. Maier.* Department of Ophthalmology, Technical University of Munich

4543 — *A0528* **The association of pachydrusen with regional variations in choroidal structure showing reduced choriocapillaris blood flow.** *Pedro Fernandez Avellaneda[1, 2], S. Fragiotta[1, 3], M. P. Breazzano[1], X. Xu[1], L. Yannuzzi[1], K. Freund[1].* [1]Vitreous Retina Macula Consultants of New York (VRMNY); [2]Ophthalmology, Basurto University Hospital; [3]U.O.S.D**.** Ophthalmology **CR*

4544 — *A0529* **Swept source optical coherence tomography angiography in patients treated with hydroxychloroquine: correlation with morphologic and functional tests.** *Raimondo Forte, H. Haulani, A. Dyrda, I. Jürgens.* Retina Department, Institut Català de Retina

4545 — *A0530* **Integrated evaluation of Full-Thickness Macular Holes by Optical Coherence Tomography Angiography (OCTA) and Microperimetry.** *Daniela Bacherini[1], M. Savastano[2], F. Dragotto[1], L. Finocchio[1], C. Lenzetti[1], A. Bitossi[1], F. Giansanti[1], F. Barca[1], T. Caporossi[1], A. Sodi[1], G. Virgili[1], A. Savastano[1], S. Rizzo[1].* [1]Eye Clinic, Careggi, University of Florence; [2]Centro Italiano Macula, Rome, Italy

4546 — *A0531* **Macular Microvascular Changes in Patients With Retinitis Pigmentosa Using Optical Coherence Tomography Angiography: correlation to macular structure and function.** *Yousra Falfoul[1, 2], I. ELLEUCH[1], k. El Matri[1, 2], H. GHALI[3], A. HASSAIRI[1, 2], A. CHEBIL[1, 2], l. ELmatri[1, 2].* [1]B, Hedi Raies Institut of Ophthalmology, oculogenetic laboratory LR14SP01; [2]LR14SP01, oculogenetic laboratory; [3]Department of Family and Community Medicine, Faculty of Medicine Ibn El Jazzar Sousse

4547 — *A0532* **Changes in Retinal Vessel and Retinal Layer Thickness after Vitrectomy in Macula-off Retinal Detachment Using Swept-source Optical Coherence Tomography Angiography.** *Yong Un Shin[1, 2], H. Cho[1, 2], M. Seong[1, 2], E. Hong[2], D. Kim[2], M. Kang[1].* [1]Dept**.** of Ophthalmology, Hanyang University College of Medicine; [2]Hanyang University Guri Hospital

4548 — *A0533* **Foveal avascular zone area quantification using optical coherence tomography angiography after macula-off rhegmatogenous retinal detachment repair.** *Tatiana Urrea Victoria, J. Bianchi, U. de Dios Cuadras, F. Graue, R. Matsui.* Retina, Instituto de Oftalmologia Conde de Valenciana

4549 — *A0534* **Analysis of Superficial Vascular Density in Retina after Laser Photocoagulation Using Optical Coherence Tomography Angiography.** *Jung Min Park[1], D. Song[1], S. Lee[2].* [1]Ophthalmology, Maryknoll general hospital; [2]Inje University Haeundae Paik Hospital

4550 — *A0535* **Automated identification of large SS-OCTA choriocapillaris flow deficits in patients with posterior uveitis.** *Joon-Bom Kim[2], Z. Chu[1], A. Legocki[2], R. K. Wang[1], K. L. Pepple[2].* [1]Department of Bioengineering, University of Washington; [2]Department of Ophthalmology, University of Washington **CR*

4551 — *A0536* **Comparison between several optical coherence tomography angiography devices and indocyanine green angiography of choroidal neovascularization.** *Federico Corvi, M. Cozzi, M. Belotti, D. Nizza, G. Staurenghi, A. Giani.* Ophthalmology, Luigi Sacco Hospital University of Milan **CR*

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

4552 — *A0537* **Bietti crystalline dystrophy: within and beyond the dark atrophy.** *Qian LI[3], X. Peng[1, 3], S. Zhang[3, 2], Q. Yu[3, 1].* [1]Beijing Institute of ophthalmology; [2]Hebei Eye Hospital; [3]Beijing Tongren Eye Center

4553 — *A0538* **OCT-Angiography in Vogt Koyanagi Harada Syndrome: A Comparative Cross Sectional Imaging Analysis.** *Justin Yamanuha, J. L. Davis, J. Noorikolouri.* Bascom Palmer Eye Institute **CR*

4554 — *A0539* **Vessel and perfusion analysis using optical coherence tomography angiography in acute central serous chorioretinopathy.** *Dominika Podkowinski[1], B. Foessl[1], A. Mursch-Edlmayr[1], S. Beka[1], M. Ring[2], M. Bolz[1].* [1]Kepler University Clinic, Linz; [2]Johannes Kepler Universität

4555 — *A0540* **Use of Ocular Coherence Tomography Angiography in Diagnosis of Atypical Macular Telangectasia Type 2.** *Rahul Komati[1], S. Schechet[1], P. Hulvey[2], D. Skondra[1, 2].* [1]Ophthalmology and Visual Sciences, University of Chicago; [2]J. Terry Ernest Ocular Imaging Center, University of Chicago

4556 — *A0541* **Optical Coherence Tomography Angiography in Neonates with Retinopathy of Prematurity.** *Nikisha Kothari, M. Huang, F. Lin, B. R. Lin, J. Pan, A. Huang, S. S. Fung, S. R. Sadda, I. A. Tsui.* UCLA Stein Eye Institute

4557 — *A0542* **Optical coherence tomography angiography in patients with Graves' Ophthalmopathy.** *Larissa Lahme, N. Mihailovic, J. Termühlen, F. Schubert, U. Grenzebach, N. Eter, M. Alnawaiseh.* Department of Ophthalmology, University of Muenster

4558 — *A0543* **OCT-angiography (OCT-A) in optic disc drusen (ODD). Comparison with structural and functional parameters.** *Hendrik Engelke, M. Shajari, S. Priglinger, M. J. Mackert.* ophthalmology, LMU Munich

4559 — *A0544* **Changes in macular vascular network in multiple sclerosis patients with and without optic neuritis versus healthy subjects using optical coherence tomography angiography (OCTA).** *Marta Cerdà Ibáñez[1], A. Gargallo Benedicto[2], C. Valencia-Pérez[3], L. Manfreda Domínguez[3], A. Duch-Samper[3, 4].* [1]FISABIO; [2]Obispo Polanco Hospital; [3]Clinic University Hospital; [4]Ophthalmology-Medical School, University of Valencia

4560 — *A0545* **Optical Coherence Tomography Angiography in Multiple Sclerosis: A Prospective Study.** *Maurizio Fossarello, P. Napoli, R. Farci.* Eye Clinic, University of Cagliari

4561 — *A0546* **Retinal microvascular health and what it tells us about cognitive function: the Eye Determinants of Cognition (EyeDOC) Study.** *Alison Abraham[1, 2], X. Guo[1], X. Kong[1], R. Sharrett[2], D. Huang[3], P. Y. Ramulu[1].* [1]Johns Hopkins School of Medicine; [2]Epidemiology, Johns Hopkins Bloomberg School of Public Health; [3]Casey Eye Institute **CR*

4562 — *A0547* **Macular Capillary Loss in Cognitive Impairment and Correlation Between Cognitive Performance and Vessel Density in the Macula and Disc.** *Yi S. Zhang[1], N. Zhou[1], B. Knoll[1], S. Samra[1], M. Ward[2], S. Weintraub[2], A. A. Fawzi[1].* [1]Opthalmology, Northwestern University; [2]Cognitive Neurology and Alzheimer's Disease Center, Northwestern University

4563 — *A0548* **Retinal changes in early-onset Alzheimer disease.** *Alice Laughlin[1], J. Ringman[2], B. S. Ashimatey[1], A. Shahidzadeh[1], A. H. Kashani[1].* [1]Ophthalmology, Keck School of Medicine, University of Southern California; [2]Neurology, University of Southern California **CR*

4564 — *A0549* **Evaluation of ocular perfusion in Alzheimer's Disease using optical coherence tomography angiography.** *Natasa Mihailovic[1], E. Esser[1], F. Schubert[1], J. L. Lauermann[1], L. Lahme[1], A. Johnen[2], N. Eter[1], T. Duning[2], M. Alnawaiseh[1].* [1]Department of Ophthalmology, University of Muenster Medical Center; [2]Deparmtent of Neurology, University of Muenster Medical Center

4565 — *A0550* **Evaluation of potential biomarkers in multimodal retinal images for diagnosis of Parkinson's disease: a pilot study.** *Paramjit K. Bhullar[1], E. Pead[3], A. C. Thompson[1], S. P. Yoon[1], D. S. Grewal[1], B. Polascik[2], T. MacGillivray[5], E. Trucco[4], S. Fekrat[1].* [1]Department of Ophthalmology, Duke University School of Medicine; [2]Trinity College, Duke University; [3]Department of Clinical Brain Sciences, University of Edinburgh; [4]University of Dundee; [5]Queen's Medical Research Institute **CR*

4566 — *A0551* **Characterizing changes in retinal perfusion in high risk pregnancies with optical coherence tomography angiography.** *Benjamin R. Lin[1], F. Lin[1], Z. Daily[1], S. Balasubramanian[2], I. K. Tsui[3], S. Gaw[4], C. Janzen[3], A. Huang[2], S. R. Sadda[2], I. A. Tsui[1].* [1]Ophthalmology, Stein Eye Institute; [2]Ophthalmology, Doheny Eye Institute; [3]Obstetrics/Gynecology, UCLA; [4]Obstetrics/Gynecology, UCSF **CR*

4567 — *A0552* **Quantitative analysis of the retinal capillary plexa in sickle cell disease (SCD) imaged with optical coherence tomography angiography (OCTA).** *Alexandra Mouallem-Beziere, A. Miere, M. Devilliers, P. Denys, f. amoroso, P. Sustronck, C. JUNG, E. H. Souied.* Hopital Intercommunal de Creteil

4568 — *A0553* **Examination of retinal thickness, vessel density and foveal avascular zone size using optical coherence tomography angiography (OCTA) in children with sickle cell disease.** *Sally S. Ong[1], M. Linz[1], I. Han[2], A. Scott[1].* [1]Ophthalmology, Wilmer Eye Institute; [2]Ophthalmology, University of Iowa

4569 — *A0554* **Choriocapillaris atrophy in ABCA4 retinopathy is secondary to retinal pigment epithelium impairment.** *Karen S. Park[1, 2], R. Jauregui[2, 3], J. Sparrow[2, 4], R. Allikmets[2, 4], S. H. Tsang[1, 2].* [1]Jonas Children's Vision Care and Bernard & Shirlee Brown Glaucoma Laboratory, Columbia University; [2]Department of Ophthalmology, Columbia University Medical Center; [3]Weill Cornell Medical College; [4]Departments of Pathology and Cell Biology, Columbia University Medical Center

4570 — *A0555***Evaluation of ocular perfusion in patients with atrial fibrillation using optical coherence tomography angiography.** *Maged Alnawaiseh[1], P. Lange[2], E. Esser[1], N. Mihailovic[1], F. Schubert[1], L. Eckardt[2], N. Eter[1].* [1]Dept**.** of Ophthalmology, University of Muenster Medical Center; [2]Department of Cardiovascular Medicine, University of Muenster Medical Center

4571 — *A0556* **Swept-source Optical Coherence Tomography Angiography Detection of Flow Abnormalities in Patients with Pulmonary Sarcoidosis.** *Torrey Guan, A. Venkat, K. Baynes, E. Fisher, A. Balascoe, J. Welsh, P. K. Kaiser, S. K. Srivastava, S. Sharma.* Cleveland Clinic **CR*

4572 — *A0557* **Retinal Avascular Foveal Zone as an systemic biomarker to evaluate Inflammatory Bowel disease control.** *Luis Nakayama[1], V. C. Bergamo[1], M. L. Conti[2], L. Costa[2], N. S. Moraes[1], O. A. Junior[2].* [1]Retina and Vitreous, Federal University of São Paulo; [2]São Paulo Federal University

4573 — *A0558* **Impaired retinal capillary perfusion assessed by optical coherence tomography angiography in patients with recent systemic hypertensive crisis.** *Jan H. Terheyden[1], M. W. Wintergerst[1], C. Pizarro[2], F. G. Holz[1], R. P. Finger[1].* [1]Dpt**.** of Ophthalmology, University of Bonn; [2]Dpt**.** of Internal Medicine II, University of Bonn **CR*

4574 — *A0559* **Retinal Perfusion Deficits in Systemic Lupus Erythematosus Quantified by Ocular Coherence Tomography Angiography.** *Tanya K. Huynh, C. Shah, R. S. Gabriel, B. D. Kuppermann, S. Kedhar, A. Browne, M. C. Mehta.* Ophthamology, University of California

4575 — *A0560* **Detection of early retinal vascular structural changes of Pre-eclamptic patients using Optical Coherence tomography Angiography.** *omar helmy[1], Y. Nguyen[3], D. Alexandrou[4], H. Leftwich[2], S. Schaal[1].* [1]Ophthalmology, University of Massachusetts; [2]Obstetrics and Gynecology, University of Massachusetts; [3]College of Holy Cross; [4]University of Rochester

Wednesday Posters
8:15 am – 10:00 am

4576 — *A0561* **Familial Hypercholesterolaemia: The Influence Of Lipoprotein Apheresis On Choroid And Retina. An OCT and OCTA Retrospective Study.** *Elena Pacella[1], L. Pannarale[2], F. Pacella[1], E. Trovato Battagliola[1], M. Forastiere[1], C. Stefanutti[3].* [1]Department of Ophthalmology, La Sapienza University of Rome; [2]Department of Anatomical, Histological, Forensic Medicine and Orthopaedics Sciences, La Sapienza University of Rome; [3]Department of Molecular Medicine, La Sapienza University of Rome

4577 — *A0562* **Changes in Macular Ganglion Cell Complex Thickness and Vessel Density in Chronic Kidney Disease Detected by Optical Coherence Tomography.** *XiaoNing Wang[1], Y. You[2].* [1]Wenzhou Medical University; [2]The First Affiliated Hospital of Wenzhou Medical University

West Exhibition Hall A0563-A0598

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Multidisciplinary Ophthalmic Imaging Group

427 Adaptive Optics

Moderators: Ravi Jonnal and Kazuhiro Kurokawa

4578 — *A0563* **Assessing interocular symmetry of foveal cone density.** *Jenna Cava[1], R. Mastey[1], M. Allphin[2], R. F. Cooper[3, 4], J. Carroll[1].* [1]Ophthalmology, Medical College of Wisconsin; [2]School of Medicine, Medical College of Wisconsin; [3]Psychology, University of Pennsylvania; [4]Ophthalmology, University of Pennsylvania

4579 — *A0564* **In vivo imaging of retinal ganglion cells in the human eye with adaptive optics optic coherence tomography.** *Shin Kadomoto[1], A. Uji[1], Y. Muraoka[1], R. Tamiya[1], K. Nozato[2], A. Tsujikawa[1].* [1]Department of Ophthalmology and Visual Sciences, Kyoto University; [2]CANON INC**.** **CR*

4580 — *A0565* **Investigating the clinical use of adaptive optics scanning laser ophthalmoscopy in patients with Stargardt disease.** *Mital Shah[1, 2], L. K. Young[3], S. M. Downes[1, 2], H. Smithson[3].* [1]Nuffield Department of Clinical Neurosciences, University of Oxford; [2]Oxford Eye Hospital; [3]Department of Experiemental Psychology, University of Oxford **CR*

4581 — *A0566* **Generating tomographic retinal cross-sections using non-interferometric Adaptive Optics Ophthalmoscopes - Optical Incoherence Tomography.** *Pedro Mecê[1], E. Gofas Salas[2, 3], C. Petit[2], A. Chen[2, 5], J. A. Sahel[4, 6], M. Paques[3, 4], K. Grieve[3, 4], S. Meimon[2].* [1]Institute Langevin, ESPCI Paris, PSL University; [2]ONERA; [3]CIC 1423, INSERM, Quinze-Vingts Hospital; [4]Institut de la Vision, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS; [5]Quantel Medical; [6]Department of Ophthalmology, The University of Pittsburgh School of Medicine **CR*

4582 — *A0567* **Interference effects and cone reflectivity in adaptive optics retinal imaging.** *Alexander Meadway, L. C. Sincich.* Optometry and Vision Science, University of Alabama at Birmingham

4583 — *A0568* **Automatic discrimination of occult macular dystrophy by deep learning using fundus images of Adaptive Optics Scanning Laser Ophthalmoscopy.** *Masakazu Hirota[1], T. Morimoto[1], S. Miyagawa[2], T. Miyoshi[3], T. Fujikado[1].* [1]Applied Visual Science, Osaka University Graduate School of Medicine; [2]Topcon; [3]Integrative Physiology, Osaka University Graduate School of Medicine **CR*, ↗

4584 — *A0569* **Natural history of foveal cone structure in *RPE65*-associated Leber congenital amaurosis (LCA).** *Angelos Kalitzeos[1, 2], N. Kumaran[1, 2], M. Georgiou[1, 2], N. Singh[1, 2], T. Kane[1, 2], M. Kasilian[1, 2], A. Dubra[3], J. Carroll[4], M. Michaelides[1, 2].* [1]Institute of Ophthalmology, University College London; [2]Moorfields Eye Hospital NHS Foundation Trust; [3]Ophthalmology, Stanford University; [4]Ophthalmology & Visual Sciences, Medical College of Wisconsin **CR*, ↗

4585 — *A0570* **Measuring flicker-evoked changes in human small vessel retinal blood flow using a dual-beam AOSLO.** *Raymond L. Warner, A. De Castro, L. Sawides, T. Luo, K. Sapoznik, S. A. Burns.* Optometry, Indiana University

4586 — *A0571* **Assessing Foveal Cone Mosaic in White Dot Syndromes.** *Muhammad Sohail Halim[1], M. S. Ormaechea[1, 2], N. Sredar[1], G. Uludağ[1], M. M. Razeen[1], A. N. Tran[1], S. Mahajan[1], M. Hassan[1], R. Afridi[1], K. Y. Al-Kirwi[1], J. Bae[1], D. V. Do[1], Y. Sepah[1], A. Dubra[1], Q. D. Nguyen[1].* [1]Byers Eye Institute, Palo Alto, CA; [2]Ophthalmology, Hospital Universitario Austral

4587 — *A0572* **Adaptive Optics Findings in Vogt-Koyanagi-Harada Disease.** *Aarin Pham, M. Halim, M. M. Razeen, M. Hassan, M. S. Ormaechea, E. Razeen, G. Uludağ, A. N. Tran, K. Y. Al-Kirwi, S. Mahajan, R. Afridi, A. Dubra, Q. D. Nguyen.* ophthalmology, Byers Eye Institute, Stanford University

4588 — *A0573* **Identifying transient flow phenomena in retinal capillaries.** *Phillip A. Bedggood, A. Metha.* Optometry & Vision Sciences, University of Melbourne

4589 — *A0574* **Is it the basal laminar deposits (BlamD)? Observation by adaptive optics ophthalmoscopy of punctate hyperreflectivity in geographic atrophy.** *Chiara M. Eandi[1, 2], K. Grieve[2], F. Sennlaub[2], s. mrejen[3], M. Paques[2, 3].* [1]Eye Clinic, University Torino; [2]Istitut de la Vision; [3]CHNO 15-20

4590 — *A0575* **Short Wavelength Multi-aperture Imaging with the Multimodal Adaptive Optics Small-animal Imager (MAOSI).** *Yang Lu[1], R. D. Ferguson[1], M. Mujat[1], G. N. Maguluri[1], J. D. Akula[2], N. Iftimia[1].* [1]Physical Sciences Inc; [2]Ophthalmology, Boston Children's Hospital, Harvard Medical School **CR*

4591 — *A0576* **Investigating retinal disease with *in vivo* near-infrared autofluorescence adaptive optics imaging of retinal pigment epithelium.** *Elena Gofas Salas[1], K. Grieve[1], R. D. Ferguson[3], J. A. Sahel[1, 2], M. Paques[1], E. A. Rossi[2].* [1]Vision Institute & Quinze-Vingts Hospital; [2]Department of Ophthalmology, University of Pittsburgh; [3]Physical Sciences, Inc**.** **CR*

4592 — *A0577* **Deep learning multimodal detection and classification of cone and rod photoreceptors in adaptive optics scanning light ophthalmoscope images.** *David Cunefare[1], A. L. Huckenpahler[2], E. J. Patterson[3], A. Dubra[4], J. Carroll[3, 2], S. Farsiu[1, 5].* [1]Biomedical Engineering, Duke University; [2]Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin; [3]Ophthalmology & Visual Sciences, Medical College of Wisconsin; [4]Ophthalmology, Stanford University; [5]Ophthalmology, Duke University **CR*

4593 — *A0578* **Evaluating different methods for marking cones in simulated and *in vivo* retinal images.** *Suman Adhikari[1], G. Musial[2, 1], H. Mirhajianmoghadam[1], A. W. Schill[1, 2], H. M. Queener[1], J. Carroll[3], J. Porter[1, 2].* [1]Optometry, University of Houston; [2]Biomedical Engineering, University of Houston; [3]Department of Ophthalmology & Visual Sciences, Medical College of Wisconsin

4594 — *A0579* **Natural history and impact on photoreceptors of subretinal drusenoid deposits in age-related macular degeneration.** *Xiaolin Wang[1], M. Clark[1], B. Gu[2], C. Witherspoon[1], C. Owsley[1], C. Curcio[1], Y. Zhang[2].* [1]Ophthalmology and Visual Sceinces, University of Alabama at Birmingham; [2]Doheny Eye Institute, Department of Ophthalmology, University of California - Los Angeles **CR*

4595 — *A0580* **Investigating the morphology of possible S-cones using adaptive optics functional OCT.** *Denise Valente, M. Azimipour, R. J. Zawadzki, J. S. Werner, R. Jonnal.* Department of Ophthalmology & Vision Science, UC Davis

4596 — *A0581* **Characterizing spatial and temporal heterogeneity in retinal capillary blood flow.** *Srividya Neriyanuri[1], P. A. Bedggood[1], R. A. Symons[1, 2], A. Metha[1].* [1]Optometry and Vision Sciences, The University of Melbourne; [2]Ophthalmology, The Royal Melbourne hospital

4597 — *A0582* **Blood Flow Parameters from Computational Fluid Dynamics Modeling Associated with Clotting and Local Neural Retinal Disorganization in Diabetic Microaneurysms.** *Jennifer K. Sun[1, 2], O. Abu-Qamar[3], K. Sampani[1], W. Fickweiler[1], L. P. Aiello[1, 2], M. Bernabeu[4, 5].* [1]Beetham Eye Inst & Eye Rsch Sec, Joslin Diabetes Center; [2]Ophthalmology, Harvard Medical School; [3]Internal Medicine, University of Missouri; [4]The University of Edinburgh; [5]University College London **CR*

4598 — *A0583* **Sensorless Adaptive Optics for Two Photon Excited Fluorescence Imaging of the Mouse Retina.** *Daniel J. Wahl[1], M. Ju[1], Y. Jian[2], M. V. Sarunic[1].* [1]Engineering Science, Simon Fraser University; [2]Casey Eye Institute, Oregon Health & Science University **CR*

4599 — *A0584* **Longitudinal study of *in-vivo* Cone Photoreceptor Structural – Functional Changes in Ischemic Diabetic Maculopathy.** *Nick Muthiah[1, 5], K. K. Dansingani[2], T. Smith[3], M. Michaelides[1, 5], P. Coffey[4], L. Da Cruz[1, 5].* [1]Moorfields Eye Hospital & UCL Institute of Ophthalmology; [2]UPMC Eye Centre, University of Pittsburgh Medical Centre; [3]Casey Eye Institute, Oregon and Health Sciences University; [4]UCL Institute of Ophthalmology; [5]National Institute for Health Research (NIHR) Biomedical Research Centre for Ophthalmology

4600 — *A0585* **Association between the retinal vessel caliber and the ocular blood flow in diabetic retinopathy.** *Yoshitaka Ueno, T. Iwase, R. TOMITA, K. Goto, H. Terasaki.* Nagoya University **CR*

4601 — *A0586* **Aberration corrected in vivo imaging of the retinal cone mosaic using a simple, full-field OCT approach.** *Helge M. Sudkamp[1, 4], D. Hillmann[2], P. Koch[1], C. von der Burchard[3], M. vom Endt[1], M. Münst[1], R. Birngruber[4, 1], J. Roider[3], G. Huttmann[4, 1].* [1]Medizinisches Laserzentrum Lübeck GmbH; [2]Thorlabs GmbH; [3]Augenklinik Kiel, UKSH; [4]Intitut für Biomedizinische Optik, Universität zu Lübeck **CR*

4602 — *A0587* **Cone photoreceptor structure in *RPGR*-associated retinopathy.** *Navjit Singh[1, 2], T. Kane[1, 2], Y. Yang[1, 2], J. Tee[1, 2], M. Kasilian[1, 2], A. Kalitzeos[1, 2], M. Michaelides[1, 2].* [1]UCL Institute of Ophthalmology; [2]Moorfields Eye Hospital NHS Foundation Trust **CR*, ↗

4603 — *A0588* **Non-correspondence of photoreceptor (PR) morphology and sensitivity in acute zonal occult outer retinopathy (AZOOR)-like retinal lesions as assessed by adaptive-optics optical coherence tomography (AO-OCT) and microperimetry (MP).** *Lorenz C. Wassermann[1, 2], M. Salas[3], A. Reumueller[1], S. Sacu[1, 2], W. Drexler[3], M. Pircher[3], M. Funk[1], U. Schmidt-Erfurth[1], A. Pollreisz[1, 2].* [1]Department of Ophthalmology and Optometry, Medical University of Vienna; [2]Vienna Clinical Trial Center, Medical University of Vienna; [3]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna

4604 — *A0589* **Design and fabrication of the first handheld multimodal adaptive optics scanning laser ophthalmoscope.** *Kristen Hagan[1], T. DuBose[1], R. Qian[1], J. Park[1], R. P. McNabb[3], J. A. Izatt[1], S. Farsiu[2].* [1]Biomedical Engineering, Duke University; [2]Biomedical Engineering and Ophthalmology, Duke University; [3]Ophthalmology, Duke University Medical Center **CR*

4605 — *A0590* **Quantifying nystagmus in patients with Achromatopsia using image-based tracking with AOSLO.** *Thomas Kane[1, 2], N. Singh[1, 2], M. Georgiou[1, 2], A. Dubra[3], M. Michaelides[1, 2], A. Kalitzeos[1, 2].* [1]Institute of Ophthalmology, UCL; [2]Moorfields Eye Hospital; [3]Department of Ophthalmology, Stanford University **CR*

4606 — *A0591* **Effect of intraframe motion correction on residual distortion in AOSLO images.** *Alexander E. Salmon[1], R. F. Cooper[2, 3], J. Carroll[1, 4].* [1]Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin; [2]Psychology, University of Pennsylvania; [3]Ophthalmology, Scheie Eye Institute; [4]Ophthalmology & Visual Sciences, Medical College of Wisconsin

4607 — *A0592* **Volumetric imaging of retinal ganglion cells and inner retinal microstructure using a combined AO-OCT-SLO.** *Elaine Wells-Gray, S. S. Choi, N. Doble.* College of Optometry, Ohio State University

4608 — *A0593* **Multimodal adaptive optics imaging of ganglion cells in patients with primary open angle glaucoma.** *Zhuolin Liu[1], D. Hammer[1], O. Saeedi[2].* [1]U.S. Food and Drug Administration; [2]University of Maryland Medical Center **CR*

4609 — *A0594* **Comparing retinal nerve fiber layer thickness between SD-OCT and AO-OCT.** *Brett King, W. H. Swanson, K. Kurokawa, D. T. Miller.* School of Optometry, Indiana University **CR*

4610 — *A0595* **Multimodal adaptive optics assessment of photoreceptors and retinal pigment epithelial cells in eyes with vitelliform macular dystrophy.** *Tao Liu, J. Liu, C. A. Cukras, W. M. Zein, L. Huryn, J. Tam.* National Eye Institute, National Institutes of Health

4611 — *A0596* **Subclinical features of a Microtropic patient uncovered by using Adaptive optics scanning laser ophthalmoscope (AOSLO).** *Ashutosh Richhariya[1], S. Kumar[1], P. Satgunam[2], R. Priya[1].* [1]Engineering Group, L V Prasad Eye Institute; [2]L V Prasad Eye Institute

4612 — *A0597* **In vivo characterization of the acceleration process of erythrocytes within human retinal capillaries.** *Yuhua Zhang[1], B. Gu[1], X. Wang[2], M. D. Twa[3], J. Tam[4], C. A. Girkin[2], S. R. Sadda[1].* [1]Doheny Eye Institute, Department of Ophthalmology, University of California - Los Angeles; [2]Department of Ophthalmology and Visual Sciences, University of Alabama at Birmingham; [3]Department of Optometry and Vision Science, University of Alabama at Birmingham; [4]National Eye Institute, National Institutes of Health **CR*

4613 — *A0598* **Chromatic Shack-Hartmann wavefront sensor with adaptive optics correction of monochromatic aberrations.** *Samuel Steven[1], V. Akondi[2], A. Dubra[2].* [1]University of Rochester; [2]Ophthalmology, Stanford University **CR*

West Exhibition Hall B0108-B0143

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Immunology/Microbiology

428 Fundamentals of ocular infection 2

Moderators: Edmund Tsui and Robert M. Shanks

4614 — *B0108* **IL-1R1 and IL-18 are Essential for Development of Experimental Murine Cytomegalovirus (MCMV) Retinitis in Mice with Retrovirus-Induced Immunosuppression (MAIDS).** *Jessica Carter[1, 2], S. Byfield[1], J. Oh[1], J. Nemeño[1], R. D. Dix[1, 2].* [1]Biology, Georgia State University; [2]Ophthalmology, Emory Universtiy

4615 — *B0109* **Human Cytomegalovirus (HCMV) Does Not Induce Necroptosos-related Reactive Oxygen Species (ROS) Production Early After Infection of ARPE-19 Cells.** *Shauntelle Byfield[1], J. Carter[1, 2], J. Nemeño[1], J. Oh[1], M. Welch[1], R. D. Dix[1, 2].* [1]Georgia State University; [2]Ophthalmology, Emory University

4616 — *B0110* **A Survey of Intraocular Expression of Immune Response Genes During Onset and Progression of Experimental Mouse Cytomegalovirus (MCMV) Retinitis in Mice with Retrovirus-induced Immunosuppression (MAIDS).** *Madeline Welch[1], J. Carter[1, 2], B. Poling[1], J. Gardner[1], J. Nemeño[1], J. Houghton[1], R. D. Dix[1, 2].* [1]Georgia State University; [2]Ophthalmology, Emory University

4617 — *B0111* **Evidence for Parthanatos during Development of Experimental Murine Cytomegalovirus (MCMV) Retinitis in Mice with Retrovirus-Induced Immunosuppression (MAIDS).** *Jay Oh[1], J. Carter[1, 2], S. Byfield[1], R. D. Dix[1, 2].* [1]Georgia State University; [2]Ophthalmology, Emory University School of Medicine

4618 — *B0112* **Loss of Necroptosis and Apoptosis Allows Increased Virus Spread Following Corneal Infection with Herpes Simplex Virus Type 1 (HSV-1).** *Hongyan Guo[1, 2], Y. Feng[2], L. Daley-Bauer[2], R. D. Dix[1, 3], E. Mocarski[2].* [1]Georgia State University; [2]Microbiology and Immunology, Emory University; [3]Ophthalmology, Emory University

4619 — *B0113* **The absence of Signal peptide peptidase (SPP) affects HSV-1 infectivity *in vivo*.** *Shaohui Wang, H. Ghiasi.* Cedars Sinai Medical Center

4620 — *B0114* **Suppression of CD80 in the eye by HSV-1 ICP22 plays a protective role against eye disease.** *Harry Matundan, U. Jaggi, S. Wang, H. Ghiasi.* Surgery, Cedars-Sinai Medical Center

4621 — *B0115* **Overexpression of CD80 by recombinant HSV-1 negatively affects primary and latent infection in ocularly infected mice.** *Emaan Madany[1], L. Jin[2], S. Wang[1], H. Ghiasi[1].* [1]Cedars-Sinai Medical Center; [2]Oregon State Universtiy

Wednesday Posters
8:15 am – 10:00 am

4622 — *B0116* **Role of innate lymphoid cells (ILCs1, 2, 3) in herpes simplex virus type 1 (HSV-1) infectivity *in vitro* and *in vivo*.** *Satoshi Hirose, S. Wang, H. Ghiasi.* Surgery, Cedars-Sinai Medical Center

4623 — *B0117* **CCR6$^+$ γδ T cells in the cornea are protective during early HSV-1 infection..** *John H. Friend, S. Fitzpatrick, R. Lausch, R. Barrington.* University of South Alabama

4624 — *B0118* **Infection with Virulent HSV-1 Strains Preferentially Activates NLRP-3, NLRP-12 and IFI-16 Inflammasome Pathways Associated with Severe Inflammatory Corneal Herpetic Disease.** *Anthony B. Nesburn, P. A. Coulon, N. Dhanushkodi, S. Prakash, R. Srivastava, S. Roy, L. BenMohamed.* Gavin Herbert Eye Institute, University of California, Irvine

4625 — *B0119* **Blockade of LAG-3 Immune Checkpoint Combined with Therapeutic Vaccination Restore the Function of Tissue-Resident Anti-Viral CD8$^+$ T Cells and Protect Against Recurrent Ocular Herpes Simplex Infection and Disease.** *Lbachir BenMohamed, S. Roy, P. A. Coulon, R. Srivastava.* Univ of California-Irvine

4626 — *B0120* **Topical treatment with an engineered fibroblast growth factor 1 (TTHX1114) decreased inflammatory macrophages in the cornea associated with reduced corneal keratopathy in a mouse model of primary ocular herpes.** *David Eveleth[1], N. Dhanushkodi[2], R. Srivastava[2], P. A. Coulon[2], S. Roy[2], S. Prakash[2], L. BenMohamed[2, 3].* [1]Trefoil Therapeutics; [2]Laboratory of Cellular and Molecular Immunology, Gavin Herbert Eye Institute, UC Irvine; [3]Department of Molecular Biology and Biochemistry, UC Irvine **CR*

4627 — *B0121* **Role of Insulin-like growth factor binding protein-3 (IGFBP-3) in pathogenesis of herpes stromal keratitis (HSK).** *Susmit Suvas, P. Rao, J. J. Steinle.* Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine

4628 — *B0122* **Heparanase Activation by Cathepsin-L is a Trigger for Pro-Inflammatory and Pro-Angiogenic Conditions in the Cornea during Herpes Stromal Keratitis.** *Deepak Shukla, A. Agelidis, J. Hopkins.* Ophthal/Visual Sciences, University of Illinois at Chicago

4629 — *B0123* **Structural Topology Defines Protective CD8+ T cell Epitopes in the HIV Proteome.** *Elizabeth Rossin[1], G. Gaiha[2], J. Urbach[2], J. Chodosh[1], B. Walker[2].* [1]Massachusetts Eye and Ear; [2]Massachusetts General Hospital

4630 — *B0124* **Chemokine receptors CXCR3 and CCR4 mediate corneal CD4$^+$ T cell homing during herpes simplex virus-1 keratitis.** *Cecilia Chao[1, 2], G. Ortiz[1], A. Jamali[1], P. Hamrah[1].* [1]Tufts Medical Center; [2]UNSW

4631 — *B0125* ***Staphylococcus aureus* lysates inhibit HSV-1 infection in Human Corneal Epithelial cells-Transformed and their Transcriptome profiling analysis.** *Tianlan Lin[1, 2].* [1]Zhongshan Ophthalmic Center, State Key Laboratory of Ophthalmology; [2]Sun Yat-sen University

4632 — *B0126* **Biomimetic nanosponges augment gatifloxacin in reducing retinal damage during experimental MRSA endophthalmitis.** *Austin LaGrow[1, 2], P. Coburn[1, 2], F. C. Miller[3, 4], C. Land[1, 2], M. Mursalin[5, 2], E. Livingston[5, 2], O. Amayem[1, 2], Y. Chen[6], W. Gao[6], L. Zhang[6], M. C. Callegan[1, 2].* [1]Ophthalmology, The University of Oklahoma Health Sciences Center; [2]Dean McGee Eye Institute; [3]Cell Biology, The University of Oklahoma Health Sciences Center; [4]Family and Preventive Medicine, The University of Oklahoma Health Sciences Center; [5]Microbiology and Immunology, The University of Oklahoma Health Sciences Center; [6]NanoEngineering, University of California, San Diego

4633 — *B0127* **The role of Immune Inhibitor A1 metalloprotease in *Bacillus* endophthalmitis.** *Erin Livingston[1], M. Mursalin[1], P. Coburn[2], F. C. Miller[3, 4], O. Amayem[2], D. Lereclus[5], M. C. Callegan[1, 2].* [1]Microbiology and Immunology, Oklahoma University Health Sciences Center; [2]Ophthalmology, Dean McGee Eye Institute; [3]Cell Biology, Oklahoma University Health Sciences Center; [4]Family and Preventative Medicine, Oklahoma University Health Sciences Center; [5]Microbiology and the Food Chain, French National Institute for Agricultural Research

4634 — *B0128* **Removal of a transcription activator for ascorbic acid transport reduces *Streptococcus pneumoniae* growth in vitreous humor.** *Angela H. Benton, M. E. Marquart.* Microbiology and Immunology, University of Mississippi Medical Center

4635 — *B0129* **Temporal genome-wide co-expression profiling of coding and long non-coding RNA (lncRNA) in experimental staphylococcal endophthalmitis.** *Ashok Kumar[1], S. Singh[1], I. Khatri[2], P. Singh[1].* [1]Ophthalmology, Visual, and Anatomical Sciences, Wayne State University; [2]Immunohematology and Blood Transfusion, Leiden University Medical Center

4636 — *B0130* **Integrative metabolomics and transcriptomics analysis reveals a Krebs cycle metabolite "itaconate" in promoting inflammation resolution in bacterial endophthalmitis.** *Sukhvinder Singh[1], P. Singh[1], S. Giri[2], A. Kumar[1].* [1]Department of Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine; [2]Department of Neurology, Henry Ford Health System

4637 — *B0131* **Blocking the glycolytic pathway attenuates bacterial-induced inflammatory response in innate immune cells and the eye.** *Rebecca Francis, P. Singh, S. Singh, A. Kumar.* Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine

4638 — *B0132* **Galectin 8 impairs TLR4 signaling and dampens innate immune response to P. aeruginosa infection in mouse corneas.** *Noorjahan A. Panjwani, Z. Cao, A. Ramadan.* Ophthalmology, Tufts University Medical School

4639 — *B0133* **A novel role for cytoskeletal keratin 6a in regulating acute corneal inflammation.** *Jonathan Chan[1, 3], Y. Sun[1], K. Bose[1], W. Carrera[2], K. Tam[1, 3].* [1]Department of Ophthalmic Research, Cleveland Clinic Cole Eye Institute and Lerner Research Institute; [2]School of Medicine, Case Western Reserve University; [3]Department of Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University

4640 — *B0134* **Corneal lymphangiogenesis ameliorates corneal inflammation and edema in bacterial keratitis.** *Akitomo Narimatsu[1, 2], T. Hattori[1], N. Koike[2], K. Tajima[3], H. Nakagawa[1], Y. Usui[1], S. Kumakura[1], T. Matsumoto[4], H. Goto[1].* [1]Ophthalmology, Tokyo Medical University; [2]Microbiology, Tokyo Medical University; [3]Small Animal Internal Medicine, School of Veterinary Medicine, University of Kitasato; [4]Infectious Diseases, International University of Health and Welfare

4641 — *B0135* **TRPV1 positive sensory neurons respond to *Pseudomonas aeruginosa*, increasing susceptibility to keratitis.** *Tiffany Lin[1], T. Voisin[2], P. Baral[2], I. Chiu[2], G. Pier[1], M. G. Gadjeva[1].* [1]Infectious Diseaseas, Brigham and Women's Hospital; [2]Harvard Medical School

4642 — *B0136* **Pseudomonas aeruginosa internalization into corneal stromal keratocytes occurs within 24 hours of corneal infection.** *Ahmad Elsahn[1, 2].* [1]Academic Ophthalmology, University of Nottingham; [2]Ophthalmology, Nottingham University Hospitals

4643 — *B0137* **The effect of Resovin D1 on Infectious keratitis of experimental animal to prevent corneal scar.** *Ji-Eun Lee[2], J. Lee[1], S. Lee[3], S. Kim[1], S. Lee[1].* [1]Ophthalmology, Pusan National University; [2]Ophthalmology, Pusan National University; [3]Ophthalmology, Kosin Unversity Hospital

4644 — *B0138* **Is Glycyrrhizin the Magic Bullet for Multi-drug Resistance?.** *Linda D. Hazlett, S. Amarasingha Ekanayaka, S. A. McClellan.* Ophthalmology, Visual and Anatomical Sciences, Wayne State University Sch Medicine

4645 — *B0139* **IL-17A Promotes Pseudomonas aeruginosa Keratitis in C57BL/6 Mouse Corneas.** *Rao Me, F. YU.* Ophthalmology, wayne state university

4646 — *B0140* **Caspase-3/NF-κβ and oxidized DNA during NOD2 ligand induced acute onset conjunctivitis in rabbits.** *Marlyn P. Langford, J. L. Caldwell, T. B. Redens, W. A. Byrd.* Ophthalmology, Louisiana State Univ Hlth Sci Ctr

4647 — *B0141* **Involvement of Neutrophils in Human Ocular Toxoplasmosis.** *Liam M. Ashander[1], S. Lie[1, 2], Y. Ma[1], E. Rochet[1], J. M. Furtado[3], B. Appukuttan[1, 2], J. R. Smith[1, 2].* [1]Eye and Vision Health, Flinders University of South Australia; [2]Flinders Centre for Innovation in Cancer, Flinders University of South Australia; [3]Ophthalmology, Ribeirão Preto Medical School, University of São Paulo

4648 — *B0142* **Understanding the Role of Retinal Müller Glial Cells in Ocular Toxoplasmosis.** *Elise Rochet, Y. Ma, L. M. Ashander, B. Appukuttan, J. R. Smith.* Eye & Vision Health, Flinders University

4649 — *B0143* **TONS504 mediated photodynamic antimicrobial chemotherapy inactivation for Acanthamoeba keratitis in rabbits *in vivo*.** *Yunialthy D. Pertiwi[1, 2], T. Chikama[1], K. Sueoka[1], J. Ko[1], Y. Kiuchi[1], M. Onodera[3], T. Sakaguchi[4].* [1]Department of Ophthalmology and Visual Science, Hiroshima University; [2]Faculty of Medicine, Hasanuddin University; [3]Department of Clinical Support, Hiroshima University Hospital; [4]Department of Virology, Hiroshima University

West Exhibition Hall B0175-B0186

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Cornea

429 Corneal Stroma and Keratocytes

Moderator: Anil Tiwari

4650 — *B0175* **Limbal vascularization and Peter's anomaly are associated with spontaneous resolution of congenital corneal opacity without surgical management.** *SOOYEON CHOE[1], J. Hyon[2], M. Kim[1], Y. Yu[1], J. Oh[1].* [1]Ophthalmology, Seoul National University Hospital; [2]Ophthalmology, Seoul National University Bundang Hospital

4651 — *B0176* **Scleral structural and permeability changes after chemical cross-linking with different agents in ex vivo.** *Yuan Miao[1], P. Guo[2, 3], Y. Jing[1], S. Akella[1], S. M. Oh[1], F. Wang[1], C. Zhang[1], R. S. Chuck[1].* [1]Department of Ophthalmology & Visual Sciences, Albert Einstein College of Medicine; [2]Analytical Imaging Facility, Albert Einstein College of Medicine; [3]Department of Anatomy and Structural Biology, Albert Einstein College of Medicine

4652 — *B0177* **Anatomical explanation for the central-peripheral thickness difference in human corneas.** *Jan Bergmanson, A. Burns, M. Walker.* University of Houston

4653 — *B0178* **Promoting Growth of Keratocyte from Femtosecond Laser Intrastromal Lenticules Using PDMS Substrate and Cocktail Medium.** *shenyang li[1], Z. Cui[1], J. Gu[2], Y. Wang[1], S. Tang[1, 2], J. Chen[1, 2].* [1] Aier School of Ophthalmology, Central South University; [2]Aier Eye Institute

4654 — *B0179* **Encapsulation of Human Limbus-derived Stromal/Mesenchymal Stem Cells for Storage and Transportation at Room Temperature.** *Mukesh Damala[1, 2], S. Swioklo[3, 4], M. A. Kondapaka[1, 5], N. Mitragotri[1], S. Basu[1, 6], C. J. Connon[3, 4], V. Singh[1, 6].* [1]Brien Holden Eye Research Center, LV Prasad Eye Institute; [2]Department of Animal Biology, School of Life Sciences, University of Hyderabad; [3]Institute of Genetic Medicine, Newcastle University; [4]Atelerix Ltd; [5]Manipal Academy of Higher Education, Manipal; [6]Center for Ocular Regeneration, LV Prasad Eye Institute

4655 — *B0180* **Cultivated limbal mesenchymal stromal cells (L-MSC): a new opportunity for eye banks?** *Damien Harkin[1, 2], E. Nili[1, 2], N. Richardson[1, 2], M. Zhang[2], R. Dawson[1, 2].* [1]School of Biomedical Sciences, Institute of Health and Biomedical Innovation, Queensland University of Technology; [2]Queensland Eye Institute

4656 — *B0181* **Induction of fibroblast senescence during corneal wound healing.** *xiaolei wang, L. Yang, Q. Zhou.* Shandong Eye Institute

4657 — *B0182* **The Effect of NaI on Stromal Loading, Distribution and Degradation of CXLO Corneal Strengthening Solution after Topical Application and UVA Exposure in New Zealand White Rabbits.** *Glenwood G. Gum[1], R. Rubinfeld[2], E. Parsons[2].* [1]Absorption Systems; [2]CXL Ophthalmics, LLC ***CR***

4658 — *B0183* **p38 inhibition provides anti-herpes simplex virus type 1 (HSV-1) protection in infected human cultured corneal keratocytes.** *Hui-Fang Wang, X. Han, J. Shen, Y. Hou, B. Chen, X. Song.* department of ophthalmology, Shijiazhuang aier eye hospital

4659 — *B0184* **Lycium Barbarum Polysaccharides as a Potential New therapy to Prevent Corneal Scarring.** *Sum Sum Kwok[1], F. Wong[1], A. C. Lo[1], Y. Chan[2], T. Chan[1], K. C. Shih[1].* [1]Ophthalmology, The University of Hong Kong; [2]Mechanical Engineering, The University of Hong Kong

4660 — *B0185* **Transient mitomycin C treatment of human corneal fibroblasts reduces collagen deposition and secretion of CCL2 and CXCL1.** *Sonali Ghosh[1], G. Tadvalkar[1], A. E. Hutcheon[2], X. Q. Guo[2], J. D. Zieske[2], M. Stepp[1].* [1]Anatomy and Cell Biology, GWU Medical School; [2]Ophthalmology, Schepen's Eye Research Institute Harvard

4661 — *B0186* **Establishment of non-integrated iPSCs from urine-derived cells of a Chinese family with macular corneal dystrophy.** *Yutong Jing[1, 2], Y. Zhou[1, 2], S. Mao[1, 2], Y. Wang[1, 2], S. Tang[1, 2], J. Chen[2, 3].* [1]Aier School of Ophthalmology, Central South University; [2]Aier Eye Institute; [3]Medical College Jinan University

West Exhibition Hall B0187-B0215

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Cornea

430 Corneal Stroma Wound Repair and Healing

Moderators: Ali E. Ghareeb and Cirous Dehghani

4662 — *B0187* **Laser activated thin-film adhesive for sealing full thickness corneal wounds: An in vivo study.** *Jackie Tan[2], L. J. Foster[2, 1], S. L. Watson[2].* [1]The University of Alabama; [2]Save Sight Institute,The University of Sydney ***CR***

4663 — *B0188* **Laminins, and early corneal epithelial basement membrane (EBM) regeneration.** *Rodrigo Carlos De Oliveira, P. Saikia, S. E. Wilson.* Cole eye institute, Cleveland Clinic Foundation

4664 — *B0189* **Molecular Changes Of Collagen And Proteoglycans In Corneal Alkali Burn Healing.** *Carmen M. Martinez-Garcia, L. Elvira, P. Gallego- Muñoz, C. Herrero- Perez.* Cell Biology, University of Valladolid

4665 — *B0190* **Role of Lumican in the corneal wound healing in mice.** *Eimi Suzuki[1], T. Sumioka[1], Y. Okada[1], M. Miyajima[1], C. Liu[2], W. W. Kao[3], S. Saika[1].* [1]Wakayama Medical University; [2]Optometory, Indiana University; [3]Ophthalmology, University of Cincinnati

4666 — *B0191* **Microenvironmental Control of the Epithelial-Stromal Interactions by Galectin-3-Induced Paracrine Signaling.** *Dina B. Abusamra, J. Mauris, P. Argueso.* Opthalmology, Schepens Eye Research Institute and Massachusetts Eye and Ear, Harvard Medical School

4667 — *B0192* **Linking integrin turnover to the cytoskeleton: mechanistic insights into corneal scarring.** *Edward F. Boumil, N. Castro, A. Phillips, A. M. Bernstein.* Ophthamology, SUNY Upstate Medical University

4668 — *B0193* **Corneal scarring: Decreased intracellular degradation of integrins promotes matrix recycling.** *Andrew Phillips, E. F. Boumil, N. Castro, A. M. Bernstein.* Ophthalmology, SUNY Upstate Medical University

4669 — *B0194* **Self-delivery siRNA to prevent corneal scarring.** *Nileyma Castro Davila[1], E. F. Boumil[1], M. Ridilla[1], A. Phillips[1], J. E. Chatterton[2], A. M. Bernstein[1].* [1]Ophthalmology, SUNY Upstate Medical University; [2]Generation Bio

4670 — *B0195* **A phytochemical, Emodin, attenuates corneal stromal fibroblast differentiation and fibrosis.** *Sally Heil[1, 2], R. Tripathi[1, 2], P. Balne[1, 2], L. M. Martin[1, 2], S. Gupta[1, 2], P. Sinha[1, 2], J. Rodier[1, 2], R. R. Mohan[1, 2].* [1]Veterinary Medicine & Surgery, University of Missouri; [2]Ophthalmology, Harry S. Truman Memorial Veteran Hospital

4671 — *B0196* **The mechanism of phagocytosis induced by plasminogen on cultured corneal fibroblasts.** *Tomoko Sato[1], K. Sugioka[1], H. Mishima[1], S. Kusaka[1], T. Nishida[2].* [1]Kindai University Facluty of Medicine; [2]Oshima Hospital of Ophthalmorgy

4672 — *B0197* **Topical ophthalmic formulation to counteract sulfur mustardinduced corneal damage.** *Nishant Sinha[1], R. Tripathi[1], S. Gupta[1], P. Balne[1], N. P. Hesemann[2], J. Rodier[1], E. A. Giuliano[1], P. R. Sinha[1], L. M. Martin[1], S. S. Chaurasia[1], R. R. Mohan[1].* [1]University of Missouri - Columbia; [2]Harry S. Truman Memorial Veterans' Hospital

4673 — *B0198* **GCLC nanomedicine for mitigation of Acrolein toxicity in the cornea.** *Prashant R. Sinha[1, 2], S. Gupta[1, 2], P. Balne[1, 2], R. Tripathi[1, 2], E. A. Giuliano[1, 2], J. Rodier[1, 3], N. P. Hesemann[1, 3], S. S. Chaurasia[1, 2], R. R. Mohan[1, 2].* [1]Harry S. Truman Memorial Veteran Hospital; [2]College of Veterinary Medicine, University of Missouri; [3]Mason Eye Institute, University of Missouri,

4674 — *B0199* **Id3 gene over-expression in corneal stromal fibroblasts blocks TGFβ-driven fibrosis in an *in vitro* model.** *Mikayla Fraunfelder[1, 2], S. Gupta[1, 2], M. K. Fink[3], P. Balne[1, 2], R. Tripathi[1, 2], P. R. Sinha[1, 2], S. Heil[1, 2], E. A. Giuliano[2], N. P. Hesemann[1, 3], S. S. Chaurasia[2], R. R. Mohan[1, 2].* [1]Harry S. Truman Memorial Veteran Hospital; [2]College of Veterinary Medicine, University of Missouri; [3]Mason Eye Institute, University of Missouri

4675 — *B0200* **Autophagy regulates corneal wound healing.** *Lynn M. Martin[1, 2], R. Tripathi[1, 2], P. Sinha[1, 2], N. Jeyabalan[3], P. J. Johnson[2], S. S. Chaurasia[1, 2], A. Ghosh[3], R. R. Mohan[1, 2].* [1]Harry S. Truman Memorial Veteran Hospital; [2]College of Veterinary Medicine, University of Missouri; [3]GROW Research Laboratory, Narayana Nethralaya Foundation

4676 — *B0201* **Therapeutic efficacy of different routes of mesenchymal stem cell administration in corneal injury.** *Sachin Shukla[1, 2], S. K. Sahu[1, 2], S. Mittal[1], E. Elbasiony[1], W. Foulsham[1], S. Chauhan[1].* [1]Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, Department of Ophthalmology, Harvard Medical School; [2]L. V. Prasad Eye Institute

4677 — *B0202* **Delivery of a PPAR Agonist *via* a Biodegradable Ocular Insert to Achieve Scar-free Corneal Wound Healing.** *Shikha P. Barman[1], S. Amere[2], Y. Li[3], K. Ward[3].* [1]Executive, Integral BioSystems; [2]New Technologies and Targets, Integral BioSystems; [3]R&D, Integral BioSystems **CR*

4678 — *B0203* **Short-term stability of artificial collagen-like peptide polymer implanted in corneal stroma and keratocyte reaction against the implant in rabbits.** *Nobuyuki Ishikawa[1], H. Nose[3], s. Ichise[2], K. Kuroda[2], T. Koide[2], S. Saika[1].* [1]Ophthalmology, Wakayama Medical University; [2]Waseda University; [3]Kola-gen pharma

4679 — *B0204* **Inhibitory effect of Epigallocatechin-3-gallate on IL-1β-induced collagen degradation by corneal fibroblasts.** *Koji Sugioka[1], H. Mishima[1], T. Nishida[3], S. Kusaka[2].* [1]Ophthalmology, Kindai University Nara Hospital; [2]Ophthalmology, Kindai University Faculty of Medicine; [3]Ophthalmology, Yamaguchi University

4680 — *B0205* **Pre-activated p38 inhibits phosphorylation of SMAD2 by TGFβ1-activated TGFβR in corneal fibroblasts.** *Zheng Wang[1], A. M. Bernstein[2], J. Wolosin[1].* [1]ophthalmology, Icahn School of Medicine at Mount Sinai; [2]Ophthalmology, SUNY Upstate Medical University

4681 — *B0206* **Sphingolipids and TGF-β: Seeking out novel treatments for corneal fibrosis.** *Sarah E. Nicholas[1], N. A. Mandal[2], D. Karamichos[1].* [1]Ophthalmology, University of Oklahoma Health Sciences Center; [2]University of Tennessee Health Science Center

4682 — *B0207* **Study on cryopreservation protocols for human cornea stroma stem cells.** *Yuzhao Sun[1, 2], A. Dos Santos[2], A. Balayan[2], S. X. Deng[2].* [1]The First Affiliated Hospital of CMU; [2]June Stein Eye Institute

4683 — *B0208* **An Ex Vivo Corneal Puncture Model for Assessing Temporary Biomaterial Therapeutics.** *Eric J. Snider, J. Acevedo, P. Edsall, B. Lund, D. O. Zamora.* Sensory Trauma, United States Army Institute of Surgical Research

4684 — *B0209* **30 years experience of rinsing of acute eye burns. Removing of the corrosive and its decontamination.** *Norbert Schrage[1], N. Wiesner[1], D. Utthoff[1], M. Reim[2], M. Dutescu[3].* [1]Ophthalmology, County Hospital Cologne Merheim; [2]Ophthalmology, Univertsity hospital UK-Aachen; [3]ACTO e.V. **CR*

4685 — *B0210* **Effects of mesenchymal stem cells encapsulated within crosslinked collagen carrier gels on alkali burns in a corneal organ culture model.** *Ignacio J. Blanco[1], G. Fernandes-Cunha[3], S. Hull[1, 3], H. J. Lee[4], K. Na[3], A. R. Djalilian[2], D. Myung[3, 1].* [1]Chemical Engineering, Stanford University; [2]Ophthalmology, The University of Illinois College of Medicine; [3]Ophthalmology, Stanford University; [4]Chemical and Biomolecular Engineering, Gachon University **CR*

4686 — *B0211* **Transient Plasma Membrane Disruption-Induced Calcium Signaling in Corneal Keratocytes.** *Mitchell A. Watsky[1, 2], Z. Chen[1], M. McGee-Lawrence[1], X. Lu[1].* [1]Cellular Biology and Anatomy, Augusta University; [2]The Graduate School, Augusta University

4687 — *B0212* **A Novel Extracellular Matrix-Mimetic Hydrogel for Corneal Regeneration.** *Vivek Singh[1, 3], M. Damala[1, 4], T. Gharat[5], S. Selvam[5], S. K. Ojha[5], T. Bhowmick[5], A. Chandru[5], V. S. Sangwan[1, 3], S. Basu[2, 3].* [1]SSR-Stem cell biology laboratory, Prof. Brien Holden Eye Research Center, L V Prasad Eye Institute; [2]Cornea and Anterior Segment Services, L V Prasad Eye Institute; [3]Center for Ocular Regeneration (CORE), L V Prasad Eye Institute; [4]University of Hyderabad; [5]Pandorum Technologies Private Limited

4688 — *B0213* **Corneal Schwann cells differentiate into myofibroblasts after injury.** *Gwendolyn Schultz[1], M. Lopez[1, 2], R. Mohan[1], P. Bargagna-Mohan[1].* [1]University of Connecticut School of Medicine; [2]University of Saint Joseph

4689 — *B0214* **KCa3.1 Ion Channel Inhibition Prevents Exuberant Corneal Wound Healing and Ameliorates TGFβ1-induced Corneal Fibrosis.** *Helena Lam[1], S. Gupta[2, 3], R. Tripathi[2, 3], P. Balne[2, 3], S. Heil[3], N. Sinha[2, 3], N. P. Hesemann[1], J. Rodier[1], P. R. Sinha[2, 3], E. A. Giuliano[2, 3], S. S. Chaurasia[2, 3], R. R. Mohan[2, 3].* [1]Department of Ophthalmology, University of Missouri-Columbia School of Medicine; [2]Department of Ophthalmology, Harry S. Truman Memorial Veteran Hospital; [3]Departments of Veterinary Medicine & Surgery and Biomedical Sciences, University of Missouri-Columbia College of Veterinary Medicine

4690 — *B0215* **Efficacy of Topical Steroids in Diminishing Scar Formation After Corneal Metallic Foreign Body Removal.** *Craig White, J. Siordia, J. N. Kruh.* Ophthalmology, Jamaica Hospital

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West Exhibition Hall B0254-B0302

Wednesday, May 01, 2019 8:15 AM-10:00 AM

Cornea

431 Microbiome, Ocular Surface Diseases

Moderators: Vinay K. Aakalu and Margarita Calonge

4691 — *B0254* **The immune-microbiome axis in Keratoconus patient cornea: altered microbiome profile correlates with tear molecular factors and disease severity.** *Arkasubhra Ghosh[1], A. P. Nair[1], T. Vaidya[1], N. R. Kumar[1], S. D'Souza[2], P. Khamar[2], R. Shetty[2], S. Sethu[1].* [1]GROW Research Laboratory, Narayana Nethralaya Foundation; [2]Cornea, Narayana Nethralaya

4692 — *B0255* **Evaluation of a Simplified non-invasive Method for Obtaining Samples from Corneal Ulcers in suspected Microbial Keratitis.** *Tobi F. Somerville[1, 5], T. Neal[2], C. Corless[3], M. Horsburgh[4], S. Kaye[5, 1].* [1]Department of Eye and Vision Sciences, University of Liverpool; [2]Department of Infection and Immunity, Royal Liverpool University Hospital; [3]Department of Medical Microbiology, Royal Liverpool University Hospital; [4]Institute of Integrative Biology, University of Liverpool; [5]St Pauls Eye Unit, Royal Liverpool University Hospital

4693 — *B0256* **Changes in the ocular surface microbiome (OSM) in patients with Stevens-Johnson syndrome (SJS) and other severe ocular surface diseases (OSD).** *Paul de Bustros, C. S. Bouchard, M. J. Zilliox, C. Joyce, G. Kuffel, C. Roese Mores.* Ophthalmology, Loyola University Medical Center

4694 — *B0257* **Fortified Post-Thaw Amniotic Membrane with Platelet Lysate Potentiates Cultivation of Limbal Stem Cells.** *Mozhgan Rezaei Kanavi[1], S. Karami[1], S. Balagholi[1], S. Alizadeh[2], H. Ahmadieh[3], R. Dabbaghi[4].* [1]Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences, Tehran; [2]Department of Hematology, School of Allied Medicine, Tehran University of Medical Sciences, Tehran; [3]Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences, Tehran; [4]Department of Hematology, Faculty of Medical sciences, Tarbiat Modares University, Tehran

4695 — *B0258* **Characterization of the ocular microbiome - the importance of contaminant filtration when interpreting 16S rRNA gene sequencing outcome.** *Jasmine Andersson[5, 1], J. Vogt[3], K. Holmgaard[5], M. Dalgaard[2], S. Heegaard[4, 5].* [1]Faculty of Health and Medical Sciences, University of Copenhagen; [2]Department of Bio and Health Informatics, Technical University of Denmark; [3]Interdisciplinary Basic Metabolic Research in The Maersk Tower, University of Copenhagen; [4]Department of Pathology, Rigshospitalet-Blegdamsvej; [5]Department of Ophthalmology, Rigshospitalet-Glostrup

4696 — *B0259* **Feasibility of Conjunctival Microbiome Sampling in Research.** *Niccolo Dosto, A. Abraham, P. Y. Ramulu, J. David.* Johns Hopkins University

4697 — *B0260* **Intraocular microdisplay projection system for treating corneal blindness.** *Victoria Fan[1], M. Rosenblatt[2], m. sun[2], C. Yu[1, 2].* [1]Ophthalmology, Stanford University; [2]Ophthalmology, University of Illinois Chicago

4698 — *B0261* **InflammAgeing at Ocular Surface. Clinical and Biomolecular Analyses in 'Healthy' Volunteers.** *Antonio Di zazzo[1], a. micera[3], m. coassin[1], g. varacalli[1], w. Foulsham[2], m. De Piano[3], S. Bonini[1].* [1]Ophthalmology, Campus Bio Medico Univeristy; [2]Ophthalmology, Schepens Eye Research Institute, Mass. Eye and Ear Infirmary, Harvard Medical School; [3]Bietti Foundation IRCSS

4699 — *B0262* **The effect of long-term use of a commercial eye wash solution on the ocular surface mucin layer.** *Murat Dogru[1, 2], N. Kozuki[2], M. Tanaka[3], A. Shibasaki[2], H. Yano[3], H. Fujishima[2].* [1]Ophthalmology, Keio University; [2]Ophthalmology, Tsurumi University; [3]Research and Drug Development, Kobayashi Pharmaceuticals **CR*, ↗

4700 — *B0263* **Comprehensive miRNA analysis of conjunctival epithelium of Stevens-Johnson syndrome patients in the chronic stage.** *Mayumi Ueta[2], H. Nishigaki[2], C. Sotozono[1], N. Yokoi[1], S. Kinoshita[2].* [1]Ophthalmology, Kyoto Prefectural University of Medicine; [2]Department of Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine

4701 — *B0264* **Does the Peripheral Light Focusing Effect Explain the Strong Nasal Location Preference of Pterygia?** *Peter E. King-Smith[1], T. F. Mauger[2], C. G. Begley[3], P. Tankam[3].* [1]Optometry, Ohio State University; [2]WVU Eye Institute; [3]School of Optometry, Indiana University

4702 — *B0265* **Personalized eye dosimeter for instantaneous and cumulative UV burden – first results from real-life application.** *Christina Grupcheva, M. G. Marinov, D. I. Grupchev.* Medical University - Varna

4703 — *B0266* **The Reducing Adenoviral Patient-Infected Days (RAPID) Study: Safety and Tolerability of One-Time, In-Office Application of 5% Povidone-Iodine in the Treatment of Adenoviral Conjunctivitis.** *Ellen Shorter[1], T. Than[2], M. Whiteside[3], J. S. Harthan[4], M. Margolis[6], S. Johnson[7], M. Migneco[6], C. Morettin[4], C. Olson[8], A. Hartwick[5], J. Huecker[6], M. O. Gordon[5].* [1]Ophthalmology and Vision Sciences, University of Illinois at Chicago; [2]Carl Vinson VAMC; [3]UC Berkeley; [4]Illinois College of Optometry; [5]Ohio State University; [6]Washington University in St. Louis; [7]Northeastern State University; [8]Fort Sam Houston ↗

4704 — *B0267* **Development and performance of a microsensor for the ocular health evaluation.** *Martin Zalazar[2], C. Mista[2], R. M. Torres[1].* [1]Centro de Ojos Dr. Lódolo; [2]Facultad de Ingeniería, Universidad Nacional de Entre Ríos

4705 — *B0268* **Modulation of ocular surface tight junction proteins by high glucose.** *Saleh Alfuraih[1, 2], A. Barbarino[1], K. Shamloo[1], A. Sharma[1].* [1]school of pharmacy, Chapman University; [2]Pharmacy college, Northren Border University

4706 — *B0269* **Involvement of eicosanoid in pterygium.** *Aihua Hou[1], Y. A. Ambaw[3], M. Gan[1], M. Wenk[3], L. Tong[1, 2].* [1]Singapore Eye Research Institute, Singapore Eye Research Institute; [2]Singapore Nationa Eye Center; [3]Yong Loo Lin School of Medicine, National University of Singapore

4707 — *B0270* **Prospective study of the ocular manifestations in Epidermolysis Bullosa and Autoimmune Blistering Diseases identifies Dry Eye Disease.** *Brendon W. Lee[1, 2], J. TAN[2], M. Radjenovic[3], L. Tat[2], D. F. Murrell[1, 3], M. T. Coroneo[1, 2].* [1]Faculty of Medicine, University of New South Wales; [2]Department of Ophthalmology, Prince of Wales Hospital; [3]Department of Dermatology, St George Hospital

4708 — *B0271* **Clinical Patterns of Tarsorraphy at a Tertiary Eye Care Center.** *Hong-Gam Le, P. R. Bomdica, G. S. Lissner.* Ophthalmology, Northwestern University

4709 — *B0272* **Expression of SPARC and MMP9 in Stevens-Johnson syndrome chronic ocular sequelae undergoing cultivated oral mucosal epithelial transplantation.** *Renu Venugopal[1], S. Sen[1], S. Mohanty[2], S. Kashyap[1], T. Agarwal[1], J. Kaur[1], R. B. Vajpayee[3], N. Sharma[1].* [1]Dr.R.P. Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India; [2]Stem Cell Facility, All India Institute of Medical Sciences, New Delhi, India; [3]Royal Victorian Eye and Ear Hospital, University of Melbourne

4710 — *B0273* **Biophysical interaction of oleic acid with tear lipids at an air-tear interface.** *Poonam Mudgil.* School of Medicine, Western Sydney University

4711 — *B0274* **Tolerability and efficacy of a 0.6% povidone iodine nanoemulsion (IODIM).** *Pasquale Aragona, R. Spinella, E. I. Postorino.* Biomedical Sciences Eye Clinic, University of Messina

4712 — *B0275* **Deciphering limbal stem cell microenvironment for optimizing limbal stem cell culture for treating limbal stem cell deficiency.** *Sudan Puri, M. Sun, K. N. Mutoji, T. F. Gesteira, V. J. Coulson-Thomas.* Optometry, University of Houston

4713 — *B0276* **Ocular Surface impairment in Fabry disease.** *Chiara Fariselli, M. Fresina, P. Versura, E. C. Campos.* S.Orsola Malpighi University Hospital

4714 — *B0277* **Nanoskin scaffolds for ocular surface reconstruction with mesenchymal stem cells.** *Magda M. Hata Viveiros[1], C. Rainho[1], M. Viveiros[1], V. Ximenes[2], C. Gorgulho[1], J. Ramirez[1], P. Basmaji[4], N. Di Girolamo[3], S. Schellini[1].* [1]Universidade Estadual Paulista "Júlio de Mesquita Filho" - UNESP de Botucatu; [2]Universidade Estadual Paulista "Júlio de Mesquita Filho" - UNESP de Bauru; [3]University of New South Wales; [4]Innovatec company **CR*

4715 — *B0278* **Validating animal models of Limbal Stem Cell Deficiency: A histopathological and immunohistochemical study.** *Abhinav R. Kethiri[1, 2], M. Damala[1, 3], K. K. Bokara[4], D. Mishra[5], S. Basu[1, 6], M. R. Ch[4], V. S. Sangwan[1, 6], V. Singh[1, 6].* [1]SSR-Stem cell biology Laboratory, Prof. Brien Holden Eye Research Center, L V Prasad Eye Institute; [2]Manipal Academy of Higher Education; [3]University of Hyderabad; [4]Center for Cellular and Molecular Biology, Medical Biotechnology Complex, Uppal Road; [5]Ophthalmic Pathology Laboratory, L V Prasad Eye Institute; [6]Center for Ocular Regeneration (CORE), L V Prasad Eye Institute

4716 — *B0279* **Corneal blink reflex amplitude and thermal sensation are proportional to corneal surface temperature changes.** *Ariadna Diaz-Tahoces[1, 2], E. Velasco[1], M. Delicado-Miralles[1], F. Aleixandre-Carrera[1], M. Acosta[1], J. Gallar[1, 2].* [1]Instituto de Neurociencias, Universidad Miguel Hernandez-CSIC; [2]Instituto de Investigación Sanitaria y Biomédica de Alicante

4717 — *B0280* **Corneal Epithelial Thickness Measured by AS-OCT as Promising Diagnostic Indicator of Limbal Stem Cell Deficiency.** *Qingfeng Liang[2, 1], Q. Le[2], D. Cordova[2], S. X. Deng[2].* [1]Ophthalmology, Beijing Institute of Ophthalmology, Beijing Tongren Hospital; [2]Stein Eye Institute, David Geffen School of Medicine at UCLA

4718 — *B0281* **Development of feasible in vivo confocal microscopy methods to image eyelid margin in clinical research.** *Nanyu Zhou, K. Edwards, L. H. Colorado, K. L. Schmid.* Institute of Health and Biomedical Innovation

4719 — *B0282* **The protective effects of eye wash solution (EYEBON-W®) in the ocular surface damage induced by airborne carbon black exposure.** *Jong Suk Song[1], X. Li[1], B. Kang[1], Y. Eom[1], H. Lee[2].* [1]Ophthalmology, Korea University College of Medicine; [2]Yonsei University College of Medicine

4720 — *B0283* **Relationship between symptoms of ocular surface disease and occupational characteristics: office workers versus construction workers.** *Manuel Garza Leon[1, 2], S. Hernandez[1], A. Paz[1], P. Marcos[1], F. Amparo[1].* [1]Universidad de Monterrey, DICSA; [2]Cornea, Asociacion para Evitar la Ceguera en México **CR*

4721 — *B0284* **Early ocular surface changes in aniridia-associated keratopathy - insights from anterior segment imaging in children.** *Neil S. Lagali[1], B. Wowra[2], F. Fries[3], L. Latta[3], T. P. Utheim[4], E. Wylegala[2], B. Seitz[3], B. Käsmann-Kellner[3].* [1]Ophthalmology, Linkoping University; [2]Dept of Ophthalmology, University of Silesia; [3]Klinik für Augenheilkunde, Universitätsklinikum des Saarlandes UKS; [4]Unit of Regenerative Medicine, Department of Medical Biochemistry, University of Oslo

4722 — *B0285* **Tear Inflammatory Cytokines Analysis and Clinical Correlations in Diabetes and Non-diabetes with Dry Eye.** *Hong Qi, R. Liu, B. Ma, Y. Gao.* Peking University Third Hospital

4723 — *B0286* **Ocular pathology elicited by precocious eyelid opening in genetically engineered *Prickle 1* knockout mouse model.** *Dianlei Guo, J. Ru, C. Liu.* Zhongshan ophthalmic center

4724 — *B0287* **Low-Concentration Povidone Iodine Eye Drops (MDV0911ID).** *Barbara Melilli, D. Aleo, M. Saita, F. Spitaleri, S. Mangiafico, M. Cro.* R&D, MEDIVIS **CR*

4725 — *B0288* **Efficacy and safety of Bromfenac 0.09% ophthalmic solution in reducing clinical inflammation and symptoms relief in patients with pterygium I-III.** *Oscar Olvera Montaño, L. M. Baiza-Duran, P. d. Muñoz-Villegas, F. García Velez, R. Llamas Velázquez.* Clinical Research Department, Laboratorios Sophia S.A. de C.V. **CR*, ↗

4726 — *B0289* **Remodeling of substance P sensory nerves and TRPM8 cold receptors after corneal experimental surgery.** *Jiucheng He, T. L. PHAM, A. H. Kakazu, H. E. Bazan.* Ophthalmology & Neuroscience Center, LSU Health Sciences Center

4727 — *B0290* **Molecular footprints of oxidative stress in corneal injuries of different origin: utilization of human organotypic corneal tissue model.** *Yulia Kaluzhny, M. Kinuthia, T. Truong, A. Lapointe, M. Klausner, P. Hayden.* MatTek Corporation **CR*

4728 — *B0291* **BIOcular-X Dressings to Stabilize Open Globe Injuries.** *Lauren A. Costella[1], L. Woodard[1], K. Broderick[1], A. Eiseman[2], C. Tison[1].* [1]Luna Innovations; [2]Medical University of South Carolina **CR*

4729 — *B0292* **Twelve years of Ocular Surface Disease management: clinical characteristics and demographics in Entre Rios, Argentina.** *Rodrigo M. Torres[1], P. G. Lódolo[2].* [1]Ocular Surface & Immunology; basic and clinical research, Centro de Ojos Dr. Lodolo; [2]Medical Director, Centro de Ojos Dr. Lódolo

4730 — *B0293* **Efficacy and long-term outcomes of punctal cauterization for ocular surface disease.** *Yvonne Wang, R. Dana.* Ophthalmology, Massachusetts Eye and Ear

4731 — *B0294* **Reduced tear film substance P concentration is associated with diabetic peripheral neuropathy.** *Shyam S. Tummanapalli[1], M. Willcox[1], T. Issar[2], A. Yan[2], N. Kwai[2], A. Poynten[3], A. Krishnan[2], M. Markoulli[1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]Prince of Wales Clinical School, University of New South Wales; [3]Department of Endocrinology, Prince of Wales Hospital

4732 — *B0295* **Nortriptyline is Effective in Ameliorating Symptoms of Neuropathic Corneal Pain.** *Mehmet C. Ozmen[1, 2], G. Dieckmann[1, 2], R. Rashad[1], R. Paracha[1], N. Sanayei[1], S. Cox[1, 2], M. I. Morkin[1, 2], P. Hamrah[1, 2].* [1]Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts Medical School, Tufts University School of Medicine; [2]Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical School, Tufts University School of Medicine

4733 — *B0296* **Sensory Corneal Nerve Function Testing and Morphological Corneal Nerve Alterations Demonstrate Neurosensory Abnormalities and May Allow for Identification of Patients at Risk of Symptom Development.** *Yashar Seyed-Razavi[1, 2], G. Dieckmann[1], N. Koseoglu[1], A. Jamali[1, 2], A. Akhlaq[1], S. Cox[1], R. Nose[1], A. Sahin[1], Z. Salem[1], P. Hamrah[1, 2].* [1]Ophthalmology, Tufts Medical Center; [2]School of Medicine, Tufts University **CR*

4734 — *B0297* **Distinct immune cell subsets on the ocular surface of dry eye disease and keratoconus patients is associated with pathology.** *Swaminathan Sethu[1], A. P. Nair[1], s. dsouza[2], R. S[2], A. Ghosh[1].* [1]GROW Research Lab, Narayana Nethralaya Foundation; [2]Cornea and Refractive Surgery, Narayana Nethralaya Post Graduate Institute of Ophthalmology

4735 — *B0298* **Ocular Surface Changes in Professional Motorsport Athletes: the Exception to the Rule.** *Maria Grazia Mazzone[1], F. Solignani[2], C. Chines[1], A. Charte[3], S. Barabino[4].* [1]SIFI SpA; [2]Centro Medico DueSoli; [3]Hospital Universitari Dexeus, Quironsalud; [4]Ocular Surface & Dry Eye Center, Ospedale L. Sacco, University of Milan

4736 — *B0299* **Ocular surface, tear film and neuroautonomic neuropathy in diabetic patients with Charcot Arthropathy.** *Gabriel A. Lopes[1], M. T. Ferrer[1], Y. B. Atala[2], M. Viturino[1], D. Huarachi[1], D. Borges[1], D. Guadagnini[2], H. B. Assalin[2], M. Parisi[2], M. A. Saad[2], M. Alves[1].* [1]Ophthalmology, State University of Campinas; [2]State University of Campinas

4737 — *B0300* **Diagnosis of demodex infestation with adhesive tape skin impressions.** *Milton M. Hom[1], S. Schwartz[1], J. S. Harthan[2], T. Doll[3].* [1]Private Practice; [2]Illinois College of Optometry; [3]Pacific University College of Optometry **CR*

4738 — *B0301* **The ocular manifestations of Fanconi anemia in a genetic mouse model.** *Sandrine Joly[1], L. Rodriguez[1], J. B. Mdzomba[1], M. Carreau[2], V. Pernet[1].* [1]Ophthalmology, Centre de recherche du CHUQ/University Laval; [2]Pediatry, Centre de recherche du CHUQ/University Laval

4739 — *B0302* **Influence of serum from patients with Systemic Autoimmune Disease on IL-8 Expression in Human Corneal Epithelial Cells in Vitro.** *Omer Iqbal, A. Kolli, C. S. Bouchard, M. Ripa, A. Dharan, S. Kaja, E. Campbell.* Ophthalmology, Loyola University Chicago

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

East 1

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Multidisciplinary Ophthalmic Imaging Group

432 Advanced imaging technologies

Moderators: Michael Pircher, Anthony N. Kuo and Yoshiaki Yasuno

4740 — *10:15* **Anterior Scleral Canal Opening (ASCO) offset relative to Bruch's Membrane Opening (BMO) influences the Angular Location of Peak Retinal Nerve Fiber Layer Thickness (RNFLT) in Healthy Human Eyes.** *Seung Woo Hong[2], H. Yang[2], S. K. Gardiner[4], H. Luo[2], C. A. Hardin[2], G. Sharpe[3], J. Caprioli[4], S. Demirel[1], C. A. Girkin[5], J. M. Liebmann[6], C. Y. Mardin[9], H. A. Quigley[7], A. F. Scheuerle[8], B. Fortune[1], B. C. Chauhan[3], C. F. Burgoyne[2].* [1]Discoveries in Sight Research Laboratories, Devers Eye Institute; [2]Optic Nerve Head Research Laboratory, Devers Eye Institute; [3]Ophthalmology and Visual Sciences, Dalhousie University; [4]Jules Stein Eye Institute; [5]Department of Ophthalmology, School of Medicine, University of Alabama at Birminham; [6]Moise and Chella Safra Advanced Ocular Imaging Laboratory, Einhorn Clinical Research Center; [7]Wilmer Eye Institute; [8]Department of Ophthalmology, University of Heidelberg; [9]Department of Ophthalmology, University of Erlangen **CR*

4741 — *10:30* **Transscleral optical phase imaging (TOPI) of human retinal pigment epithelium.** *Mathieu KUNZI[1], T. Laforest[1], L. Kowalczuk[2], F. F. Behar-Cohen[3], C. Moser[1].* [1]Laboratory of Applied Photonic Devices, EPFL; [2]Jules-Gonin eye hospital, Fondation Asile des aveugles; [3]From physiopathology of ocular diseases to clinical development, Inserm, Paris Descartes University **CR*

4742 — *10:45* **White light hyperspectral optical coherence tomography reveals melanin distribution in the retinal pigment epithelium.** *Danielle J. Harper[1], M. Augustin[1], K. Schutzenberger[1], M. Glösmann[3], T. Konegger[2], P. Eugui[1], A. Lichtenegger[1], C. W. Merkle[1], C. K. Hitzenberger[1], B. Baumann[1].* [1]Medical University of Vienna; [2]Vienna University of Technology; [3]University of Veterinary Medicine Vienna

4743 — *11:00* **Imaging the Entire Schlemm's Canal with Visible-Light OCT and Visible-Light OCTA in Mouse.** *Hao F. Zhang[1, 2], L. Beckmann[1], X. Zhang[1], T. Kume[3].* [1]Biomedical Engineering, Northwestern University; [2]Ophthalmology, Northwestern University; [3]Department of Medicine, Northwestern University **CR*

4744 — *11:15* **Spatially localized photoreceptor ablation in macaque using a femtosecond laser and adaptive optics.** *Kamal Dhakal[1], S. Walters[1, 2], C. Schwarz[3, 1], J. Strazzeri[4], J. E. McGregor[1], E. Aboualizadeh[1], B. Bateman[4], J. J. Hunter[1, 4], D. R. Williams[1, 2], W. Merigan[4, 1].* [1]Center for Visual Science, University of Rochester; [2]Institute of Optics, University of Rocehster; [3]Institute of Ophthalmic Research, University of Tuebingen; [4]Flaum Eye Institute, University of Rochester **CR*

4745 — *11:30* **Retinotopic mapping of the primary visual cortex as an objective functional adjunct to conventional testing in patients with retinal disease.** *Maximilian Pawloff[1], A. Hummer[2], M. Woletz[2], G. E. Holder[3, 4], G. Mylonas[1], M. Ritter[1], C. Windischberger[2], U. Schmidt-Erfurth[1].* [1]Department for ophthalmology and optometry, Medical University of Vienna; [2]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [3]Department of Ophthalmology, National University of Singapore, National University Hospital, Singapore; [4]Moorfields Eye Hospital **CR*

4746 — *11:45* **Structure and Metabolism in the Brains of the Congenitally Blind Using Magnetic Resonance Imaging and Spectroscopy.** *Kevin C. Chan[1, 2], A. J. Charles[1], J. Bang[1], G. Hamilton-Fletcher[1], C. Parra[1], M. C. Murphy[3, 4], A. C. Nau[3, 5].* [1]Department of Ophthalmology, New York University School of Medicine; [2]Department of Radiology, New York University School of Medicine; [3]Department of Ophthalmology, University of Pittsburgh; [4]Department of Radiology, Mayo Clinic; [5]Korb and Associates

East 2/3

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Physiology/Pharmacology

433 Blood Flow

Moderators: Carol B. Toris and Thomas Yorio

4747 — *10:15* **Ocular Blood Flow in Preeclampsia.** *Ronald H. Silverman[1], R. Urs[1], J. A. Ketterling[2], B. Y. Yiu[3], A. Yu[3], R. J. Wapner[4], S. Bearelly[1].* [1]Ophthalmology, Columbia University Medical Center; [2]F.L. Lizzi Center for Biomedical Engineering, Riverside Research; [3]Electrical and Computer Engineering, University of Waterloo; [4]Obstetrics and Gynecology, Columbia University Medical Center

4748 — *10:30* **Evaluation Of Circumpapillary And Retinal Vessel Density In Glaucomatous Patients With Visual Field Damage In Superior Or Inferior Hemifield.** *Antonio Longo[1], S. Tripodi[1], T. Avitabile[1], V. M. Bonfiglio[1], D. Scollo[1], A. Russo[1], L. Franco[2], M. Fallico[1], N. Castellino[1], M. Reibaldi[1].* [1]Eye Clinic, University of Catania; [2]Ophthalmology, Grande Ospedale Metropolitano Bianchi-Melacrino-Morelli

4749 — *10:45* **Modeling of retinal blood flow based on fundus photos in healthy subjects.** *Leopold Schmetterer[1], J. Chua[1], R. M. Werkmeister[2], D. Schmidl[3], M. Chee[1], C. Cheng[1], T. Y. Wong[1], G. Garhofer[3].* [1]Singapore Eye Research Institute; [2]Center for Medical Physics and Biomedical Engineering; [3]Department of Clinical Pharmacology

4750 — *11:00* **Laser Doppler holography to analyze the flow in the deep choroidal vasculature.** *Leo Puyo[1], M. Paques[2, 3], M. Fink[1], J. A. Sahel[3, 2], M. Atlan[1].* [1]ESPCI - Institut Langevin; [2]Institut de la Vision; [3]Centre Hospitalier National d'Ophtalmologie des Quinze-Vingts, INSERM-DHOS CIC 1423

4751 — *11:15* **Red blood cell flux measured in the same retinal capillaries from seconds to months.** *Andres Guevara-Torres[1, 2], K. Y. Dholakia[3], A. Joseph[1, 2], J. B. Schallek[2, 3].* [1]The Institute of Optics, University of Rochester; [2]Center for Visual Science, University of Rochester; [3]Flaum Eye Institute, University of Rochester **CR*

4752 — *11:30* **Reproducibility of retinal erythrocyte velocity using human erythrocyte-mediated angiograms.** *Breanna Tracey, V. Chen, C. Le, C. Renner, J. Li, L. Mayo, J. Tsai, M. Ou, S. Kalarn, L. Im, M. Kaleem, O. Saeedi.* Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine **CR*

East 8&15

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Retina

434 Retinopathy of Prematurity

Moderators: RV Paul Chan and Cynthia A. Toth

4753 — *10:15* **Evaluating contrast sensitivity in Asian Indian preterm infants with and without Retinopathy of Prematurity.** *Sherina Thomas, R. Thomas, A. Vinekar, S. Mangalesh, T. B. Mochi, S. Munusamy, P. sarbajna, B. Shetty.* Narayana Nethralaya Bangalore

4754 — *10:30* **Visual outcomes and optical coherence tomography features in young adults born extremely preterm: The EPICure@19 Study.** *Siva Balasubramanian[1], S. Jain[2], J. Beckmann[3], K. Chanwimol[1], M. Nassisi[1], I. Tsui[1, 4], N. Marlow[5], S. R. Sadda[1, 4], H. Mehta[2, 6].* [1]Doheny Eye Institute; [2]Ophthalmology, Royal Free London NHS Foundation Trust; [3]Academic Neonatology, UCL Elizabeth Garrett Anderson Institute for Women's Health, University College London; [4]Ophthalmology, David Geffen School of Medicine at UCLA; [5]Academic Neonatology, UCL Elizabeth Garrett Anderson Institute for Women's Health, University College London; [6]Macular Research Group, University of Sydney **CR*

Wednesday Papers/ Minisymposia 10:15 am – 12:00 pm

4755 — *10:45* **Capturing macular neurovascular development in infants with retinopathy of prematurity.** *Xi Chen[1], C. Viehland[2], D. Tran-Viet[1], J. A. Izatt[2, 1], C. A. Toth[1, 2].* [1]Ophthalmology, Duke University; [2]Biomedical Engineering, Duke University **CR*

4756 — *11:00* **Changes in institutional oxygen saturation targets are associated with increased rate of severe retinopathy of prematurity.** *Tianyu Liu[2], L. Tomlinson[2], Y. Yu[1], G. Ying[1], G. Binenbaum[2].* [1]Scheie Eye Institute, Perelman School of Medicine at the University of Pennsylvania; [2]Division of Ophthalmology, The Children's Hospital of Philadelphia

4757 — *11:15* **A Proposed 1 to 9 Severity Scale for Vascular Abnormalities in Retinopathy of Prematurity.** *Sang Jin Kim[1, 6], J. Campbell[1], J. M. Brown[2], S. Ostmo[1], R. V. Chan[3], J. Kalpathy-Cramer[2, 4], M. F. Chiang[1, 5].* [1]Ophthalmology, Casey eye institute, Oregon Health & Science University; [2]Athinoula A**.** Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital; [3]Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago; [4]Massachusetts General Hospital and Brigham and Women's Hospital Center for Clinical Data Science; [5]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University; [6]Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine **CR*

4758 — *11:30* **Analysis of the Imaging and Informatics Retinopathy of Prematurity (i-ROP) Vascular Severity Score in Patients with Treatment Requiring Retinopathy of Prematurity.** *Rene Choi[1], J. M. Brown[2], J. Kalpathy-Cramer[2], R. Chan[3], S. Ostmo[1], J. Campbell[1], M. F. Chiang[1].* [1]Casey Eye Institute - OHSU; [2]Radiology, Massachusetts General Hospital; [3]Ophthalmology, Illinois Eye and Ear Infirmary **CR*

4759 — *11:45* **Quantitative analysis of aggressive posterior retinopathy of prematurity using deep learning.** *Kellyn N. Smith[2], S. Kim[2, 3], I. Goldstein[2], S. Ostmo[2], R. Chan[6], J. M. Brown[4], J. Kalpathy-Cramer[4, 5], J. Campbell[2], M. F. Chiang[2, 1].* [1]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University; [2]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University; [3]Department of Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine; [4]Department of Radiology, Athinoula A**.** Martinos Center for Biomedical Imaging, Massachusetts General Hospital; [5]Massachusetts General Hospital and Brigham and Women's Hospital Center for Clinical Data Science; [6]Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago **CR*

East 11/12

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Retinal Cell Biology

435 Stem Cells and Organoids

Moderators: Cheryl Y. Gregory-Evans and Jason S. Meyer

4760 — *10:15* **Human iPSC derived disease model of USH2A-associated retinitis pigmentosa and the retinal organoid in early stage.** *Jiansu Chen[1, 2], Y. Guo[3], Q. Yu[4], Z. Cui[1], J. Zhang[5], H. Ma[1, 6], S. Tang[1, 6].* [1]Aier Eye Institute, #198 Furong Middle Road, Changsha, Hunan 410015, China; [2]Institute of Ophthalmology, Medical College, Jinan University, Guangzhou, China.; [3]Key Laboratory for Regenerative Medicine of Ministry of Education, Jinan University, Guangzhou, China; [4]Centric Laboratory, Medical College, Jinan University, Guangzhou, China.; [5]Key Laboratory of Optoelectronic Information and Sensing Technologies, Guangdong Higher Educational Institutes, Jinan University, Guangzhou 510632, China.; [6]Aier School of Ophthalmology, Central South University

4761 — *10:30* **Nonsense suppression rescues cell death and photoreceptor protein expression in *CDH23* patient iPSC-derived retinal organoids.** *Kevin Gregory-Evans, A. Yanai, C. Y. Gregory-Evans.* Ophthalmology, University of British Columbia

4762 — *10:45* **Cone Photoreceptors Fail to Form in ATF6-Related Achromatopsia Retinal Organoids.** *Heike Kroeger[1], W. J. Chiang[1], A. Nguyen[1], J. H. Lin[1, 2].* [1]Pathology, UC San Diego; [2]Pathology, VA Health System

4763 — *11:00* **Structural and functional alterations at the photoreceptor-RPE interface lead to disease-associated pathological changes in a hiPSC-derived model of an inherited retinal degenerative disease.** *Ruchira Singh[1], C. Tang[2], S. Dalvi[2], L. Winschel[2], J. Han[2], C. A. Galloway[2], C. Soto[2], L. A. MacDonald[2].* [1]Opthalmology and Biomedical Genetics, University of Rochester; [2]Ophthalmology, University of Rochester Medical Center

4764 — *11:15* **Lineage specification and molecular characterization of photoreceptor-specific progenitors.** *Brian G. Ballios[1], S. Khalili[2], J. Belair-Hickey[2], K. Grise[2], G. Bernier[3], J. Liu[2], G. Bader[2], V. Wallace[1, 4], D. van der Kooy[2].* [1]Department of Ophthalmology and Vision Sciences, University of Toronto; [2]Department of Molecular Genetics, University of Toronto; [3]Centre de recherché, Maisonneuve-Rosemont Hospital; [4]Vision Science Research Program, Toronto Western Research Institute

4765 — *11:30* **Single cell RNA-sequencing elucidates the diversity of human pluripotent stem cell-derived retinal ganglion cells.** *Kirstin B. VanderWall[1], C. M. Fligor[1], J. S. Meyer[1, 2].* [1]Biology, IUPUI; [2]Stark Neuroscience Research Institute

4766 — *11:45* **Single-cell transcriptomic analysis of human NRL null retinal organoids.** *Donald J. Zack[1], A. Kallman[4], E. E. Capowski[2], A. Kaushik[4], L. Chen[4], M. Liu[1], A. Jansen[2], K. Edwards[2], C. Berlinicke[1], M. Hu[1], J. Qian[1], E. A. Pierce[3], J. Wang[4], D. M. Gamm[2].* [1]Ophthalmology, Wilmer Eye Inst, Johns Hopkins Univ; [2]Ophthalmology, University of Wisconsin; [3]Ophthalmology, Massachusetts Eye and Ear Infirmary; [4]Mechanical Engineering, Johns Hopkins University

East Ballroom A

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Immunology/Microbiology / Retina / Visual Neuroscience

436 Precision through measurement: Biomarkers in health and disease - Minisymposium

Biomarkers are transforming medicine**.** In their various forms they guide precision diagnosis and treatment, and can be used to delineate health from disease at both an individual and population level**.** Their discovery is not predicated by an understanding of biological mechanism, but they nonetheless inform a deeper understanding of pathology**.** Most importantly, biomarkers help us to ensure the right patient gets the right treatment at the right time**.** In this symposium we explore how characteristic mutations have recently been shown to define ocular malignancy, and look outside the eye to consider the potential for heterogeneity in the human immune response to determine disease susceptibility and outcomes in a diversity of conditions**.** At a population level, algorithms have now been developed to shape healthcare delivery for common retinal diagnoses based on the automated analysis of images generated using widely available technologies, and this promises to change the landscape of global ophthalmic practice**.** The goal of the session is to touch on these broad ranging subjects and give an overview of biomarker development in the context of the eye, concluding with a description of how light changes clock gene expression in our circadian pacemaker, and the impact this has on the ultimate biomarker of health (sleep).

Moderators: Jonas Kuiper and Praveen Patel

4767 — *10:15* **Transforming diagnostics in rare ocular malignancies.** *Sarah E. Coupland[1, 2].* [1]Molecular and Clinical Cancer Medicine, Univ of Liverpool; [2]Pathology, Royal Liverpool University Hospital

4768 — *10:35* **Harnessing human diversity through the study of functional immune response biomarkers.** *Darragh Duffy[1, 2].* [1]Institut Pasteur; [2]Inserm U1223 **CR*

4769 — *11:00* **Artificial intelligence: the algorithmic solution to retinal healthcare.** *Pearse A. Keane[1, 2].* [1]Moorfields Eye Hospital NHS Foundation Trust; [2]Institute of Ophthalmology, University College London **CR*

4770 — *11:20* **Light, sleep and circadian interactions: biology to new therapeutic targetsLight, clocks and sleep: clinical implications and new therapeutics.** *Russell Foster.* Oxford University **CR*

— *11:45* **Panel discussion; Q&A**

East Ballroom B

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Retina

437 Diabetic Retinopathy-Screening and Clinical Imaging

Moderators: Judy E. Kim and Lyndell L. Lim

4771 — *10:15* **Association of Ultrawide Field (UWF) Retinal Vessel Caliber with Diabetic Retinopathy (DR) Severity, Predominantly Peripheral Lesions (PPL) and Retinal Nonperfusion (NP).** *Siamak Shokrollahi[1], M. A. Elmasry[1], K. Sampani[1], A. U. Pisig[3], O. Abdelal[1], G. Robertson[4], A. Fleming[4], C. M. Pitoc[5], J. K. Sun[1, 2], P. S. Silva[1, 2], L. P. Aiello[1, 2].* [1]Beetham Eye Institute, Joslin Diabetes Center; [2]Department of Ophthalmology, Harvard Medical School; [3]Ophthalmology, Cardinal Santos Medical Center; [4]Optos PLC; [5]Philippine Eye Research Institute, University of the Philippines **CR*

4772 — *10:30* **Association of Systemic Comorbities with Predominantly Peripheral Diabetic Retinopathy Lesions (PPL) Identified on Ultrawide Field (UWF) Retinal Imaging.** *Paolo S. Silva[1, 2], R. C. Stanton[5, 6], M. A. Elmasry[1], A. Fleming[3], E. Pellegrini[3], J. v. Hemert[3], D. Tolls[1], A. M. Tolson[1], D. Lewis[4], J. Stainback[4], J. D. Cavallerano[1, 2], J. K. Sun[1, 2], L. P. Aiello[1, 2].* [1]Beetham Eye Institute, Joslin Diabetes Center; [2]Ophthalmology, Harvard Medical School; [3]Optos, plc; [4]Estenda Solutions; [5]Kidney and Hypertension, Joslin Diabetes Center; [6]Medicine, Harvard Medical School **CR*

4773 — *10:45* **Presence of peripheral lesions and correlation to macular perfusion, oxygenation and neurodegeneration in early type II diabetic retinal disease.** *Julia Hafner[3], A. Pollreisz[2], B. Egner[2], E. Pablik[1], U. Schmidt-Erfurth[2].* [1]CeMSIIS, Institute for Medical Statistics; [2]Department of Ophthalmology and Optometry; [3]Department of Ophthalmology and Optometry

4774 — *11:00* **Optical coherence tomography angiography-quantified avascular area is associated with diabetic retinopathy severity and predicts one-year treatment requirement and disease progression.** *Thomas S. Hwang, Q. You, J. Wang, Y. Guo, C. J. Flaxel, S. T. Bailey, D. Huang, Y. Jia.* Ophthalmology, Casey Eye Institute **CR*

4775 — *11:15* **Mobile and primary care-based ultrawide field imaging for diabetic tele-retinopathy screening in the San Francisco Health Network.** *Jay M. Stewart, C. Oldenburg, A. R. Afshar.* Ophthalmology, Univ of California-San Francisco **CR*

4776 — *11:30* **FDA-authorized autonomous AI for diabetic retinopathy screening in clinical routine.** *Bianca S Gerendas[1], M. Neschi[1], M. Michl[1], L. Kostiantyn[1], G. G. Deak[1], Y. Winhofer[2], A. Kautzky-Willer[2], M. D. Abramoff[3, 4], U. Schmidt-Erfurth[1].* [1]Vienna Reading Center, Department of Ophthalmology, Medical University of Vienna; [2]Department of Endocrinology, Medical University of Vienna; [3]IDx Inc; [4]Department of Ophthalmology and Visual Sciences, University of Iowa **CR*

4777 — *11:45* **Diabetic Retinopathy in Pregnant Women with Type I and II Diabetes in Metropolitan Melbourne – Prevalence, Adherence and Barriers to the Recommended Eye Screening Guidelines.** *Felicia Widyaputri[1, 2], M. Okada[3], S. Rogers[2], A. Nankervis[4, 5], J. Conn[4, 5], A. Shub[6], X. Fagan[3, 9], D. Guest[7], R. C. Symons[8, 7], L. L. Lim[1, 2].* [1]Ophthalmology, Department Surgery, University of Melbourne; [2]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [3]Royal Victorian Eye and Ear Hospital; [4]Department of Diabetes and Endocrinology, Royal Melbourne Hospital; [5]Diabetes and Endocrine Service, Royal Women's Hospital; [6]Department of Obstetrics and Gynaecology, Mercy Hospital for Women; [7]Department of Optometry and Vision Sciences, University of Melbourne; [8]Department of Ophthalmology, Royal Melbourne Hospital; [9]Department of Ophthalmology, Austin Hospital **CR*

West 211

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Cornea

438 Corneal biomechanics, keratoconus and crosslinking

Moderators: Berthold Seitz and Isabelle Brunette

4778 — *10:15* **Age-dependent Characteristics of Belin's ABCD Grading System in 1.000 Patients of the Homburg Keratoconus Center (HKC).** *Elias Flockerzi[1], T. Nzau[1], U. Klühspies[1], L. Hamon[1], T. Eppig[2], A. Langenbucher[2], B. Seitz[1].* [1]Department of Ophthalmology, Saarland University Medical Center; [2]Institute of Experimental Ophthalmology, Saarland University Medical Center

4779 — *10:30* **Impact of scleral contact lens use on risk of requiring corneal transplantation for keratoconus.** *Jennifer J. Ling, S. Mian, J. D. Stein, M. Rahman, M. A. Woodward.* Kellogg Eye Center, University of Michigan **CR*

4780 — *10:45* **Preliminary Comparisons of Clinical Measures of Corneal and Ocular Stiffness in Normal and Pathologic Cohorts.** *Cynthia J. Roberts[1], A. Mahmoud[1], G. Fleming[1], M. Ohr[2], P. A. Weber[1].* [1]Ophthalmology and Biomedical Engineering, The Ohio State University; [2]Ophthalmology, The Ohio State University **CR*

4781 — *11:00* **3D Assessment of Corneal Crosslinking with Phase-Decorrelation OCT.** *Brecken Blackburn[1], J. Murray[1], M. R. Ford[2], M. W. Jenkins[1], W. J. Dupps[2, 1], A. M. Rollins[1].* [1]Case Western Reserve University; [2]Cleveland Clinic **CR*

4782 — *11:15* **Effect of proteoglycans on the tensile mechanical properties of the cornea.** *Ananya Goyal[1], A. Olsen[1], M. A. Ramirez-Garcia[1], Y. M. Khalifa[2], M. Buckley[1].* [1]Biomedical Engineering, University of Rochester; [2]Emory University

4783 — *11:30* **Unravelling the downstream signaling cascade of Prolactin-Induced Protein in Keratoconus.** *Dimitrios Karamichos[1], R. Sharif[1], K. Ding[3], J. Hjortdal[2].* [1]Ophthalmology & Cell Biology, University of Oklahoma Health Sciences Center; [2]Aarhus University Hospital; [3]Biostatistics and Epidemiology, University of Oklahoma Health Sciences Center

4784 — *11:45* **PPIP5K2 mutations & Keratoconus in Human Patients and Mouse Models.** *Yutao Liu[1, 2], M. Khaled[1], Y. Bykhovskaya[3], K. Abu-Amero[4], S. B. Smith[1, 2], M. A. Watsky[1, 2], A. Estes[5, 2], S. B. Shears[6], A. N. Kuo[7], Y. S. Rabinowitz[3].* [1]Cellular Biology and Anatomy, Augusta University; [2]James & Jean Culver Vision Discovery Institute, Augusta University; [3]Surgery, Cedars-Sinai Medical Center; [4]Department of Ophthalmology, College of Medicine, King Saud University; [5]Ophthalmology, Augusta University; [6]Signal Transduction Laboratory, National Institute of Environmental Health Sciences; [7]Ophthalmology & Biomedical Engineering, Duke University Medical Center

West 212-214

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Visual Neuroscience

439 Inner Retinal Function

Moderators: Maureen A. McCall and Teresa Puthussery

4785 — *10:15* **Compensation in the primary rod pathway following partial rod loss in the mature retina.** *Rachel Care[1], I. Anastassov[2], F. Dunn[1].* [1]UCSF; [2]Department of Biology, San Francisco State University

4786 — *10:30* **Temporal filtering of light responses at cone to Off bipolar cell synapses in the ground squirrel retina.** *Steven H. DeVries.* Ophthalmology, Northwestern University Feinberg School of Medicine

4787 — *10:45* **Retinal thinning of inner layers is associated with visual cortex atrophy in a mouse model of Alzheimer's disease: a longitudinal *in vivo* multimodal study.** *Antonio F. Ambrosio[1, 2], S. Chiquita[1, 2], J. Castelhano[2, 3], M. Ribeiro[2, 3], J. Sereno[2, 3], E. J. Campos[1, 2], P. I. Moreira[2, 4], M. Castelo-Branco[2, 3].* [1]Coimbra Institute for Clinical and Biomedical Research (iCBR), University Coimbra; [2]CNC.IBILI Consortium, University Coimbra; [3]Coimbra Institute for Biomedical Imaging and Translational Research (CIBIT), University Coimbra; [4]Center for Neuroscience and Cell Biology (CNC), University Coimbra

4788 — *11:00* **Role of presynaptic LRIT3 expression in the restoration of dim light vision.** *Nazarul Hasan[1], g. Pangeni[2], C. Cobb[1], E. R. Nettesheim[3], D. M. Lipinski[3, 5], M. A. McCall[2, 4], R. G. Gregg[1, 4].* [1]Biochemistry and Molecular Genetics, University of Louisville; [2]Ophthalmology and Visual Sciences, University of Louisville; [3]Ophthalmology & Visual Sciences, Medical College of Wisconsin; [4]Anatomical Sciences & Neurobiology, University of Louisville; [5]Nuffield Laboratory of Ophthalmology, University of Oxford

4789 — *11:15* **Nicotinic Acetylcholine Receptors in Bipolar Cells Contribute to Motion Detection in Starburst Amacrine Cells of the Mouse Retina.** *Chase B. Hellmer, L. Hall, C. Koehler, T. Ichinose.* Ophthalmology, Visual and Anatomical Sciences, Wayne State University

4790 — *11:30* **Cholinergic transmission in the direction selective circuit: Paracrine or synaptic?** *Santhosh Sethuramanujam, G. B. Awatramani.* Department of Biology, University of Victoria

4791 — *11:45* **Cholinergic retinal waves generate slow and rhythmic depolarizations in dopaminergic amacrine cells of the developing retina.** *Rong-Shan Yan[1, 2], S. Qiao[1, 3], Y. Zhong[1], D. Zhang[2].* [1]Institute of Brain Science, Fudan University; [2]Eye Research Institute of Oakland University; [3]Department of Ophthalmology and Visual Science, Yale University School of Medicine

West 217-219

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Lens

440 Lens Biochemistry

Moderators: Kirsten J. Lampi and Viviana M. Berthoud

4792 — *10:15* **Tpm3.1 prevents the acquisition of the myofibroblast phenotype by lens cells, suppressing cataract development.** *Justin Parreno, M. Amadeo, V. M. Fowler.* Molecular Medicine, The Scripps Research Institute

4793 — *10:30* **Do connexin mutants cause cataracts by calcium precipitation?** *Viviana M. Berthoud[1], J. Gao[2], P. J. Minogue[1], O. Jara[1], R. Mathias[2], E. C. Beyer[1].* [1]Pediatrics, University of Chicago; [2]Physiology and Biophysics, Stony Brook University

4794 — *10:45* **Mechanical-sensitive hemichannels regulated by integrins mediates the delivery of glucose and glutathione into lens fiber cells.** *Jie Liu, M. Riquelme, Z. Li, S. Gu, J. X. Jiang.* Biochemistry, university of Texas Health Science Center at San antonio

4795 — *11:00* ***Ex Vivo* Evidence For The Water Channel And Cell-To-Cell Adhesion Functions Of C-Terminally End-Cleaved Aquaporin 0.** *Kulandaiappan Varadaraj, S. S. Kumari.* Physiology and Biophysics, Stony Brook University

4796 — *11:15* **Structural Characterization of Aquaporin-0 by Native and Hydrogen-Deuterium Exchange Mass Spectrometry.** *Kevin L. Schey[1], W. L. White[1], A. E. Furman[1], S. R. Harvey[2], Y. Ju[2], E. M. Panczyk[2], V. H. Wysocki[2].* [1]Biochemistry, Vanderbilt University; [2]Department of Chemistry and Biochemistry, The Ohio State University

4797 — *11:30* **Lens β-crystallins preferentially form hetero-oligomers.** *Kirsten J. Lampi[1], M. Donor[2], T. Takata[4], C. Vetter[1], L. L. David[3], J. Prell[2].* [1]Integrative Biosciences, Oregon Health and Science University; [2]University of Oregon; [3]Biochemistry and Molecular Biology, Oregon Health & Science University; [4]Kyoto University

West 220

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Clinical/Epidemiologic Research

441 Retinal disease screening and risk factors

Moderators: Spencer D. Fuller and Carol Y. Cheung

4798 — *10:15* **Evaluation of a screening algorithm for detection of diabetic retinopathy based on quantitation of retinal pathological elements.** *Stine Byberg[1], D. Vistisen[1], M. E. Jørgsensen[1], M. Valerius[1, 2], J. N. Hajari[1, 2], H. Lund-Andersen[1, 2].* [1]Steno Diabetes Center Copenhagen; [2]Dept. of Ophthalmology, University Hospital Glostrup

4799 — *10:30* **Development of a prediction model for advanced age-related macular degeneration using a penalized machine learning approach: the EYE-RISK project.** *Soufiane Ajana[1], A. Cougnard-Gregoire[1], B. M. Merle[1], T. Verzijden[2], M. Meester[2], B. Hejblum[1], J. M. Colijn[2], J. Korobelnik[4, 1], C. C. Klaver[2, 3], H. Jacqmin-Gadda[1], C. DelCourt[1].* [1]Inserm UMR1219-Bordeaux Population Health Research Center, University of Bordeaux; [2]Department of Epidemiology, Erasmus Medical Center, Department of Ophthalmology, Erasmus Medical Center; [3]Department of Ophthalmology, Radboud UMC; [4]Service d'Ophtalmologie, CHU de Bordeaux **CR*

4800 — *10:45* **Smartphone-based Retinal Imaging to Characterize Early Functional Retinal Vascular Changes in Diabetic Retinopathy.** *Carol Y. Cheung[1], Y. Wang[1], J. H. Liu[2], K. Lai[3], R. Chang[4], T. Y. Wong[5].* [1]Ophthalmology and Visual Sciences, The Chinese University of Hong Kong; [2]Department of Ophthalmology, University of California San Diego; [3]Tuen Mun Eye Center; [4]The Byers Eye Institute, Stanford University; [5]Singapore Eye Research Institute, Singapore National Eye Centre **CR*

4801 — *11:00* **Cost-Effectiveness of Primary Care-Based Non-Mydriatic Fundus Photography with Automated Retinal Image Analysis Screening Among Low-Income Patients with Diabetes.** *Spencer D. Fuller, J. Liu, j. kuo, R. Rajagopal.* Ophthalmology, Washington University in St. Louis

4802 — *11:15* **The costs of screening for sight-threatening diabetic retinopathy.** *Simon P. Harding[1, 2], C. J. Sampson[3], T. M. Criddle[2, 1], D. M. Broadbent[2, 1], M. James[3].* [1]Eye and Vision Science, University of Liverpool; [2]St. Paul's Eye Unit, Royal Liverpool University Hospital; [3]Health Economics, University of Nottingham

4803 — *11:30* **Extraction of Patient Specific Information from Fundus Images in the Wild.** *Marion R. Munk[1, 2], T. Kurmann[3], P. Marquez-Neila[3], M. S. Zinkernagel[1], S. Wolf[1], R. Sznitman[3].* [1]Inselspital, University Hospital Bern; [2]Ophthalmology, Northwestern University, feinberg school of medicine; [3]ARTORG, University Clinic bern **CR*

4804 — *11:45* **Plasma carotenoids a biomarker of AMD risk: the Alienor Study.** *Benedicte M. Merle[1], A. Cougnard-Gregoire[1], J. Korobelnik[2, 1], W. Schalch[3], S. Eteve[3], C. Féart[1], C. Samieri[1], M. Delyfer[2, 1], C. DelCourt[1].* [1]Population Health research center UMR1219, Inserm; [2]Service d'Ophtalmologie, CHU de Bordeaux; [3]DSM Nutritional Products **CR*

West 221/222

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

442 Optic Neuropathy

Moderators: Donny W. Suh, Randy H. Kardon, Steven Laurie and Tonia S. Rex

4805 — *10:15* **Predicting Risk of Perioperative Ischemic Optic Neuropathy: A Study Using the US National Inpatient Sample.** *Steven Roth[1, 2], S. Shah[3], Y. Chen[4], H. Moss[6], D. Rubin[5], C. Joslin[2].* [1]Anesthesiology, Univ of Illinois; [2]Ophthalmology and Visual Science, University of Illinois; [3]Anesthesiology, Walter Reed National Military Medical Center; [4]Clinical and Translational Sciences, University of Illinois at Chicago; [5]Anesthesia and Critical Care, University of Chicago; [6]Ophthalmology and Visual Science; Neurology and Neurological Sciences, Stanford University **CR*

4806 — *10:30* **rAAV2/2-*ND4* for the Treatment of Leber Hereditary Optic Neuropathy (LHON): 72-Week Data from the REVERSE Phase III Clinical Trial.** *Patrick Yu-Wai-Man[1, 2], M. Moster[3, 4], A. A. Sadun[5], T. Klopstock[6], C. Vignal-Clermont[7, 8], N. J. Newman[9], R. C. Sergott[10], V. Carelli[11, 12], C. Chevalier[13], L. Blouin[13], M. Taiel[13], B. Katz[13], J. A. Sahel[14, 15].* [1]Department of Clinical Neurosciences, University of Cambridge; [2]Moorfields Eye Hospital; [3]Department of Neuro-Ophthalmology, Wills Eye Hospital; [4]Departments of Neurology and Ophthalmology, Sidney Kimmel Medical College of Thomas Jefferson University; [5]Doheny Eye Institute and Department of Ophthalmology, UCLA; [6]Department of Neurology, Friedrich-Baur-Institute, Ludwig Maximilians University of Munich; [7]Centre Hospitalier National d'Ophtalmologie des Quinze-Vingts; [8]Fondation Ophtalmologique Rothschild; [9]Departments of Ophthalmology, Neurology and Neurological Surgery, Emory University School of Medicine; [10]Neuro-Ophthalmology Service, Wills Eye Hospital; [11]IRCCS Institute of Neurological Sciences of Bologna, Bellaria Hospital; [12]Unit of Neurology, Department of Biomedical and Neuromotor Sciences (DIBINEM), University of Bologna; [13]GenSight Biologics; [14]Institut de la Vision, Sorbonne Universités; [15]Department of Ophthalmology, The University of Pittsburgh School of Medicine **CR*, ↗

4807 — *10:45* **Erythropoietin in Methanol Associated Optic Neuropathy: A Phase-2 Clinical Trial.** *Farzad Pakdel.* Ophthalmic Plastic & Reconstructive Surgeries, Farabi Hospital, Eye Research Center, Tehran University of Medical Sciences ↗

4808 — *11:00* **Optic disc edema and retinal thickness changes in healthy subjects exposed to bedrest differ from astronauts during spaceflight.** *Steven Laurie[1, 2], B. Macias[1, 2], S. Lee[1, 2], M. Young[1], M. B. Stenger[1].* [1]NASA Johnson Space Center; [2]KBRwyle

4809 — *11:15* **Elevated Intracranial Pressure Does Not Explain Spaceflight-Induced Optic Disc Edema.** *Brandon Macias[1], S. Laurie[1], S. Lee[1], D. Martin[1], A. Sargsyan[1], K. Marshall-Goebel[1], D. Ebert[1], S. Dulchavsky[2], A. Hargens[3], M. B. Stenger[4].* [1]KBRwyle / NASA-Johnson Space Center; [2]Henry Ford Hospital; [3]University of California, San Diego; [4]NASA

4810 — *11:30* **Progression and pathology of blast-induced secondary indirect traumatic optic neuropathy.** *Tonia S. Rex, A. Bernardo-Colon, V. Vest, M. Cooper, D. J. Calkins.* Ophthalmology & Visual Science, Vanderbilt University Medical Center

West 223/224

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Anatomy and Pathology/Oncology

443 Myopia Progression and Control: Animal and Clinical Studies

Moderators: Padmaja Sankaridurg and Frances J. Rucker

4811 — *10:15* **Short periods of darkness may reduce compensation for experimentally-imposed defocus in marmosets.** *Xiaoying Zhu[1], P. Yoon[2], G. Azieva[2], S. Dellostritto[2], V. Lin[2], A. Pope[2], D. Troilo[2], A. Nour[1], A. Benavente-Perez[1].* [1]Biological and Vision Sciences, State University of New York, College of Optometry; [2]State University of New York, College of Optometry **CR*

4812 — *10:30* **The complementary inhibitory effects of short wavelength lighting and myopic defocus on eye growth in chicks.** *Manrong Yu[2, 1], C. F. Wildsoet[2].* [1]Ophthalmology, Eye and ENT Hospital of Fudan University; [2]School of Optometry, University of California, Berkeley

4813 — *10:45* **Predicting the progression of myopia in children.** *Divya Jagadeesh[1, 2], R. Y. Weng[1], A. Ho[1, 2], T. J. Naduvilath[1, 2], C. Fedtke[1, 2], M. Jong[1, 2], P. Sankaridurg[1, 2].* [1]Brien Holden Vision Institute; [2]School of Optometry and Vision Science, University of New South Wales ↗

4814 — *11:00* **Low-concentration atropine for myopia progression (LAMP) study Phase 2: 0.05% atropine remained the best concentration among 0.05%, 0.025%, and 0.01% atropine over 2 years.** *Jason YAM, F. Li, S. Tang, L. Chen, C. C. Tham.* The Chinese University of Hong Kong ↗

4815 — *11:15* **Choroidal Thickness in Myopic Children in the BLINK Study.** *David A. Berntsen[1], A. T. Gostovic[1], H. M. Queener[1], M. A. Chandler[1], J. Huang[2], A. D. Nixon[2], L. T. Sinnott[2], M. Walker[1], S. J. Chiu[3], S. Farsiu[3], L. Jordan[2], D. O. Mutti[2], J. J. Walline[2].* [1]College of Optometry, University of Houston; [2]College of Optometry, Ohio State University; [3]Biomedical Engineering & Ophthalmology, Duke University **CR*, ↗

4816 — *11:30* **Improving the genetic prediction of myopia and refractive error using educational attainment.** *Neema Ghorbani Mojarrad[1], C. Williams[2], J. A. Guggenheim[1].* [1]School of Optometry and Vision Sciences, Cardiff University; [2]Population Health Sciences, Bristol Medical School, University of Bristol

4817 — *11:45* **Effects of Myopic Defocus on Choroid Thickness in Children and Adults.** *Raphaella H. Tran, A. Jnawali, N. B. Patel, L. A. Ostrin.* University of Houston College of Optometry

ARVO Ballroom

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Glaucoma

444 Imaging

Moderators: Linda M. Zangwill, Gadi Wollstein and Anne L. Coleman

4818 — *10:15* **Improved Detection of Optical Coherence Tomography (OCT) Structural Abnormality in Glaucoma (GL) with Combined Sectoral Rim and Retinal Nerve Fiber Layer (RNFL) Criteria.** *Hongli Yang[1, 2], H. Luo[1, 4], C. A. Hardin[1, 2], C. Albert[2], J. Vianna[3], G. Sharpe[3], J. Reynaud[1, 2], S. Demirel[5], S. L. Mansberger[2], B. Fortune[2], S. K. Gardiner[2], B. C. Chauhan[3], C. F. Burgoyne[1, 2].* [1]Optic Nerve Head Research Lab, Devers Eye Institute; [2]Devers Eye Institute, Legacy Research Institute; [3]Department of Ophthalmology & Visual Sciences, Dalhousie University; [4]Department of Ophthalmology**.** Second Xiangya Hospital, Central South University,; [5]Legacy Research Institute ***CR**

4819 — *10:30* **Optic nerve head morphological changes over a 12-hour period in a seated vs. head-down tilt posture.** *Laura P. Pardon, P. Chettry, H. Cheng, N. B. Patel.* University of Houston College of Optometry

4820 — *10:45* **Compensate systemic variability of parapapillary retinal nerve fiber layer thickness measurement.** *Haogang Zhu[1], L. Li[1], Y. Wang[2].* [1]State Key Laboratory of Software Development Environment, Beihang University; [2]Beijing Institute of Ophthalmology, Beijing Ophthalmology and Visual Science Key Lab, Beijing Tongren Eye Center, Beijing Tongren Hospital, Capital Medical University

4821 — *11:00* **Assessing Glaucomatous Damage on Retinal Nerve Fiber Bundles along the Temporal Raphe using OCT-Reflectance and OCT-Angiography.** *Maria V. Castanos[1], D. B. Zhou[1, 2], E. B. Jacobs[1], J. Andrade[1], R. E. Linderman[3], J. Carroll[3, 4], D. C. Hood[5, 6], R. Ritch[1], R. B. Rosen[1, 2], T. Y. Chui[1, 2].* [1]Opthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY, USA; [2]Icahn School of Medicine at Mount Sinai; [3]Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin; [4]Ophthalmology & Visual Sciences, Medical College of Wisconsin; [5]Department of Psychology, Columbia University; [6]Department of Opthalmology, Columbia University ***CR**

4822 — *11:15* **Optic nerve head (ONH) hypercompliance and blood flow autoregulation dysfunction detected by OCT-angiography (OCTA) in early-stage experimental glaucoma (EG).** *Brad Fortune[1], J. Reynaud[1, 2], C. A. Hardin[1, 2], G. Cull[1], L. Wang[1], C. F. Burgoyne[1, 2].* [1]Discoveries in Sight Research Labs, Devers Eye Institute, Legacy Research Institute, Legacy Health; [2]Optic Nerve Head Research Laboratory, Devers Eye Institute, Legacy Research Institute, Legacy Health ***CR**

4823 — *11:30* **Non-invasive Detection of Visual Pathway Abnormalities in Genetic Experimental Models of Glaucoma Using Diffusion Tensor MRI.** *Max Colbert[1], Y. van der Merwe[2], L. C. Ho[2], G. J. McLellan[6, 5], S. A. Hurley[3], J. H. Fingert[4], C. Parra[1], M. A. Faiq[1], G. Wollstein[1], J. Schuman[1], K. C. Chan[1, 7].* [1]Ophthalmology, New York University School of Medicine; [2]Department of Ophthalmology, University of Pittsburgh; [3]Department of Radiology, University of Wisconsin-Madison; [4]Department of Ophthalmology and Visual Sciences, University of Iowa; [5]McPherson Eye Research Institute, University of Wisconsin-Madison; [6]Department of Ophthalmology and Visual Sciences, University of Wisconsin-Madison; [7]Department of Radiology, New York University School of Medicine ***CR**

4824 — *11:45* **Trabecular Meshwork Motion in Normal Compared with Glaucoma Eyes.** *KAI GAO[1, 3], S. SONG[1], M. A. Johnstone[2], R. K. Wang[1, 2], J. C. Wen[2].* [1]Department of Bioengineering, University of Washington; [2]Department of Ophthalmology, University of Washington; [3]Ophthalmology, Zhongshan Ophthalmic Center

Harbour Ballroom

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Cornea

445 Corneal Epithelium in Health and Disease

Moderators: Mary Ann Stepp, Shivalingappa K. Swamynathan and Han Peng

4825 — *10:15* **Hsa-miR143-3p regulates human corneal epithelial stem cells.** *Chidambaranathan Gowri Priya[1], L. Kalaimani[1], B. D[2], V. Prajna[3], M. VR[1].* [1]Immunology and Stem Cell Biology, Aravind Medical Research Foundation; [2]Bioinformatics, Aravind Medical Research Foundation; [3]Cornea and Refractive Surgery Services, Aravind Eye Hospital and Postgraduate Institute of Ophthalmology

4826 — *10:30* **miR-146a regulatory roles in limbal epithelial homeostasis.** *Adam Poe[1, 2], M. Kulkarni[1, 2], J. Wang[2, 3], A. Leszczynska[1, 2], J. Tang[4], A. V. Ljubimov[2, 5], M. Saghizadeh[2, 5].* [1]Biomedical Sciences, Cedars Sinai Medical Center; [2]Regenerative Medicine Institute Eye Program, Cedars Sinai Medical Center; [3]College of Osteopathic Medicine, Touro University Nevada; [4]Genomics Core, Cedars Sinai Medical Center; [5]David Geffen School of Medicine, University of California, Los Angeles

4827 — *10:45* **Neuron-Epithelial Cell Fusion in Mouse Cornea Revealed Using Anterograde Labeling.** *Justin Courson[1], I. Smith[1], T. Do[1], P. Landry[1], S. Hanlon[1], C. W. Smith[2], A. Burns[1, 2].* [1]College of Optometry, University of Houston; [2]Pediatrics, Baylor College of Medicine

4828 — *11:00* **Changes in polarity proteins are detected in corneal abrasions of pre-Type II diabetic mice.** *Vickery E. Trinkaus-Randall[1], Y. Lee[2], A. Londregan[3], G. Rhodes[3], C. B. Rich[4].* [1]Ophthalmology and Biochemistry, Boston University Sch of Med; [2]Pharmacology, Boston University School of Medicine; [3]Boston University School of Medicine; [4]Biochemistry, Boston University School of Medicine

4829 — *11:15* **Insulin-like growth factor binding protein-7: a marker of conjunctivalization in an animal model of limbal stem cell deficiency.** *Nick Di Girolamo, M. Park, J. Mazalo.* School of Medical Sciences - Pathology, University of New South Wales ***CR**

4830 — *11:30* **Enhanced wound healing effects of secretome derived from human mesenchymal stem cells cultured on electrospun fibers.** *David Myung[1, 2], G. Fernandes-Cunha[1], H. Lee[1, 3], A. R. Djalilian[4].* [1]Ophthalmology, Stanford University School of Medicine; [2]Chemical Engineering, Stanford University; [3]Chemical and Biomolecular Engineering, Gachon University; [4]Ophthalmology, University of Illinois at Chicago ***CR**

4831 — *11:45* **Medicinal Maggot Secretions Promote Wound Healing and have Anti-inflammatory Actions at the Ocular Surface.** *Alison M. McDermott[2, 1], W. Cheung[2], H. Baidouri[1], M. Sun[1].* [1]Optometry, University of Houston; [2]Northumbria University

West Exhibition Hall A0090-A0100

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Visual Psychophysics/Physiological Optics

446 Refractive Error. Ocular Biometry and Biomechanics

Moderator: Alexander Leube

4832 — *A0090* **Optical techniques to study the biomechanics of the anterior eye in people with Marfan syndrome.** *Juan Tabernero[1], C. Otero[1], P. Artal[2], S. Pardhan[1].* [1]Vision and Eye Research Unit, Anglia Ruskin University; [2]Laboratorio de Optica, Universidad de Murcia

4833 — *A0091* **The association between changes in crystalline lens and choroidal thickness before and after cycloplegia.** *Nickolai G. Nilsen, H. Pedersen, L. A. Hagen, S. J. Gilson, R. C. Baraas.* National Centre for Optics, Vision and Eye Care, University of South-Eastern Norway

4834 — *A0092* **Axial length changes in healthy adult eyes.** *Jos J. Rozema[1, 2], S. Ni Dhubhghaill[1, 2].* [1]Ophthalmology, Antwerp University Hospital; [2]Fac of Medicine and Health Sciences, University of Antwerp

4835 — *A0093* **The optical role of pupil size in eye growth and emmetropia.** *Brian Vohnsen, A. Carmichael Martins, N. Sharmin, S. Qaysi, M. I. Rodriguez Rodriguez.* School of Physics, University College Dublin

4836 — *A0094* **Peripheral retinal contours in emmetropia and myopia using biometric and optical quality parameters.** *Gabriella M. Velonias[1], C. Otero[2], E. Kallamata[1], F. A. Vera-Diaz[1].* [1]New England College of Optometry; [2]Vision and Eye Research Unit, Anglia Ruskin University

4837 — *A0095* **Peripheral Refraction in Emmetropic Chinese Children.** *Zhenghua Lin[1], W. Lan[1], P. Artal[2], Z. Yang[1].* [1]Aier School Of Ophthalmology, Central South University; [2]Laboratorio de Óptica, Universidad de Murcia

4838 — *A0096* **Assessing the ocular refraction from a series of through-focus, double-pass aerial images.** *Pau Santos[2, 1], R. Tort[1], H. Ginis[3], R. Cuevas[1], A. Pennos[1].* [1]Visiometrics; [2]CD6-UPC; [3]Department of Research, Athens Eye Hospital **CR*

4839 — *A0097* **Refractive error determination based on meridional targets and aberrometry.** *Thomas W. Raasch.* College of Optometry, Ohio State University

4840 — *A0098* **Proposal and evaluation of optically desired distance refraction.** *Yukito Hirayama, Y. Kanazawa, T. Oda.* Optical Development Dept., Eye Care Div., NIDEK CO., LTD**.** **CR*

4841 — *A0099* **Efficacy of aberrometry-based binocular refraction compared with subjective refraction in keratoconus patients.** *Gonzalo Carracedo, C. Carpena Torres, M. Serramito, A. Privado Aroco, M. Rodriguez Lafora, T. Espinosa Vidal, L. Batres Valderas.* Optometry and Vision, University Complutense of Madrid

4842 — *A0100* **Insight from *OPN1LW* gene haplotypes into the cause and prevention of myopia.** *Maureen Neitz, J. Neitz.* Ophthalmology, University of Washington **CR*

West Exhibition Hall A0164-A0183

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Retinal Cell Biology

447 Retinal Ganglion Cells and Optic Neuropathies

Moderators: Meredith S. Gregory-Ksander and Yoko Okunuki

4843 — *A0164* **Brorin, a Chordin-related protein, facilitates neuroprotection of injured retinal ganglion cells.** *Mohor Sengupta, N. Nakaya, C. Kole, S. I. Tomarev.* National Eye Institute

4844 — *A0165* **Inflammasome facilitates ganglion cell loss via pyroptosis and apoptosis in ocular hypertension injury.** *Valery I. Shestopalov[1, 2], A. N. Pronin[3], D. G. Pham[1], W. An[1], A. E. Reiser[1], Z. N. Kozhekbaeva[2], G. Musada[1], A. Hackam[1], G. Dvoriantchikova[1], V. Z. Slepak[3].* [1]Bascom Palmer Eye Institute Dept**.** Ophtha, Univ**.** of Miami Miller School of Medicine; [2]Cell Biology, University of Miami School of Medicine Ophthalmolo; [3]Molecular and Cellular Pharmacology, University of Miami School of Medicine Ophthalmolo

4845 — *A0166* **The Role of MEF2 transcription factors in retinal ganglion cell survival and axon regeneration.** *Xin Xia, M. Bian, S. Shah, K. Chang, C. Sun, C. Yu, C. Knasel, M. Kapiloff, J. L. Goldberg.* Byers Eye Institute, Stanford University

4846 — *A0167* **Selective retinal ganglion cell vulnerability in older mice exposed to acute intraocular pressure elevation and the potential involvement of the P2X7-receptor.** *Anna Y. Wang[1], K. A. Vessey[1], B. V. Bui[2], V. H. Wong[2], P. Lee[2], E. L. Fletcher[1].* [1]Department of Anatomy and Neuroscience, University of Melbourne; [2]Department of Optometry and Vision Sciences, University of Melbourne

4847 — *A0168* **Calcium dynamics of ganglion cell layer neurons in *rd1* mice.** *Jessica Carr[1, 3], W. H. Baldridge[2, 3].* [1]Clinical Vision Science Program, Dalhousie University; [2]Medical Neuroscience, Dalhousie University; [3]Ophthalmology & Visual Sciences, Dalhousie University

4848 — *A0169* **TAF9 RNA polymerase II-P53-TRIAP1 pathway plays an important role to determine cell death fate of retinal ganglion cells after optic nerve ischemia.** *Yao-Tseng Wen[1], R. Tsai[1], W. Lin[2].* [1]Buddhist Tzu Chi General Hospital; [2]Dayeh University

4849 — *A0170* **The Effect of Substrate Composition on Retinal Ganglion Cell Neurite Outgrowth.** *Karl E. Kador, A. M. Aladdad.* Ophthalmology, University of Missouri-Kansas City

4850 — *A0171* **Retinal ganglion cell type specific susceptibility to glutamatergic excitotoxicity.** *Ian Christensen[1], B. Lu[1, 2], N. Yang[1, 2], K. Huang[1], P. Wang[1, 2], N. Tian[1, 2].* [1]University of Utah; [2]VA Salt Lake City Health Ca

4851 — *A0172* **Harnessing neuroinflammation to promote axon regeneration after optic nerve injury.** *Qian FENG, K. A. Wong, S. Peterson, L. Benowitz.* Boston Childrens Hospital/Harvard Medical School

4852 — *A0173* **Changes in Parvalbumin Expression with Retinal Ganglion Cell Degeneration.** *Yuan Liu, R. K. Lee.* Bascom Palmer Eye Instituion

4853 — *A0174* **Investigating the effect of the anti-inflammatory agent minocyline on Wnt-induced retinal ganglion cell survival and axonal regeneration.** *Sarah M. Gough[1], A. Udeh[1], T. Carmy[1], K. Park[2], A. Hackam[1].* [1]Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Miami Project to Cure Paralysis, University of Miami Miller School of Medicine

4854 — *A0175* **Retinal ganglion cell type specific susceptibility to optic nerve injury.** *Ning Tian[2, 1], N. Yang[2, 1], P. Wang[2, 1].* [1]Ophthalmology & Visual Science, University of Utah; [2]VA Salt Lake City Health Care System

4855 — *A0176* **A novel estrogen receptor GPER1 activation promote retinal ganglion cell survivor in normal tension glaucoma.** *Qinqin Deng[1], Y. Xing[1], M. Jiang[1], X. Ma[1, 2], Q. Zhao[1], W. Lu[1], X. Lei[1], Y. Li[1], Y. Shen[1].* [1]Eye center, Renmin Hospital of Wuhan University; [2]Urumqi City Ophthalmology and Otolaryngology Hospital

4856 — *A0177* **Intraocular inflammation in the endotoxin-induced uveitis model of autophagy-deficient mice.** *Takahiro Suzuki.* Dept of Ophthalmology, Tokai Univ School of Medicine

Wednesday Posters
10:15 am – 12:00 pm

4857 — *A0178* **Neuroprotective effect of icariin in a rat model of anterior ischemic optic neuropathy.** *CHIN-TE HUANG[1, 3], T. Desai[4], F. Cheng[5], Y. Wen[2], R. Tsai[2, 3].* [1]Department of Ophthalmology, Chung Shan Medical University Hospital, School of Medicine, Chung Shan Medical University; [2]Institute of Eye Research, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation; [3]Institute of Medical Sciences, Tzu Chi University; [4]Department of Molecular Biology and Human Genetics, Tzu Chi University; [5]Drug Delivery Lab, Biomedical Technology and Device Research Labs, Industrial Technology Research Institute

4858 — *A0179* **RGC loss in glaucoma might be slowed by reducing and elevating normal levels of respectively, visual blue and red light, that normally impinges on the retina..** *Claudia Núñez-Álvarez[1], C. Suárez Barrio[2], N. N. Osborne[1].* [1]Neurobiology of the retina, FIO; [2]Universidad de Oviedo

4859 — *A0180* **Analysis of Trabodenoson's neuroprotective effect in a rodent model of NAION.** *Yan Guo[1], Z. Mehrabyan[1], D. S. Albers[2], C. C. Rich[4], R. A. Baumgartner[3], S. L. Bernstein[1].* [1]Ophthalmology, University of Maryland Baltimore; [2]ReNeuron; [3]Flatley Discovery Lab; [4]Aura Biosciences **CR*

4860 — *A0181* **Novel treatment approach via complement factor C5 inhibition in an Experimental Autoimmune Glaucoma model.** *Sara C. da Piedade Gomes, S. Reinehr, C. J. Gassel, B. Dick, S. C. Joachim.* Experimental Eye Research Institute

4861 — *A0182* **In search for the RGC lineage: characterization of R28 cells and the expression of RGC markers.** *Nikolas Hopkins[1], Z. K. Goldsmith[1], M. M. Jablonski[1, 2], M. W. Wilson[1, 3], G. M. Seigel[4], V. M. Morales[1, 5].* [1]Hamilton Eye Institute, Ophthalmology, UTHSC; [2]Anatomy and Neurobiology, UTHSC; [3]Surgery, St. Jude Children's Research Hospital; [4]Center for Hearing and Deafness, University at Buffalo; [5]Microbiology, Immunology, and Biochemistry, UTHSC **CR*

4862 — *A0183* **Crystallin downregulation as a converging link between AD and glaucoma induced retinal pathology.** *Kanishka Pushpitha[1], M. Mirzaei[2], N. Chitranshi[1], L. Deng[2], V. Gupta[1], S. L. Graham[1].* [1]Department of clinical medicine, Macquarie University; [2]Department of Chemistry and Biomolecular Sciences, Macquarie University

West Exhibition Hall A0184-A0210

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Retinal Cell Biology

448 Neuroprotection

Moderators: Scott M. Taylor and Jennifer B. Phillips

4863 — *A0184* **Gene regulation dynamics induced by the protein kinase inhibitor, SBJ-051 associated with neuroprotection in light-induced photoreceptor cell death.** *Byung-Jin Kim[1], J. Wang[1], T. Masuda[1], M. Liu[1], R. Nair[2], J. Qian[1], D. S. Welsbie[4], T. Bannister[2], T. Spicer[3], L. Scampavia[3], G. Trainor[5], A. Trainor[5], D. J. Zack[1].* [1]The Wilmer Eye Institute, Johns Hopkins University; [2]Chemistry, The Scripps Research Institute-FL; [3]Molecular Medicine, The Scripps Research Institute-FL; [4]Shiley Eye Institute, UC San Diego; [5]BioMotiv **CR*

4864 — *A0185* **The Role of Endoplasmic Reticulum (ER) Calcium Channels in ER Stress and Cone Death in CNG Channel Deficiency.** *Michael R. Butler[1], H. Ma[1], F. Yang[1], J. Rapp[1], Y. Le[1], K. Mikoshiba[2], M. Biel[3], S. Michalakis[3], X. Ding[1].* [1]Cell Biology, University of Oklahoma Health Sciences Center; [2]RIKEN Center for Brain Science; [3]Center for Integrated Protein Science Munich and Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-Universitat Munchen

4865 — *A0186* **Short-term high-fat diet exacerbates retinal degeneration in the rd10 mouse model of retinitis pigmentosa.** *Pedro Lax[1], O. Kutsyr[1], A. Noailles[1], M. Company[2], V. Maneu[2], N. Cuenca[1, 3].* [1]Physiology, Genetics and Microbiology, University of Alicante; [2]Optics, Pharmacology and Anatomy, University of Alicante; [3]Ramon Margalef Institute, University of Alicante

4866 — *A0187* **Decrease of intracellular calcium to restrain rod cell death in retinitis pigmentosa.** *Valeria Marigo[1], M. Kutluer[1], L. Huang[1], A. Comitato[1], D. Schiroli[1], F. Schwede[2], A. Rentsch[2], P. A. Ekstrom[3], F. Paquet-Durand[4].* [1]Life Sciences, Univ of Modena and Reggio Emilia; [2]BIOLOG Life Science Institute; [3]Lund University; [4]Eberhard Karls Universität Tübingen **CR*

4867 — *A0188* **Investigation of the interaction of Sigma1 Receptor (S1R) and NRF2 in cone photoreceptor cells.** *Shannon R. Barwick[1, 2], M. Siddiq[1, 2], B. Marshall[1, 2], E. Perry[1], J. Wang[1, 2], S. B. Smith[1, 2].* [1]Cellular Biology and Anatomy, Medical College of Georgia at Augusta University; [2]James and Jean Culver Vision Discovery Institute, Augusta University

4868 — *A0189* **Norgestrel-treatment does not prevent rod oxidative stress *in vivo* in dark-reared Pde6brd10 pups.** *Bruce A. Berkowitz[1], R. H. Podolsky[2], K. M. Lins-Childers[2], S. Roche[3], T. G. Cotter[3], R. Roberts[1].* [1]Ophthalmology, Visual and Anatomical Sciences, Wayne State University; [2]Beaumont Hospital; [3]University College Cork

4869 — *A0190* **Tran-sclera electrical stimulation protects degenerated retina in rd10 mice.** *Ying Xu[1], F. Liu[1], J. Dong[4], V. Lee[2], K. Chiu[2, 3].* [1]GHM Institute of CNS Regeneration, Jinan University; [2]Department of Ophthalmology, The University of Hong Kong; [3]The State Key Laboratory of Brain and Cognitive Sciences, The University of Hong Kong; [4]Department of Pathophysiology, Key Laboratory of the State Administration of Traditional Chinese Medicine, Medical College, Jinan University

4870 — *A0191* **Neuroprotective actions of growth hormone (GH) in the neuroretina include Notch signaling activation and involve changes in the expression of local growth factors.** *Carlos G. Martínez-Moreno[1], T. S. Fleming[1, 2], J. E. Balderas-Márquez[1], D. Epardo[1], M. Carranza[1], M. Luna[1], S. Harvey[2], C. Arámburo[1].* [1]Instituto de Neurobiología, Universidad Nacional Autónoma de México; [2]Physiology, University of Alberta

4871 — *A0192* **Protective effect of a novel HIF inhibitor halofuginone in a murine model of retinal ischemia-reperfusion.** *Hiromitsu Kunimi[2, 1], Y. Miwa[2, 1], Y. Katada[2, 1], K. Tsubota[1], T. Kurihara[2, 1].* [1]Department of ophthalmology, Keio University; [2]Photobiology laboratory **CR*

4872 — *A0193* **Assessment of retinal hypoxia by pimonidazole in graded hypoxic rabbit model.** *Lihui Luo[1], Y. Chen[1], J. Martinez[1, 2], A. H. Kashani[1, 2].* [1]Ophthalmology, USC Roski Eye Institute; [2]University of Southern California Institute of Biomedical Therapeutics

4873 — *A0194* **iNOS-inhibitor treatment leads to cell rescue in a porcine retina organ culture model.** *Jose Hurst[1], A. Maliha[2], S. Kuehn[2], F. Herms[2], S. Schnichels[1], S. C. Joachim[2].* [1]Research, Eye Hospital Tuebingen; [2]Experimental Eye Research Institute, Ruhr-University Bochum,

4874 — *A0195* **Gap junctional coupling between retinal astrocytes exacerbates neuronal damage in acute ischemic injury.** *Abduqodir Toychiev, N. Slavi, K. Batsuuri, M. Srinivas.* Biological and Vision Sciences, SUNY College of Optometry

4875 — *A0196* **Protective effects of staphylococcal nuclease and tudor domain containing 1 (SND1) on retinal photoreceptor cell damage induced by ionizing radiation.** *Xuyang Yao, L. Yang.* Ophthalmology, Peking University First Hospital

4876 — *A0197* **Intravitreal stanniocalcin-2 reduces photoreceptor degeneration and improves oscillatory potentials with elevated ocular blood flow in retinitis pigmentosa.** *Min Zhao[1], W. Xie[1], W. Chen[2], T. W. Hein[1, 3], L. Kuo[1, 3], R. H. Rosa[1, 3].* [1]Medical Physiology, Texas A&M University Health Science Center; [2]Biostatistics, Baylor Scott & White Research Institute; [3]Ophthalmology, Baylor Scott & White Health

4877 — *A0198* **Intravitreal injection of novel small molecule proteostasis regulators activates the Unfolded Protein Response in murine retina.** *David Castillejos[2], C. Carvajal[2], J. Grandjean[1], E. Aguilar[1], A. Ouchi[1], W. J. Chiang[2], L. Wiseman[1], J. H. Lin[2].* [1]Department of Molecular Medicine, The Scripps Research Institute; [2]Department of Pathology, University of California, San Diego

4878 — *A0199* **Inhibition of VCP structurally and functionally reconstitutes photoreceptor cells in Rh^{P23H} organotypic retina cultures.** *Blanca Arango-Gonzalez[1], M. Sen[1, 4], T. Chou[2], R. Deshaies[3], S. Bolz[1], W. Haq[1], M. Ueffing[1].* [1]Centre for Ophthalmology, University Eye Hospital Tübingen; [2]Department of Pediatrics, Harbor-UCLA Medical Center and Los Angeles Biomedical Research Institute; [3]Research, Amgen, Inc.; [4]Graduate Training Centre of Neuroscience, Eberhard Karls University of Tübingen, **CR*

4879 — *A0200* **Dipeptidyl deptidase-IV inhibition by sitagliptin slows down retinal neurodegeneration in rd10 mice retinas.** *Oksana Kutsyr[1], B. Arango-Gonzalez[2], L. Fernandez-Sanchez[3], V. Maneu[3], P. Lax[1], A. F. Ambrosio[4], M. Ueffing[2], N. Cuenca[1].* [1]Physiology, Genetics and Microbiology, University of Alicante; [2]Centre for Ophthalmology, University Eye Hospital Tübingen; [3]Optics, Pharmacology and Anatomy, University of Alicante; [4]Institute for Clinical and Biomedical Research (iCBR), University of Coimbra

4880 — *A0201* **Protective role of intraocular lenses under LED illumination.** *Ignacio Rodriguez-Una[1, 2], A. Fernandez-Vega[1, 2], S. Del Olmo-Aguado[2, 1], E. Garcia-Perez[2, 1], J. Alfonso[1, 2], S. Mar[3], J. Merayo-Lloves[2, 1].* [1]Instituto Oftalmologico Fernandez-Vega; [2]Fundación de Investigación Oftalmológica; [3]Departamento de Física Teórica, Atómica y Óptica, Universidad de Valladolid

4881 — *A0202* **Pharmacological interference in the VCP/ERAD/proteasome axis rescues photoreceptor degeneration in Rh^{P23H}.** *Merve Sen[1, 4], O. Kutsyr[2], S. Bolz[1], T. Chou[3], R. Deshaies[5], B. Arango-Gonzalez[1], M. Ueffing[1].* [1]Centre for Ophthalmology, University Eye Hospital Tübingen; [2]Department of Physiology, Genetics and Microbiology, University of Alicante; [3]Department of Pediatrics, Harbor-UCLA Medical Center and Los Angeles Biomedical Research Institute; [4]Graduate Training Centre of Neuroscience, Eberhard Karls University of Tübingen; [5]Research, Amgen Inc**.** **CR*

4882 — *A0203* **Norrin protects photoreceptors against inherited retinal degeneration.** *Andreas Ohlmann[1], S. Eggerstorfer[2], C. Eimer[2], R. Seitz[2], G. Weber[1], M. I. Naash[3], S. Priglinger[1], E. R. Tamm[2].* [1]Dept**.** of Ophthalmology, University of Munich; [2]Dept**.** of Anatomy, University of Regensburg; [3]Department of Biomedical Engineering, University of Houston

4883 — *A0204* **Dietary intake of Coenzyme Q10 is able to slow down retinal degeneration in a model of retinitis pigmentosa.** *Laura Fernandez-Sanchez[1], C. Pedrero-Prieto[2], O. Kutsyr[3], Y. Rabanal-Ruiz[3], N. Martínez-Gil[3], X. Sánchez-Sáez[3], A. Noailles[3], P. Lax[3], F. Alcain[2], N. Cuenca[3].* [1]Optics, Pharmacology and Anatomy, University of Alicante; [2]Department of Medical Sciences, Faculty of Medicine, University of Castilla-La Mancha; [3]Physiology, Genetics and Microbiology, University of Alicante

4884 — *A0205* **Probing the molecular phenotype of the transgenerational ischemia-resilient retina by mass spectrometry.** *Jeff Gidday[1, 3], J. J. Guidry[2], N. Lanson[1], J. C. Harman[1, 3].* [1]Ophthalmology, Louisiana State University School of Medicine; [2]Biochemistry & Molecular Biology, Louisiana State University School of Medicine; [3]Physiology, Louisiana State University School of Medicine

4885 — *A0206* **Studying Long-term Effects of a Probiotic on Neuroretinal Health.** *Mahavir Singh, A. K. George, R. P. Homme, A. Majumder, N. Metreveli, A. Laha, S. Pushpakumar, S. Tyagi.* University of Louisville School of Medicine

4886 — *A0207* **Identification of new survival pathways activated by neurotrophic factors using whole transcriptome analysis of flow-sorted photoreceptors.** *Jerome E. Roger[1], E. Grellier[1], L. Gieser[2], A. Swaroop[2], M. Perron[1].* [1]NEUROPSI, CERTO / CNRS; [2]N-NRL, NEI / NIH

4887 — *A0208* **Neuroprotective Mechanisms of Dark Rearing in rd10 mice.** *Hope Titus, K. Weller, R. Lockard, R. Weleber, M. E. Pennesi, P. Yang.* Oregon Health & Science University **CR*

4888 — *A0209* **Impacts of Exogenous CNTF on Synaptic Connections in a Mouse Model of Retinitis Pigmentosa.** *Kun Do Rhee[1], A. A. Hirano[2], D. Teng[3], C. Luan[1], Y. Wang[1], X. Yang[1].* [1]Ophthalmology, Jules Stein Eye Institute/UCLA; [2]Neurobiology, UCLA; [3]The Johns Hopkins University

4889 — *A0210* **Curcumin nanoparticles are neuroprotective in a mouse model of Alzheimer's disease.** *Ehtesham Shamsher[1], L. Guo[1], B. M. Davis[1, 2], V. Luong[1], N. Ravindran[1], S. Somavarapu[3], M. Cordeiro[1, 4].* [1]Institute of Ophthalmology, University College London; [2]Imperial College London Ophthalmology Research Group; [3]School of pharmacy, University College London; [4]Western Eye Hospital

West Exhibition Hall A0211-A0242

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Biochemistry/Molecular Biology

449 Biochemical and molecular mechanisms of age-related macular degeneration

Moderators: J. Arjuna Ratnayaka and Michael H. Farkas

4890 — *A0211* **Blood retinal barrier disruption in non-exudative AMD.** *Hannah Schultz[1], Y. Song[1], R. J. Kapphahn[2], S. R. Montezuma[2], D. A. Ferrington[2], J. L. Dunaief[1].* [1]F.M Kirby Center for Molecular Ophthalmology, Scheie Eye Institute, Perelman School of Medicine at the University of Pennsylvania; [2]Ophthalmology & Visual Neuroscience, University of Minnesota

4891 — *A0212* **A Small Molecule Screen in Zebrafish to Identify Mediators of Retinal Neovascularization.** *Donald W. Van Fossan.* Ophthalmology, UCSD

4892 — *A0213* **A Mitochondrial Response to Oxidative Stress in RPE from AMD donors.** *Cody R. Fisher, M. Ebeling, S. R. Montezuma, D. A. Ferrington.* University of Minnesota

4893 — *A0214* **Selective loss of very-long chain polyunsaturated fatty acids in retina of a transgenic model that carries mutations associated with early-onset familial Alzheimer's Disease.***Khanh Do, B. Jun, M. I. Kautzmann, N. G. Bazan.* LSU Health Science Center

4894 — *A0215* **ARMS2 particularly interacts with modulators of ECM affecting migration behavior of human RPE cells.** *Sabina Honisch, A. Armento, T. Beyer, S. Ulusoy, A. Jacob, K. Boldt, M. Ueffing.* Department for Ophthalmology, University of Tuebingen, Institute for Ophthalmic Research

4895 — *A0216* ***HTRA1*** **gene interaction network informs Age-Related Macular Degeneration (AMD) risk.** *Leah Owen[1], P. M. Hicks[1], D. J. Morgan[1], J. Ahn[2], G. Silvestri[3], J. W. Miller[4], K. Park[2], m. G. Kotoula[5], I. K. Kim[4], L. A. Farrer[6], N. B. Haider[7], M. M. DeAngelis[1].* [1]Ophthalmology and Visual Sciences, John Moran Eye Center; [2]Department of Ophthalmology, Seoul Metropolitan Government Seoul National University Boramae Medical Center; [3]Centre for Experimental Medicine, Queen's University; [4]Ophthalmology, Massachusetts Eye And Ear; [5]Department of Ophthalmology, University of Thessaly; [6]Departments of Medicine, Ophthalmology, Neurology, Epidemiology, and Biostatistics, Boston University; [7]Schepens Eye Research Institute

Wednesday Posters
10:15 am – 12:00 pm

4896 — *A0217* **Regulation of HTRA1 activity by CTRP5 may underlie the pathology of Late Onset Retinal Degeneration (L-ORD).** *Anil K. Chekuri[1], K. Zientara-Rytter[2], S. Borooah[1], M. voronchikhina[1], A. Soto-Hermida[1], C. Stanton[3], H. Matsui[4], M. D'Antonio[4], P. Shaw[1], D. S. Goodsell[5], K. Frazer[4], C. Hayward[3], S. Subramani[2], R. Ayyagari[1].* [1]Shiley Eye Institute; [2]Biological Sciences, UCSD; [3]Medical Research Council Human Genetics Unit, Medical Research Council Institute of Genetics and Molecular Medicine; [4]Institute for Genomic Medicine; [5]The Scripps Research Institute

4897 — *A0218* **HTRA1 is increased in Bruch's membrane/choroid in a mouse model of L-ORD.** *Donita Garland[1], A. K. Chekuri[2], V. R. Chavali[3], J. Suk[2], S. Borooah[2], R. Ayyagari[2].* [1]OGI, Massachusetts Eye and Ear; [2]Shiley Eye Institute, University of California San Diego; [3]Scheie Eye Institute, Department of Ophthalmology, University of Pennsylvania

4898 — *A0219* **Molecular and cellular mechanisms in *Nr2e3*-linked retinal degenerations.** *Pascal Escher, E. Bulla, B. Steiner, D. Kokona, M. S. Zinkernagel, G. Venturini.* Ophthalmology, University of Bern

4899 — *A0220* **Functional Consequences and Cellular Distribution of C1QTNF5 Mutants in Murine Retinal Pigment Epithelium.** *Astra Dinculescu, L. Xu, S. N. Bolch, F. M. Dyka, P. Zhu, H. McDowell.* Ophthalmology, University of Florida

4900 — *A0221* **Underdstanding the mechanism of age-related macular degeneration.** *Dorota Skowronska-Krawczyk.* Ophthalmology, University of California San Diego

4901 — *A0222* **Mechanisms of transcriptional regulation of *ARMS2/HTRA1* locus as risk factor for age-related macular degeneration.** *Takeshi Iwata, D. Iejima, M. Nakayama.* National Inst of Sensory Organs, Tokyo Medical Center, Natl Hospital Organization

4902 — *A0223* **Bacterial infection promotes spontaneous choroidal neovascularization (sCNV) development in the JR5558 mouse.** *YU SU[1, 2], F. Rossato[1], Y. Ng[1].* [1]Schepens Eye Research Insitute of Massachusess Eye and Ear, Harvard Medical School Department of Ophthalmology; [2]Ophthalmic Center, Renmin Hospital of Wuhan University

4903 — *A0224* **SOCS2 enhances ubiquitin-dependent selective autophagy through mTOR signal in RPE.** *Zai-Long Chi.* Laboratory of Neurovascular Biology, The Eye Hospital of Wenzhou Medical University

4904 — *A0225* **Excitotoxic Pathology: Description Of A Model In The Visual System Of Mice.** *James Bender[1], A. Cronk[1], N. Guven[2, 3], R. Atkinson[1], J. Leung[1], J. Vickers[1], A. King[1].* [1]Wicking Dementia Research and Education Centre; [2]School of Pharmacy, University of Tasmania; [3]Santhera Pharmaceuticals

4905 — *A0226* **miRNA expression profile of ARPE-19 cells and exosomes regulated by oxidative stress.** *Maria Oltra, L. Vidal, F. Sancho, J. Barcia.* Catholic University of Valencia

4906 — *A0227* **Effects of oxysterols and cytokines on retinal pigment epithelial tight junction and RPE65 gene expression.** *Brenda Brankin, S. Meaney, C. McCormack.* Biochemistry, Dublin Inst of Tech

4907 — *A0228* **Membrane binding of the main component of lipofuscin, A2E, and its photo-irradiated product.** *Elodie Boisselier, Q. Schlitter, E. Jellad, M. Ouellette, Q. Maestracci, M. Lambert, P. J. Rochette.* Université Laval

4908 — *A0229* **Relationship between Aqueous Humor levels of Silent Information Regulator T1 and Age-related Macular Degeneration.** *Tatsuya Mimura, E. Watanabe, A. Mizota.* Department of Ophthalmology, Ophthalmology Teikyo University School of Medicine ↗

4909 — *A0230* **A novel IL-1 receptor modulator prevents photoreceptor loss in a model of age-related macular degeneration.** *Rabah Dabouz[1, 2], C. José Rivera[2, 3], S. Chemtob[4, 5].* [1]Pharmacology & Therapeutics, McGill University; [2]Hôpital Maisonneuve Rosemont; [3]CHU Sainte Justine; [4]Pediatrics & Pharmacology, CHU Sainte Justine; [5]Ophthalmology, Optometry and Pharmacology, Université de Montréal

4910 — *A0231* **Reduced cystatin C secretion in iPS-derived retinal pigment epithelium cells is associated with altered extracellular matrix adhesion and migration.** *Emil Carlsson[1], W. Supharattanasitthi[1, 2], M. Jackson[3], L. I. Paraoan[1].* [1]Eye and Vision Science, Institute of Ageing and Chronic Disease, University of Liverpool; [2]Physiology, Faculty of Pharmacy, Mahidol University; [3]Musculoskeletal Biology, Institute of Ageing and Chronic Disease, University of Liverpool

4911 — *A0232* **Mineralocorticoid receptor invalidation in vascular endothelial cells prevents CNV development.** *Min Zhao[1], E. Gelize[1], X. Li[1], A. Arboleda[2], J. Ganonica[3], F. Jaisser[4], F. F. Behar-Cohen[1].* [1]INSERM U1138, Team 17, Centre de Recherche des Cordelier, University Paris Descartes; [2]Ophthalmic Biophysics Center, Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Department of Ophthalmology, University of Lausanne, Jules Gonin Eye Hospital; [4]INSERM U1138, Team 1, Centre de Recherche des Cordeliers, Université Pierre et Marie Curie **CR*

4912 — *A0233* **Differential Proteins in the Aqueous Humor from Patients with Drusen and Reticular pseudodrusen.** *Hyewon Chung[1], K. Park[2], J. Baek[3], D. Lim[1], J. o. Lee[4].* [1]Ophthalmology, Konkuk Univ School of Medicine; [2]Ophthalmology, Seoul National University College of Medicine, Seoul National University Bundang Hospital; [3]R&D Center for Clinical Mass Spectrometry, Seegene Medical Foundation; [4]Ilsan Paik Hospital, Inje University College of Medicine

4913 — *A0234* **ROCK inhibitor Ripasudil reverses phenotype from EMT to MET in subretinal fibrosis.** *Iori Wada, S. Nakao, K. Ishikawa, M. Yamaguchi, M. Arima, Y. Kaizu, T. Ishibashi, K. Sonoda.* Opthalmology, Kyushu university **CR*

4914 — *A0235* **Expression levels of rare missense variants in *CFI* found in age-related macular degeneration, atypical uremic syndrome or both diseases.** *Sarah de Jong[4], E. Volokhina[1, 2], S. Nilsson[3], B. Bakker[4], E. de Jong[4], L. van den Heuvel[1, 2], A. Blom[3], A. I. Den Hollander[4].* [1]Pediatric Nephrology, Radboudumc; [2]Laboratory Medicine, Radboudumc; [3]Translational Medicine, Lund University; [4]Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboudumc **CR*

4915 — *A0236* **Mice with a combined deficiency of SOD1, DJ-1 and Parkin develop spontaneous retinal degeneration with aging.** *Bogale Aredo[1], B. Chen[1], Y. Zhu[1, 2], C. X. Zhao[1], Y. He[1], R. Ufret-Vincenty[1].* [1]Ophthalmology, UT Southwestern Medical Center; [2]Shenzhen Key laboratory of Ophthalmology, Shenzhen Eye Hospital

4916 — *A0237* **An iPSC-derived RPE cell repository with high and low genetic AMD risk as model systems to study AMD pathology *in vitro*.** *Karolina Ploessl[1], A. Lauer[1], C. Kiel[1], C. Brandl[3, 4], F. Grassmann[2, 1], B. H. Weber[1].* [1]Institute of Human Genetics, University of Regensburg; [2]Department of Medical Epidemiology and Biostatistics, Karolinska Institutet; [3]Department of Genetic Epidemiology, University of Regensburg; [4]Department of Ophthalmology, University Hospital Regensburg

4917 — *A0238* **RNA-seq analysis of retinal pigment epithelium indicates elevated ATP production at a different circadian time point than lipid metabolism.** *Elja Louer[1, 2], G. Yi[3], H. Stunnenberg[3], A. I. Den Hollander[1], P. Deen[2].* [1]Ophthalmology, RadboudUMC; [2]Physiology, RadboudUMC; [3]Molecular biology, Radboud University

4918 — *A0239* **Increase in retinal anti-oxidant enzymes following sympathetic denervation of choroid.** *Chunyan Li, N. Del Mar, T. Sledge, A. Reiner.* Anatomy & Neurobiology, Univ of Tennessee Hlth Sci Ctr

4919 — *A0240* **Inflammation as an important player in the pathogenesis of hyperhomocysteinemia-induced retinopathy.** *Amany M. Tawfik[1, 2], I. Sharma[1, 2], N. M. Elsherbiny[1, 2], D. Gutsaeva[3, 2], S. Alhusban[1, 2], S. Chug[1, 2], M. Bartoli[3, 2], M. A. Al-Shabrawey[1, 2].* [1]Oral Biology and Diagnostic Sciences, Augusta Univ (AU); [2]Culver Vision Discovery Institute, Augusta University; [3]Ophthalmology, Augusta University

4920 — *A0241* **Variation in amount and processing of exon-skipping RGR-d opsin and sensitivity to GW4869.** *Zhaoxia Zhang[1, 3], H. Kochounian[2], H. Fong[1, 4].* [1]Department of Ophthalmology, Keck School of Medicine, USC; [2]Doheny Eye Institute; [3]Shanxi Eye Hospital; [4]USC Roski Eye Institute, University of Southern California

4921 — *A0242* **Localization of exon-skipping RGR-d opsin and C5b-9 deposits in Bruch's membrane of mice.** *Xuan Bao[1, 2], Z. Zhang[3], F. N. Ross-Cisneros[4, 5], A. A. Sadun[4, 5], C. Buser[6], X. Li[5, 7], M. Zhao[2], H. Fong[1, 8].* [1]Department of Ophthalmology, University of Southern California; [2]Department of Ophthalmology, Peking University People's Hospital; [3]Shanxi Eye Hospital; [4]Department of Ophthalmology, David Geffen School of Medicine at UCLA; [5]Doheny Eye Institute; [6]Oak Crest Institute of Science; [7]Henan Provincial People's Hospital; [8]USC Roski Eye Institute, University of Southern California

West Exhibition Hall A0243-A0277

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Biochemistry/Molecular Biology

450 Retinal disease: molecular mechanisms and gene editing

Wednesday Posters
10:15 am – 12:00 pm

Moderators: Susanne Roosing and Susanne Kohl

4922 — *A0243* **CRISPR/Cas9-Mediated Genome Editing to Treat Best Vitelliforme Macular Dystrophy.** *Andrea Milenkovic, B. H. Weber.* Institute of Human Genetics, University of Regensburg

4923 — *A0244* **Investigating the role of Cwc27, a splicing factor, in retinal degeneration.** *Renae E. Bertrand[1, 2], J. Wang[2], J. Cai[3], Y. Chen[3], Y. Li[2], K. Wang[2], C. Thangavel[2, 4], K. Xiong[2, 4], R. Chen[2].* [1]Biochemistry, Baylor College of Medicine; [2]Human Genome Sequencing Center, Baylor College of Medicine; [3]The University of Texas Medical Branch; [4]Rice University

4924 — *A0245* **Direct Conversion of Human Fibroblasts into Retinal Pigment Epithelium-like Cells by Defined Factors.** *Aiguo Ni, W. Zhang, Y. Fan, B. Mahato, S. Chavala.* Pharmacology & Neuroscience, University of North Texas Health Science Center

4925 — *A0246* **Regulation of RPGR (retinitis pigmentosa GTPase regulator) isoform expression by miRNAs: insights into retinitis pigmentosa pathogenesis.** *Laura Moreno Leon, R. Sikka, W. Zhang, L. Li, H. Khanna.* Department of Ophthalmology, UMASS Medical School

4926 — *A0247* **New insights into the phenotypic spectrum of *PROM1*-associated retinopathy.** *Marta del Pozo Valero[1], I. Martin Merida[1, 5], B. Jimenez Rolando[2], A. Arteche[1], A. Avila Fernandez[1, 5], F. Blanco Kelly[1, 5], R. Riveiro Alvarez[1], C. Van Cauwenbergh[3], E. De Baere[3], C. Rivolta[4], B. Garcia Sandoval[2], M. Corton[1, 5], C. Ayuso[1, 5].* [1]Department of Genetics, Instituto de Investigación Sanitaria–Fundación Jiménez Díaz University Hospital (IIS-FJD); [2]Department of Ophthalmology, Instituto de Investigación Sanitaria–Fundación Jiménez Díaz University Hospital (IIS-FJD); [3]Center for Medical Genetics Ghent, Ghent University and Ghent University Hospital; [4]Department of Computational Biology, Unit of Medical Genetics, University of Lausanne; [5]Center for Biomedical Network Research on Rare Diseases (CIBERER), ISCIII

4927 — *A0248* **miR-204 overexpression exerts a protective role in inherited retinal diseases.** *Sandro Banfi[1, 2], M. Karali[1, 2], I. Guadagnino[1], E. Marrocco[1], M. Pizzo[1], R. De Cegli[1], A. Carissimo[1], I. Conte[1], E. Surace[1, 3].* [1]Telethon Institute of Genetics and Medicine (TIGEM); [2]Precision Medicine, University of Campania "Luigi Vanvitelli"; [3]Translational Medicine, Federico II University

4928 — *A0249* **Investigation the role of active microRNA in the degenerating retina using Ago2 HITS-CLIP.** *Riccardo C. Natoli[1, 2], N. Fernando[1], Z. Feng[1], H. Patel[1], K. Hannan[1], K. Panov[3], N. Hein[1], M. Rutar[4], J. A. Chu-Tan[1].* [1]The John Curtin School of Medical Research, The Australian National University; [2]The Australian National University Medical School, The Australian National University; [3]School of Biological Sciences, Queen's University Belfast; [4]School of Biomedical Sciences, The University of Melbourne

4929 — *A0250* **Intravitreal HSP27 injection leads to retinal degeneration in rats.** *Pia Grotegut, S. Kuehn, H. Doepper, B. Dick, S. C. Joachim.* Experimental Eye Research Institute, Universitäts-Augenklinik Knappschaftskrankenhaus

4930 — *A0251* **Targeted identification of reported deep-intronic variants in *ABCA4* in 224 French Stargardt disease cases.** *Claire-Marie DHAENENS[1], M. Khan[2], A. Devos[1], C. Piriou[1], D. ELMELIK[2], E. Manders[2], E. Goreki[1], Y. Perdomo[3], H. Dollfus[3], X. Zanlonghi[4], B. Bocquet[5], I. A. Meunier[5], B. Puech[6], S. defoort[6], F. P. Cremers[2].* [1]University Lille, Inserm UMR-S 1172, CHU Lille, Biochemistry and Molecular Biology Department - UF Génopathies,; [2]Department of Human Genetics, Radboud University Medical Center; [3]Centre de Référence pour les affections rares en génétique ophtalmologique, CARGO, Filière Sensgene Hôpitaux Universitaires de Strasbourg; [4]Clinique Jules Verne; [5]Institut des Neurosciences de Montpellier, INSERM, Université de Montpellier; [6]Service d'exploration de la vision et neuro-ophtalmologie, CHRU de Lille

4931 — *A0252* **RNA editing via spliceosome-mediated mRNA *trans*-splicing repairs a mouse *Pde6b* mutation.** *Cheryl Y. Gregory-Evans, N. S. Sannan, X. Shan, K. Gregory-Evans.* Ophthalmology, University of British Columbia

4932 — *A0253* **Role of the TPR-domain of AIPL1 in its function as PDE6 chaperone.** *Nikolai Artemyev[1], L. Yu[2], R. Yadav[1].* [1]Molecular Physiology and Biophysics, University of Iowa; [2]Biochemistry and CCOM NMR facility, University of Iowa

4933 — *A0254* **Unexpected Localization of the DNA Repair Protein Ku80 within the Murine Retina.** *Brigitte Muller, F. Wagner, L. Laucke, W. Rheinhard, B. Lorenz, K. Stieger.* Experimental Ophthalmologie, Justus-Liebig-University Gießen

4934 — *A0255* **Role of inositol phosphatase OCRL in microtubule nucleation: Implications for Oculocerebrorenal Syndrome of Lowe.** *Tia Kowal, B. WANG, P. Prosseda, J. A. Alvarado, W. He, k. ning, Y. Hu, Y. Sun.* Ophthalmology, Stanford University

4935 — *A0256* **First steps to a genome editing approach correcting CLN3/Cln3deltaEx7/8.** *Tobias Wimmer, P. Klekamp, M. Weller, B. Lorenz, K. Stieger.* Department of Ophthalmology

4936 — *A0257* **DNA sequence alterations at the ISce-I target site in vivo in photoreceptors and RPE cells following AAV mediated gene transfer.** *Knut Stieger[1], A. Janise-Libawski[1], G. David[1], V. Christiane[2], F. Bärbel[1], J. P. Neidhardt[2], B. Lorenz[1], B. Müller[1].* [1]Department of Ophthalmology, Justus-LIebig-University Giessen; [2]Faculty of Medicine and Health Science, University of Oldenburg **CR*

4937 — *A0258* **Guide RNA orientation influences Cas9 expression in a single vector approach to CRISPR editing in a model system.** *Lewis Fry, C. Peddle, A. R. Barnard, M. E. McClements, R. E. MacLaren.* University of Oxford **CR*

4938 — *A0259* **Trends for poorer vision outcomes in nAMD and DME patients with higher aqueous humor levels of IL-6.** *Yasir Jamal Sepah[1], Q. D. Nguyen[1], D. V. Do[1], B. Day[2], E. Wakshull[2], I. Stoilov[2].* [1]Byers Eye Institute, Palo Alto, California; [2]Genentech, Inc**.** **CR*, ↗

4939 — *A0260* **KCNJ13 nonsense mutation causes Leber Congenital Amaurosis (LCA16) in man but is lethal in mouse model.** *De-Ann M. Pillers[1], P. K. Shahi[2], B. Pattnaik[2].* [1]Department of Pediatrics, University of Illinois; [2]Pediatrics, University of Wisconsin-Madison

4940 — *A0261* **NCL is implicated in the *NXNL1* gene splicing and leads to RdCVF expression in retinoblastoma cell lines.** *Najate Ait-Ali[1], F. Blond[1], S. Lee[2], S. Wang[2], D. Cobrinik[2, 3], T. D. Leveillard[1].* [1]Institut De la Vision; [2]Saban Research Institute, Children's Hospital Los Angeles; [3]Roski Eye Institute, Keck School of Medicine, USC, Los Angeles, CA, USA **CR*

4941 — *A0262* **Light Exposure Induces the Synthesis of Sphingosine 1-Phosphate in the Outer Retina.** *Ryo Terao, M. Honjo, M. Aihara.* Department of Ophthalmology, Graduate School of Medicine, Tokyo University,

4942 — *A0263* **Precise and Safe Gene Editing in Retinal Pigment Epithelial Cells *in vivo*.** *Bikash R. Pattnaik[1, 3], P. K. Shahi[4, 3], G. Chen[5, 6], A. A. Abdeen[6], Y. Wang[5, 6], K. Saha[2, 6], S. Gong[5, 2].* [1]Pediatrics Ophthal & Visual Sci, Univ of Wisconsin; [2]Biomedical Engineering, University of Wisconsin; [3]McPherson Eye Research Institute, University of Wisconsin; [4]Pediatrics, University of Wisconsin; [5]Material Science and Engineering, University of Wisconsin; [6]Wisconsin Institute of Discovery, University of Wisconsin

4943 — *A0264* **CRISPR/Cas9-mediated correction of the most recurrent *USH2A* mutation in patient iPSC.** *Carla Sanjurjo Soriano, N. Erkilic, D. Mamaeva, M. Diakatou, I. A. Meunier, V. Kalatzis.* INSERM-U1051, Institute for Neuroscience Montpellier

4944 — *A0265* **Knockout of zebrafish *stra6* and *rbp4* leads to retinal degeneration phenotypes.** *Ross F. Collery.* Ophthalmology and Visual Sciences, Medical College of Wisconsin

4945 — *A0266* **Effect of single guide nucleotide mismatch in CRISPR/Cas9-mediated disruption of the human rhodopsin gene *in vitro*.** *Caroline Peddle[1], M. E. McClements[1], R. E. MacLaren[1, 2].* [1]University of Oxford; [2]Oxford Eye Hospital

4946 — *A0267* **Defining the functional sites in LRG1 that are responsible for its role in ocular angiogenesis.** *Johanna L. Howson[2, 1], B. Qiu[1], H. Murray[1], M. Lockhart[2], P. Mould[2], C. Baldock[2], X. Wang[1, 3].* [1]Institute of molecular and cell biology (IMCB), Agency for Science, Technology and Research (A*STAR); [2]Wellcome Trust Centre for Cell-Matrix Research, The University of Manchester; [3]LKC School of Medicine, Nanyang Technological University

4947 — *A0268* **CRISPR/Cas-mediated base editing of the AMD high-risk Y402H complement factor H variant.** *Alex W. Hewitt[1, 2], P. Tran[2], M. Mohd Khalid[2], A. Pébay[1], A. L. Cook[2], H. Liang[1], R. Wong[1], J. E. Craig[3], G. Liu[2], S. Hung[1].* [1]Department of Ophthalmology, CERA; [2]Menzies Institute for Medical Research, University of Tasmania; [3]Department of Ophthalmology, Flinders University

4948 — *A0269* **Retinal degenerative diseases alter vitreous protein and extracellular vesicle concentrations.** *Sarah Weber[1], Y. Zhao[1], T. W. Gardner[2], J. M. Sundstrom[1].* [1]Ophthalmology, Penn State College of Medicine; [2]Kellogg Eye Center, University of Michigan Medical School

4949 — *A0270* **Non-viral CRISPR-mediated knockout of the *Vegfa* Gene by delivery of Synthetic gRNA and Cas9 protein.** *Andreas Holmgaard[1], R. O. Bak[1, 2], A. Askou[1], T. Corydon[1, 3].* [1]Department of Biomedicine, Aarhus University; [2]Aarhus Institute of Advanced Studies, Aarhus University; [3]Department of Ophthalmology, Aarhus University Hospital

4950 — *A0271* **Antisense oligonucleotide-based correction of deep-intronic *ABCA4* splice mutations using patient-derived fibroblasts and photoreceptor precursor cells.** *Sarah Naessens[1], R. W. Collin[3], F. Coppieters[1], M. Bauwens[1], L. Duijkers[3], I. Balikova[1, 2], B. P. Leroy[1, 2], E. De Baere[1], A. Garanto[3].* [1]Ghent University; [2]Department of ophthalmology, Ghent University Hospital; [3]Department of Human Genetics and Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center

4951 — *A0272* **Expansion of the role and functional characterization of a missense variant in *CEP78* associated with cone-rod dystrophy and hearing loss.** *Giulia Ascari[1], F. Peelman[2], N. Lambrechts[1], T. Van Laethem[1], T. Rosseel[1], P. Farinelli[3, 4], D. Creytens[5], I. Balikova[6, 7], J. Gerris[8], C. Bachert[9], C. Rivolta[4, 10], S. Walraedt[6], B. P. Leroy[6, 11], E. De Baere[1], F. Coppieters[1].* [1]Center for Medical Genetics Ghent, Ghent University, Ghent, Belgium.; [2]Flanders Institute for Biotechnology (VIB), Department of Medical Protein Research, Ghent University, Ghent, Belgium.; [3]Department of Biology, Section of Cell Biology and Physiology, University of Copenhagen, Copenhagen, Denmark.; [4]Department of Computational Biology, Unit of Medical Genetics, University of Lausanne, Lausanne, Switzerland.; [5]Department of Pathology, Ghent University Hospital, Ghent, Belgium.; [6]Department of Ophthalmology, Ghent University Hospital, Ghent, Belgium.; [7]Department of Ophthalmology, Free University of Brussels, Brussels, Belgium.; [8]Gynaecology Department, Ghent University Hospital, Ghent, Belgium.; [9]Upper Airways Research Laboratory, Ghent University Hospital, Ghent, Belgium.; [10]Department of Genetics and Genome Biology, University of Leicester, Leicester, United Kingdom.; [11]Division of Ophthalmology, The Children's Hospital of Philadelphia, Philadelphia, United States.

4952 — *A0273* **RNA binding proteins in eye development: *rbm24a* regulates *sox2* and leads to microphthalmia and visual processing defects in zebrafish.** *Lindy Brastrom[1], S. Dash[2], C. A. Scott[1], D. V. Dawson[3], S. A. Lachke[2], D. Slusarski[1].* [1]Department of Biology, University of Iowa; [2]Department of Biological Sciences, University of Delaware; [3]Department of Pediatric Dentistry, University of Iowa

4953 — *A0274* **A genetic screen in *Danio rerio* using CRISPR/Cas9 to identify genes involved in Uveal Coloboma.** *Helena Lysandrou, S. Dutta, J. Chen, S. Lakshmanan, B. P. Brooks.* National Eye Institute, National Institutes of Health

4954 — *A0275* **Reduced systemic serine levels lead to retinal defects in a mouse model of MacTel.** *Marin Gantner[1], M. Wallace[2], R. Fallon[1], M. Handzlik[2], K. Eade[1], I. Polis[3], A. Ideguchi[3], M. Kitano[3], C. Metallo[2], M. Friedlander[3, 1].* [1]The Lowy Medical Research Institute; [2]University of California, San Diego; [3]The Scripps Research Institute

4955 — *A0276* **Stem cell reprogramming towards corneal endothelial cell using CRISPR-dCAS9.** *Guillermo I. Guerrero Ramirez, V. Treviño, J. E. Valdez, J. Zavala, E. Martinez-Ledesma.* Escuela de Medicina, Tecnologico de Monterrey

4956 — *A0277* **Using CRISPR/Cas9 to achieve allele-specific editing of mutant *Crx* in a mouse model of Leber congenital amaurosis.** *Kathleen R. Chirco[1], S. Chew[1], J. L. Duncan[1], D. A. Lamba[1, 2].* [1]Department of Ophthalmology, University of California San Francisco; [2]Buck Institute for Research on Aging

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West Exhibition Hall A0367-A0380

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Low Vision Group

451 Visual Impairment and Patient Reported Outcomes

Moderator: Ruth M. Van Nispen

4957 — *A0367* **Surveying the digital reading behavior of people with low vision.** *Yueh-Hsun Wu[1], C. Granquist[2], R. Gage[1], M. Crossland[3], G. E. Legge[1].* [1]University of Minnesota, Twin Cities; [2]U.S Bank; [3]Moorfields Eye Hospital NHS Foundation Trust

4958 — *A0368* **Associations between adult attachment style and vision-related quality of life in visually impaired individuals.** *Irene Ctori[1], S. Ahmad[1], A. SUBRAMANIAN[1], A. Oskis[2].* [1]Optometry and Visual Science, City, University of London; [2]Psychology, Middlesex University

Wednesday Posters
10:15 am – 12:00 pm

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

4959 — *A0369* **First data of a prospective study comparing the impact of Retinitis Pigmentosa linked to Usher Syndrome 1B caused by MYO7A mutations and non-syndromic on daily living one year apart.** *Karine Becker[1], E. Gutman[1], C. Segaut-Prevost[2], P. Benoit[2], C. Cohen[2], I. S. Audo[3], S. Mohand-Said[4], J. A. Sahel[5].* [1]Streetlab; [2]Sanofi; [3]Department of Genetics, Inst de la Vision/ INSERM/UPMC/CNRS/CHNO; [4]CHNO Quinze-Vingts / CIC Inserm; [5]Institut de la Vision **CR*

4960 — *A0370* **Function and not structure in glaucoma is associated with Rasch-calibrated VFQ-25 scales.** *Heather Livengood, G. Wollstein, H. Ishikawa, M. Wu, J. Schuman.* NYU Langone Eye Center, NYU Langone Health **CR*

4961 — *A0371* **A comparative analysis of the individuals' perceptions of illness between glaucoma and age-related macular degeneration patients from a developing country.** *Natasha F. Cruz, K. Santos, N. Kasahara.* Ophthalmology, Irmandade da Santa Casa de Misericordia de Sao Paulo

4962 — *A0372* **Health State Measurement of Glaucoma Patients.** *Keean Nanji[1], G. S. Sarohia[2], D. Podbielski[3], K. Kennedy[1].* [1]McMaster University; [2]Department of Medicine, University of British Columbia; [3]Ophthalmology, University of Toronto **CR*

4963 — *A0373* **The Relationship between Patients' Clinical Behavior, Physician Impressions and Glaucoma Progression.** *Maxwell R. Harley[1], K. Malik[1], C. Sanvicente[2], G. L. Spaeth[2], D. Lee[2].* [1]Lewis Katz School of Medicine at Temple University; [2]Glaucoma Service, Wills Eye Hospital

4964 — *A0374* **The eye of the beholder: understanding discrepancy between visual acuity and self-reported vision in age-related-macular degeneration.** *Priscila Cunha[1], J. Zhuang[3], J. P. Wright[2], D. Madden[3, 6], G. G. Potter[3, 6], E. M. Lad[4, 5], S. W. Cousins[4, 5], H. Whitson[4, 7].* [1]Duke University School of Medicine; [2]Dartmouth-Hitchcock Medical Center; [3]Brain Imaging and Analysis Center, Duke University Medical Center; [4]Department of Ophthalmology, Duke University School of Medicine; [5]Duke Eye Center, Duke University Medical Center; [6]Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine; [7]Department of Medicine, Duke University School of Medicine

4965 — *A0375* **Quality of life in pediatric vision impairment: use of the PedsQL.** *Dawn K. DeCarlo, E. Forte, L. Gao, G. McGwin, C. Owsley.* Ophthalmology and Visual Sciences, University of Alabama at Birmingham

4966 — *A0376* **Comparing person and item measures of the 150-item Ultra-low Vision Visual Functioning Questionnaire (ULV-VFQ) from two separate ULV populations.** *Olukemi Adeyemo[1], M. Maeng[2], J. P. Szlyk[2, 3], G. Dagnelie[1].* [1]Johns Hopkins University; [2]The Chicago LightHouse for People Who Are Blind or Visually Impaired; [3]Jesse Brown VA Medical Center **CR*

4967 — *A0377* **Analysis of demographics and person measures from an ultra-low vision questionnaire.** *Meesa Maeng[1], O. Adeyemo[2], J. P. Szlyk[1], G. Dagnelie[2].* [1]Forsythe Center for Comprehensive Vision Care, The Chicago Lighthouse; [2]Johns Hopkins University **CR*

4968 — *A0378* **Visual Function Questionnaire Responses in the Voretigene Neparvovec Phase 3 Trial.** *Stephen R. Russell[1], A. M. Maguire[2, 3], J. Bennett[2, 3], P. Falabella[4], E. H. Sohn[1], V. B. Mahajan[5], D. C. Chung[4], K. Z. Reape[4], K. A. High[4].* [1]Ophthalmology/Institute for Vision Reserch, University of Iowa; [2]Children's Hospital of Philadelphia; [3]Ophthalmology, University of Pennsylvania Perelman School of Medicine; [4]Spark Therapeutics, Inc.; [5]Ophthalmology and Visual Sciences, Stanford University School of Medicine **CR*, ↗

4969 — *A0379* **Functioning and Vision-Related Quality of Life in Severe Peripheral Field Loss due to Retinitis Pigmentosa: A Outcome Measure Development Project.** *Ryan Lange[1], A. Kumagai[1], K. Bissen[1], C. Hedlich[2], L. Smolinski[2], N. Carlozzi[3, 4], J. Creswell[5], R. W. Massof[6], J. Stelmack[7, 8], P. P. Lee[1, 9], J. R. Ehrlich[1, 9].* [1]Center for Eye Policy and Innovation in the Department of Ophthalmology and Visual Sciences, University of Michigan-Ann Arbor; [2]Association for the Blind and Visually Impaired; [3]Department of Physical Medicine and Rehabilitation, University of Michigan-Ann Arbor; [4]Center for Outcomes Development and Application, University of Michigan-Ann Arbor; [5]Department of Family Medicine, University of Michigan-Ann Arbor; [6]Department of Ophthalmology**.** Johns Hopkins University; [7]Edward Hines, Jr**.** VA Hospital; [8]Department of Ophthalmology, University of Illinois at Chicago; [9]Institute for Health Policy and Innovation, University of Michigan-Ann Arbor

4970 — *A0380* **The Visual Function Index (VF-14) reflects a notable loss in Vision-Related Quality of Life (VRQOL) in Stargardt Disease.** *Justin T. Zaremba[1], Z. Strecker[1], G. DeBartolomeo[1], S. H. Tsang[9], C. N. Kay[2], T. B. Connor[3], M. B. Gorin[4], P. S. Bernstein[5], B. L. Lam[6], I. Washington[1], H. P. Scholl[8, 7], L. Saad[1].* [1]Ophthalmology, Alkeus Pharmaceuticals; [2]Ophthalmology, Vitreoretinal Associates; [3]Ophthalmology, Medical College of Wisconsin; [4]Ophthalmology, Stein Eye; [5]Ophthalmology, Univ of Utah/Moran Eye Center; [6]Ophthalmology, Bascom Palmer Eye Institute; [7]Institute of Molecular and Clinical Ophthalmology (IOB); [8]Dept**.** of Ophthalmology, University of Basel; [9]Ophthalmology, Columbia University Medical Center **CR*, ↗

West Exhibition Hall A0381-A0404

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Retina

452 Retinal Prostheses

Moderator: Takashi Fujikado

4971 — *A0381* **Honeycomb-shaped subretinal prosthesis enables cellular-scale pixels.** *Thomas Flores[1], T. W. Huang[1], M. Bhuckory[1], H. Lorach[1], Z. Chen[1], R. Dalal[1], X. Lei[1], L. Galambos[1], T. Kamins[1], K. Mathieson[2], D. V. Palanker[1].* [1]Stanford University; [2]Physics, University of Strathclyde **CR*

4972 — *A0382* **Predicting retinal ganglion cell responses to physiologically plausible electrical stimuli.** *Guenther Zeck[1], L. Höfling[1, 2], P. Berens[2].* [1]Neurophysics, Natural and Medical Sciences Institute at the University Tübingen; [2]Institute for Ophthalmic Research, University of Tübingen

4973 — *A0383* **An Epiretinal Photoacoustic Stimulation Approach for Retinal Stimulation.** *Jeeun Kang, Z. Fan, A. Malla, M. Harraz, J. Spicer, P. L. Gehlbach, E. Boctor.* Johns Hopkins University

4974 — *A0384* **Implant size matters for visual field and consecutive orientation. Large scale subretinal implant surgery for blind RP patients.** *Helmut G. Sachs, U. F. Brunner.* Eye Clinic, Klinikum Dresden **CR*

4975 — *A0385* **Depth discrimination in Argus II wearers using a stereo sensor based on two head-mounted cameras.** *Roksana Sadeghi[1, 2], M. Barry[3], P. Gibson[4], A. Caspi[2, 5], A. Roy[3], G. Dagnelie[2].* [1]Biomedical Engineering, Johns Hopkins University; [2]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [3]Second Sight Medical Products; [4]Advanced Medical Electronics Corporation; [5]Jerusalem College of Technology **CR*

4976 — *A0386* **Pillar electrodes reduce in-vivo stimulation thresholds for subretinal prosthesis.** *Elton Ho[1, 2], T. W. Huang[3], X. Lei[3], T. Flores[4, 2], H. Lorach[2], T. Kamins[3], L. Galambos[2], K. Mathieson[5], D. V. Palanker[2, 6].* [1]Department of Physics, Stanford University; [2]Hansen Experimental Physics Laboratory, Stanford University; [3]Department of Electrical Engineering, Stanford University; [4]Department of Applied Physics, Stanford University; [5]Institute of Photonics, University of Strathclyde; [6]Department of Ophthalmology, Stanford University **CR*

4977 — *A0387* **Investigation of Cyclic Olefin Copolymer as Packaging Material Candidate for Electrical Retinal Stimulator.** *Jong-Mo Seo[1, 2], C. Baek[2], S. Bae[3], H. Chung[4].* [1]Ophthalmology, Seoul National University; [2]Electrical and Computer Engineering, Seoul National University; [3]Ophthalmology, Kangnam Sacred Heart Hospital, Hallym University; [4]Ophthalmology, Chung-Ang University Hospital

4978 — *A0388* **Improved Localization and Recognition of Heat Emitting Objects and People Using a Thermal Sensor Camera Integrated with the Argus II Retinal Prosthesis System.** *Susan Sun[1], Y. He[1], A. Roy[2], A. Caspi[3, 2], S. R. Montezuma[1].* [1]Ophthalmology and Visual Neurosciences, University of Minnesota; [2]Second Sight Medical Products; [3]Jerusalem College of Technology **CR*

4979 — *A0389* **Cortical response to combined prosthetic and visible stimuli exhibits similarities to natural visual processing.** *Yossi Mandel[1, 2], T. Arens-Arad[1], N. Farah[1], A. Moshkovitz[1], R. Lender[1], T. Flores[3], D. V. Palanker[3, 4].* [1]School of Optometry and Vision Science, Faculty of Life Sciences, Bar Ilan University; [2]Bar-Ilan Institute for Nanotechnology and Advanced Materials (BINA), Bar-Ilan University; [3]Hansen Experimental Physics Laboratory, Stanford University; [4]Ophthalmology, Stanford University

4980 — *A0390* **High-resolution stimulation of retinal ganglion cells with organic photovoltaic pixels.** *Naïg A. Chenais, M. J. Airaghi Leccardi, D. Ghezzi.* Interschool Institute of Bioengineering - Medtronic Chair in Neuro Engineering, Swiss Federal Institute of Technology Lausanne (EPFL)

4981 — *A0391* **Assessment of the safety of anodic-first chronic electrical stimulation of the rabbit retina for 1 month using a femtosecond laser-induced porous electrode.** *Yukari Nakano[1], Y. Terasawa[1, 2], H. Tashiro[3], M. Ozawa[4].* [1]Artificial Vision Institute, R&D Div., Nidek Co., Ltd.; [2]Materials Science, Nara Institute of Science & Technology; [3]Department of Health Sciences, Faculty of Medical Sciences, Kyushu University; [4]Nidek Co., Ltd**.** **CR*

4982 — *A0392* **Surgical feasibility and biocompatibility of the OptoEpiret retinal stimulator.** *Tibor K. Lohmann[1], C. Werner[1], P. Raffelberg[2], F. Waschkowski[3], R. Viga[2], R. Kokozinski[2, 4], W. Mokwa[3], S. Johnen[1], P. Walter[1], K. Schaffrath[1].* [1]Department of Ophtalmology, RWTH Aachen University Hospital; [2]Electronic Components and Circuits, University of Duisburg-Essen; [3]Institute of Materials in Electrical Engineering 1, RWTH Aachen University; [4]Fraunhofer Institute of Microelectronic Circuits and Systems

4983 — *A0393* **A 44 channel suprachoroidal retinal prosthesis : surgical approach, safety and stability.** *Penelope J. Allen[1, 2], D. A. Nayagam[3, 4], S. B. Epp[3], C. D. Luu[1, 2], N. Barnes[7, 8], M. Kolic[1], K. A. Young[1], E. K. Baglin[1], C. J. Abbott[1, 2], R. Briggs[5], J. Yeoh[1], W. G. Kentler[6], S. A. Titchener[3], M. A. Petoe[3, 4], C. E. Williams[3, 4].* [1]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [2]Department of Surgery (Ophthalmology), University of Melbourne; [3]Bionics Institute; [4]Medical Bionics Department, University of Melbourne; [5]Otolaryngology, University of Melbourne; [6]School of Engineering, University of Melbourne; [7]Data 61, Commonwealth Scientific and Industrial Research Organisation; [8]The Australian National University **CR*, ↗

4984 — *A0394* **Surgical feasibility of newly developed suprachoroidal–transretinal stimulation (STS) prosthesis in healthy dogs.** *Takeshi Morimoto[1], T. Miyoshi[2], T. Saito[3], K. Ito[3], M. Ozawa[3], K. Nishida[4], T. Fujikado[1].* [1]Applied Visual Science, Osaka Univ Graduate Sch of Med; [2]Integrative physiology, Osaka University Graduate School of Medicine; [3]Nidek Co.; [4]Ophthatmology, Osaka University Graduate School of Medicine **CR*

4985 — *A0395* **Effects of Transcranial direct current stimulation on the Electrically Evoked Potentials of rats.** *Yasuo Terasawa[1, 2], Y. Nakano[1], M. Ozawa[3].* [1]Artificial Vision Institute, Nidek Co., Ltd; [2]Materials Science, Nara Institute of Science and Technology; [3]Nidek Co., Ltd **CR*

4986 — *A0396* **A 44 channel suprachoroidal retinal prosthesis: initial functional vision results.** *Maria Kolic[1], E. Baglin[1], S. A. Titchener[3, 4], C. J. Abbott[1, 2], K. A. Young[1], M. McGuinness[1], R. C. Dawkins[1], D. Chiu[1], J. Yeoh[1], J. Walker[6], W. G. Kentler[7], N. Barnes[5, 6], M. A. Petoe[3, 4], L. N. Ayton[2], C. D. Luu[1, 2], P. J. Allen[1, 2].* [1]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [2]Ophthalmology, Department of Surgery, University of Melbourne; [3]Bionics Institute; [4]Medical Bionics, University of Melbourne; [5]The Australian National University; [6]Data61, Commonwealth Scientific and Industrial Research Organisation; [7]Biomedical Engineering, University of Melbourne **CR*, ↗

4987 — *A0397* **Toxicity of Transition Metal Complex-based Nanophotoswitches in Retina.** *Lan Yue[1, 2], Y. Shi[3], T. LIN[1, 4], M. Pribisko[5, 6], R. Grubbs[5], H. Gray[5], R. Chow[3], M. Humayun[1, 2].* [1]Roski Eye Institute, University of Southern California; [2]Ginsburg Institute for Biomedical Therapeutics, University of Southern California; [3]Zilkha Neurogenetic Institute, University of Southern California; [4]Ophthalmology, Taipei Veterans General Hospital; [5]Chemistry, California Institute of Technology; [6]Chemistry, California State University Channel Islands **CR*

4988 — *A0398* **Micro-coils confine activation to single cortical columns in V1.** *Shelley Fried[1, 2], S. B. Ryu[2], A. C. Paulk[3], J. Yang[3], M. Ganji[4], S. Dayeh[4], S. S. Cash[3], S. W. Lee[2].* [1]Research, Boston VA Medical Center; [2]Neurosurgery, Mass General Hospital; [3]Neurology, Mass General Hospital; [4]Electrical and Computer Engineering, UC San Diego

4989 — *A0399* **Selective activation of ON and OFF RGC input in mouse retina stimulated.** *Zohreh Hosseinzadeh[1, 2], D. L. Rathbun[1], E. Zrenner[1].* [1]Ophthalmic Research, University of Tübingen; [2]DFG-Center for Regenerative Therapies Dresden, Technische Universität Dresden **CR*, ↗

4990 — *A0400* **Spatio-temporal image modulation for enhancing the quality of vision with potential application in patients with retinal prostheses.** *Andrew H. Yeung[1], D. Subramanian[1], A. D. Desai[1], S. Soltanian-Zadeh[1], A. Roy[3], L. Vajzovic[2], M. Sommer[1], S. Farsiu[1, 2].* [1]Biomedical Engineering, Duke University; [2]Ophthalmology, Duke University Eye Center; [3]Second Sight Inc**.** **CR*

4991 — *A0401* **A 44 channel suprachoroidal retinal prosthesis: inter-observer reliability measuring electrode to retina distance.** *Elizabeth K. Baglin[1], M. Kolic[1], S. A. Titchener[2, 3], C. J. Abbott[1, 4], M. McGuinness[1], K. A. Young[1], R. C. Dawkins[1], J. Yeoh[1], D. Chiu[1], M. A. Petoe[2, 3], P. J. Allen[1, 4].* [1]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [2]Bionics Institute; [3]Medical Bionics, University of Melbourne; [4]Ophthalmology, Department of Surgery, University of Melbourne **CR*, ↗

4992 — *A0402* **Effect of chronic electrical stimulation with a fully implantable electrode on photoreceptor survival in a retinal degeneration model.** *Carla J. Abbott[2, 3], D. A. Nayagam[1, 4], O. Burns[1], H. Feng[1], C. McGowan[1], R. H. Guymer[2, 3], C. E. Williams[1, 5], P. J. Allen[2, 3], C. D. Luu[2, 3].* [1]Bionics Institute; [2]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [3]Ophthalmology, Department of Surgery, University of Melbourne; [4]Department of Pathology, University of Melbourne, St**.** Vincent's Hospital; [5]Medical Bionics Department, University of Melbourne **CR*

4993 — *A0403* **A 44 channel suprachoroidal retinal prosthesis: initial psychophysical results.** *Matthew A. Petoe[1, 2], S. A. Titchener[1, 2], M. N. Shivdasani[3, 1], D. A. Nayagam[1, 4], S. B. Epp[1], J. Villalobos[1, 2], N. N. Sinclair[1, 2], C. E. Williams[1, 2], N. Barnes[5, 6], W. G. Kentler[7], M. Kolic[8], E. K. Baglin[8], C. J. Abbott[8, 9], L. N. Ayton[8, 9], C. D. Luu[8, 9], P. J. Allen[8, 9].* [1]Bionics Institute; [2]Medical Bionics, University of Melbourne; [3]Graduate School of Biomedical Engineering, The University of New South Wales; [4]Department of Pathology, University of Melbourne; [5]Data61, Commonwealth Scientific and Industrial Research Organisation (CSIRO); [6]Research School of Engineering, Australian National University; [7]Department of Biomedical Engineering, University of Melbourne; [8]Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital; [9]Opthalmology, Department of Surgery, University of Melbourne **CR*, ↗

4994 — *A0404* **Characterizing the Visual Cortical Hemodynamic Response in Retinal Prostheses Users.** *Yingchen He[1], S. Sun[1], T. Johannsen[2], J. Perry[2], A. Herrera[2], A. Roy[3], A. Caspi[3, 4], R. Barbour[5, 2], S. R. Montezuma[1].* [1]Department of Ophthalmology and Visual Neurosciences, University of Minnesota; [2]NIRx Medical Technologies, LLC; [3]Second Sight Medical Products, Inc.; [4]Department of Electrical and Electronic Engineering, Jerusalem College of Technology; [5]SUNY Downstate Medical Center **CR*

West Exhibition Hall A0458-A0513

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Retina

453 Macular Diseases Excluding AMD

Moderators: Bernhard Baumann and Akito Hirakata

4995 — *A0458* **Case Series of Bilateral Idiopathic Multiple Pigment Epithelial Detachments.** *Boris Rosin, E. Banin.* Ophthalmology, Hadassah-Hebrew University Medical Center

4996 — *A0459* **Peripheral polypoidal choroidal vasculopathy in Sorsby fundus dystrophy: Report of 2 cases.** *Laure Van Bol[1], I. Balikova[2], F. Rasquin[1].* [1]Ophthalmology, Erasme Hospital; [2]Ophthalmology, Hôpital Brugmann

4997 — *A0460* **Reading with macular telangiectasia type 2 – a case of binocular confusion.** *Tjebo Heeren[1, 3], S. Tzaridis[2], C. A. Egan[1], F. G. Holz[2], P. Charbel Issa[4, 5], S. Degli Esposti[1], P. Herrmann[2], S. K. Wagner[3], M. Fruttiger[3], G. S. Rubin[3].* [1]Moorfields Eye Hospital NHS Foundation Trust; [2]Department of Ophthalmology, University Bonn; [3]Institute of Ophthalmology, University College London; [4]Oxford Eye Hospital, Oxford University Hospitals NHS Foundation Trust; [5]Nuffield Laboratory of Ophthalmology, Department of Clinical Neurosciences, University of Oxford

4998 — *A0461* **Topography Shows Limited Ellipsoid Zone Recovery from Mild Hydroxychloroquine Toxicity.** *Brandon Pham[1], L. De Sisternes[2], M. K. Durbin[2], M. F. Marmor[1].* [1]Byers Eye Institute at Stanford; [2]Carl Zeiss Meditec **CR*

4999 — *A0462* **Characterizing Retinal-Choroidal Anastomosis in Macular Telangiectasia Type 2.** *Mark P. Breazzano[1, 2], L. Yannuzzi[1, 2], R. F. Spaide[1, 2].* [1]Vitreous Retina Macula Consultants of New York; [2]Columbia University College of Physicians and Surgeons **CR*

5000 — *A0463* **Effect and risk of internal limiting membrane peeling for idiopathic epiretinal membrane.** *Kono Ryota, Y. H. Mohamed, Y. Maekawa, A. Yoneda, H. Kinoshita, Y. Yamada, E. Tsuiki, A. Fujikawa, T. Kumagami, T. Kitaoka.* Department of Ophthalmology and Visual Sciences, Graduate School of Biomedical Sciences, Nagasaki University ↗

5001 — *A0464* **Fundus autofluorescence in macular telangiectasia type 2.** *Peter Charbel Issa[1], L. Pauleikhoff[1], T. Heeren[2], K. Balaskas[2], C. A. Egan[2].* [1]Department of Ophthalmology, Oxford Eye Hospital, University of Oxford; [2]Moorfields Eye Hospital **CR*

5002 — *A0465* **Long-term Outcomes of Half-dose Photodynamic Therapy in Chronic Central Serous Chorioretinopathy.** *Zhihang Cheng, S. Babiker, P. Lenfestey, N. Beare, I. A. Pearce.* St Paul's Eye Unit, Royal Liverpool University Hospital

5003 — *A0466* **Effect of 0.1% Bromfenac for Preventing Macular Edema after Cataract Surgery in Patients with Diabetes.** *Younghoon Lee[1, 2], S. Song[1, 2], B. Ko[1, 2].* [1]Ophthalmology, Konyang univerisity College of medicine; [2]Ophthalmology, Konyang univeristy hospital

5004 — *A0467* **Photodynamic therapy for central serous chorioretinopathy with choroidal neovascularization on optical coherence tomography angiography combined with intravitreal anti-vascular endothelial growth factor therapy or alone.** *Nao Sonoda[1], T. Araki[1], Y. Komuku[1], H. Iwami[1, 2], F. Gomi[1].* [1]Hyogo College of Medicine; [2]Iwami Eye Clinic **CR*

5005 — *A0468* **Clinical and Genetic Characteristic of Pachydrusen in Eyes with Central Serous Chorioretinopathy and Normal Subjects.** *Ayako Takahashi, Y. Hosoda, M. Miyake, A. Oishi, S. Ooto, A. Tsujikawa.* Department of Ophthalmology, Kyoto University Graduate School of Medicine **CR*

5006 — *A0469* **Micropulsed laser treatment of Central Serous Retinopathy.** *Davide Allegrini[1], G. Montesano[2], G. Ricciardelli[1], C. Coretti[1], M. Ferrara[1], M. R. Romano[1].* [1]Ophthalmology, Humanitas University; [2]Ophthalmology, University of Milan

5007 — *A0470* **Real world anti-vascular endothelial growth factor therapy in myopic choroidal neovascularisation: long term outcomes.** *Oonagh Crothers, D. Bhatia, M. R. Cheema, J. DaCosta, J. S. Talks.* Newcastle Eye Centre, Royal Victoria Infirmary **CR*

5008 — *A0471* **Eplerenone and Spironolactone Have Similar Efficacy in the Treatment of Chronic Central Serous Chorioretinopathy.** *David Massop[1], S. Bahadorani[1], S. Lahoti[2], M. Singer[3, 1].* [1]Ophthalmology, University of Texas Health Science Center San Antonio; [2]Long School of Medicine, University of Texas Health Science Center San Antonio; [3]Medical Center Ophthalmology Associates

5009 — *A0472* **Visual Outcome Following Intravitreal Anti-VEGF Injection In Eyes With Choroidal Neovascular Membrane Secondary to Chronic Central Serous Chorioretinopathy.** *Filipa Rodrigues[1], H. Khalid[2, 3], F. Afshar[1], K. Fasler[4], G. Casalino[2], M. Moussa[3], K. Balaskas[2], P. A. Keane[2].* [1]Medical Retina Department, Moorfields Eye Hospital NHS Foundation Trust; [2]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [3]Ophthalmology Department, Faculty of Medicine, Tanta University; [4]Department of Ophthalmology, University Hospital Zurich **CR*

5010 — *A0473* **Eplerenone for the treatment of central serous chorioretinopathy: 3 year clinical experience.** *Daniel Petkovsek, F. Conti, D. G. Cherfan, J. P. Ehlers, P. K. Kaiser, A. Schachat, S. Sharma, S. K. Srivastava, A. Rachitskaya, A. Babiuch, R. P. Singh.* Cole Eye Institute, Cleveland Clinic Foundation **CR*

5011 — *A0474* **Predictive Value of Pachyvessels in Patients with Central Serous Chorioretinopathy (CSCR) Treated by Photodynamic Therapy (PDT).** *Johanna Wiedemann, V. Sitnilska, L. Altay.* Department of Ophthalmology, University of Cologne **CR*

5012 — *A0475* **Predictive factors for metamorphopsia after reduced-fluence photodynamic therapy in central serous chorioretinopathy patients with good visual acuity at baseline.** *Mayuka Hayashida, A. Miki, S. Nakai, W. Matsumiya, H. Imai, S. Kusuhara, M. Nakamura.* Kobe University **CR*

5013 — *A0476* **Multimodal Imaging in Best Vitelliform Macular Dystrophy.** *Jose R. Carvalho-Jr[1, 2], W. Lee[2], M. Paavo[2], K. S. Park[2, 3], L. Chen[2], S. Tsang[3, 2], J. R. Sparrow[2].* [1]Hospital das Clinicas de Pernambuco-Empresa Brasileira de Servicos Hospitalares (EBSERH), Department of Ophthalmology, Federal University of Pernambuco; [2]Department of Ophthalmology, Columbia University; [3]Jonas Children's Vision Care and Bernard & Shirlee Brown Glaucoma Laboratory, Columbia University

5014 — *A0477* **Natural History of Recessive Stargardt Disease in Untreated Eyes: An Analysis of Study- and Individual-level Data.** *Liangbo L. Shen[1], M. Sun[3], H. Grossetta Nardini[2], L. V. Del Priore[1].* [1]Department of Ophthalmology and Visual Science, Yale School of Medicine; [2]Harvey Cushing/John Hay Whitney Medical Library, Yale University; [3]Department of Molecular Biophysics and Biochemistry, Yale University

5015 — *A0478* **Familial discordance in disease phenotype in siblings with Stargardt disease.** *Dyon Valkenburg[1, 2], E. Runhart[1, 2], B. Liefers[2, 3], s. lambertus[1, 2], C. I. Sanchez[3, 2], F. P. Cremers[4, 2], n. m. bax[1, 2], C. C. Hoyng[1, 2].* [1]Radboud university medical center, Department of Ophthalmology; [2]Radboud University Medical Center, Donders Institute for Brain, Cognition and Behaviour, Cognitive Neuroscience Department; [3]Radboud university medical center, Department of Radiology; [4]Radboud university medical center, Department of Human Genetics

5016 — *A0479* **Analysis of *ABCA4* mutation spectrum in Stargardt/ABCA4 disease.** *Jana Zernant[1], W. Lee[1], F. Collison[2], G. A. Fishman[2], S. Tsang[1, 3], R. Allikmets[1, 3].* [1]Ophthalmology, Columbia University; [2]The Pangere Center for Hereditary Retinal Diseases, The Chicago Lighthouse; [3]Pathology and Cell Biology, Columbia University

5017 — *A0480* **Stargardt disease: Rapid quantification of color vision using the Rabin Cone Contrast Test.** *Santiago Soberón, V. Tirado, G. Salcedo- Villanueva, L. A. Hernández, E. C. Hernández, J. Baca Moreno, L. Garcia Arzate, E. Garcia, Y. Lopez, A. Gonzalez-H.Leon, A. Suárez Licona, R. Gonzalez-Salinas, V. Morales-Canton, H. Quiroz-Mercado.* Asociacion para evitar la ceguera en Mexico (APEC) **CR*

5018 — *A0481* **Characteristics of hydroxychloroquine retinopathy in African American patients.** *Robert Carroll, D. Scoles, B. L. VanderBeek.* Scheie Eye Institute, University of Pennsylvania

5019 — *A0482* **Low Signal Intensity Structure in The Choroid Detected in Optical Coherence Tomography Angiography.** *keiichiro tanaka, T. Sekiryu.* ophthalmology, Fukushima Medical University **CR*

5020 — *A0483* **Vitreopapillary adhesion in eyes treated with pneumatic vitreolysis - a morphology-based study of the vitreoretinal interface.** *Julian E. Klaas, N. Feucht, C. Lohmann, M. Maier.* Augenklinik, Klinikum Rechts der Isar

5021 — *A0484* **Spontaneous closure of idiopathic macular holes, a case series.** *Michael Nee, D. Sang.* VitreoRetinal Consultants

5022 — *A0485* **Fibulin-3 mutation in mice dysregulates RPE cells and causes exosome markers to accumulation in drusen.** *Jasmine Geathers, W. Wang, A. Barber, J. M. Sundstrom.* Pennsylvania State College of Medicine

5023 — *A0486* **Internal Limiting Membrane Peeling with Air Tamponade for Idiopathic Full Thickness Macular Hole : A Case-matched Study.** *Feng Gu, P. SUN, H. Zhang, J. Li, Y. Zhang, Z. Liu.* Ophthalmology, First Hospitol of China Medial University.

5024 — *A0487* **Prevalence and characteristics of hyporeflective intraretinal spaces secondary to idiopathic epiretinal membranes using spectral domain optical coherence tomography.** *Christelle GRONDIN, A. COUTURIER, J. Marie Louise, V. Mané, A. Gaudric, R. Tadayoni.* Ophthalmology, Lariboisière Hospital

5025 — *A0488* **Quantitative Fundus Autofluorescence in PROM1-Macular Dystrophy.** *Maarjaliis Paavo[1, 2], W. Lee[1], J. Carvalho-Jr[1, 3], S. Tsang[1, 4], R. Allikmets[1, 4], J. Sparrow[1, 4].* [1]Columbia University Medical Center, Ophthalmology; [2]Helsinki University Eye Hospital; [3]Department of Ophthalmology, Federal University of Pernambuco; [4]Department of Pathology and Cell Biology, Columbia University Medical Center

5026 — *A0489* **Fluorescence Lifetime Imaging Ophthalmoscopy (FLIO) in Clinically Unaffected Family Members of MacTel Patients.** *Alexandra Vitale, L. Sauer, K. Andersen, P. S. Bernstein.* Moran Eye Center **CR*

5027 — *A0490* **Visual Field Examinations in Asian Patients with Hydroxychloroquine Retinopathy.** *Seong Joon Ahn, B. Lee.* Ophthalmology, Hanyang University Hospital

5028 — *A0491* **Genetic factors associated with the treatment response to reduced-fluence photodynamic therapy for chronic central serous chorioretinopathy.** *Akiko Miki[1], M. Hayashida[1], S. Nakai[1], W. Matsumiya[1], H. Imai[1], S. Kusuhara[1], S. Honda[2], M. Nakamura[1].* [1]ophthalmology, Kobe University Graduate School of Medicine; [2]ophthalmology, Osaka city university **CR*

5029 — *A0492* **A changeable flap: clinical observation of macular reconstruction after implementation of autologous neurosensory retinal free flap technique(ANRFFT).** *Zhaohui Li, Y. Li, J. Wu.* vitreous & retina diseases of Wuhan Ai'er Eye Hospital, Ai'er ophthalmic college, Central-South University

5030 — *A0493* **Characterizing two novel mouse models of *Ctrp5/C1qtnf5* to understand disease mechanism in late-onset retinal degeneration.** *Shyamanga Borooah[1], M. voronchikhina[1], A. K. Chekuri[1], V. R. Chavali[2], J. Suk[1], A. Alapati[1], D. G. Bartsch[1], N. W. Khan[4], M. M. Jablonski[3], R. Ayyagari[1].* [1]Ophthalmology, University of California San Diego; [2]University of Pennsylvania; [3]University of Tennessee; [4]University of Michigan

5031 — *A0494* **Dark adaptometry and dark-adapted two-color microperimetry in patients with Pseudoxanthoma elasticum.** *Kristina Hess[1], M. Gliem[2, 1], M. Pfau[1], P. L. Mueller[1], J. Birtel[1], F. G. Holz[1], P. Charbel Issa[2], P. Herrmann[1].* [1]Department of Ophthalmology, University of Bonn; [2]University of Oxford, Nuffield Laboratory of Ophthalmology **CR*

5032 — *A0495* **Hydroxychloroquine therapy: Effects on retinal function and structure.** *Luz Amaro-Quireza, S. Tsang, D. C. Hood, V. C. Greenstein.* Ophthalmology, Columbia University **CR*

5033 — *A0496* **North Carolina Macular Dystrophy (NCMD): 50 year follow up of the original family.** *Fadi Shaya[1, 2], R. Wiggins[3], J. Avetisjan[1, 2], K. W. Small[1, 2].* [1]Macule and Retina Institute; [2]Molecular Insight Research Foundation; [3]Asheville Eye Associates

5034 — *A0497* **Quantification of residual ellipsoid zone in patients with cone-rod dystrophy.** *Takumi Hara, T. Inoue, M. Kitano, H. Zhou, S. Makino, R. Obata.* The University of Tokyo Hospital

5035 — *A0498* **Selective retina therapy for macular serous retinal detachment associated with tilted disc syndrome.** *Kumiko Hirayama[1], M. Yamamoto[1], T. Kohno[1], D. Theisen-Kunde[2], R. Brinkmann[2, 3], Y. Miura[2, 3], S. Honda[1].* [1]Ophthal & Visual Sciences, Osaka City Univ Grad Sch of Med; [2]Medical Laser Center Luebeck; [3]Institute of Biomedical Optics, University of Luebeck, ↗

5036 — *A0499* **Evaluation of patients with Stargardt disease by Microperimetry and Fundus Autofluorescence: identification of a new biomarker in defining the natural history of disease.** *Valentina Di lorio[1], A. Orrico[1], R. Brunetti-Pierri[1], M. Filippelli[1], P. Melillo[1], A. Nesti[1], S. Rossi[1], A. Auricchio[2, 3], F. Simonelli[1], F. Testa[1].* [1]Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania Luigi Vanvitelli; [2]Telethon Institute of Genetics and Medicine,; [3]Department of Advanced Biomedicine, University of Naples Federico II **CR*

5037 — *A0500* **Aniseikonia, Metamorphopsia, and Optical Coherence Tomography Parameters in Patients with Idiopathic Epiretinal Membrane.** *DONG EIK LEE, U. Park, H. Yu.* Ophthalmology, Seoul National University

5038 — *A0501* **Short wavelength automated perimetry and standard achromatic perimetry in central serous chorioretinopathy.** *Han Peng Zhou, T. Inoue, R. Asaoka, T. Hara, S. Makino, H. Murata, R. Obata.* Ophthalmology, The University of Tokyo Hospital

5039 — *A0502* **Combination therapy with oral mineralocorticoid antagonist and ophthalmic glucocorticoid for non-resolving central serous chorioretinopathy.** *Der-Chong Tsai[1, 2], D. Hwang[3], S. Chen[3].* [1]Ophthalmology, National Yang-Ming University Hospital; [2]School of Medicine, National Yang-Ming University; [3]Ophthalmology, Taipei Veterans General Hospital

5040 — *A0503* **Deferred Focal Laser Photocoagulation In Central Serous Chorioretinopathy: A Retrospective Case Series.** *Kajal Sangal, S. D. Ness, N. Siegel, M. L. Subramanian.* Ophthalmology, Boston University School of Medicine

5041 — *A0504* **Best Disease is a Phenocopy of North Carolina Macular Dystrophy (NCMD / MCDR1).** *Kent W. Small[1, 2], B. Bakall[4], E. M. Stone[5], R. Wiggins[3], N. Udar[1, 2], S. Agemy[6], F. Shaya[1, 2].* [1]Molecular Insight Research Foundation; [2]Macula and Retina Institute; [3]Asheville Eye Associates; [4]University of Arizona College of Medicine; [5]University of Iowa; [6]SUNY Downstate Medical Center University

5042 — *A0505* **Medical Treatment of Macular Holes.** *Jared T. Sokol[1], S. Schechet[2], J. V. Giovinazzo[3], S. Ittiara[4], A. Farooq[2], V. Shath[5, 6], R. Komati[2], R. Gentile[3], D. Skondra MD,PhD[2].* [1]Pritzker School of Medicine, University of Chicago; [2]Ophthalmology and Visual Science, University of Chicago; [3]Ophthalmology, New York Eye and Ear of Mount Sinai; [4]Retinal Vitreal Consultants; [5]University Retina; [6]llinois Eye and Ear Infirmary, University of Illinois at Chicago **CR*

5043 — *A0506* **Choroidoscleral Interface Irregularity Index: A novel optical coherence tomographybased parameter in patients with epiretinal membrane.** *Mirinae Kim, Y. Park.* Seoul St.Mary's Hospital

5044 — *A0507* **Association of Macular Disease with Long-term Use of Pentosan Polysulfate Sodium: Findings from a Large U.S. National Insurance Database.** *Alexa L. Li[1], N. Jain[1], Y. Yu[2], B. L. VanderBeek[2].* [1]Ophthalmology, Emory Eye Center; [2]Ophthalmology, Scheie Eye Institute University of Pennsylvania

5045 — *A0508* **Relationship between the retinal displacement and the thickness change after vitrectomy in MH eyes.** *Kensuke Goto, T. Iwase, T. Akahori, H. Terasaki.* Nagoya University ***CR**

5046 — *A0509* **A Case Series of Spontaneous Opening and Closing Macular Holes Associated with Lamellar Hole Epiretinal Proliferation.** *Cecile Truong, R. Chen.* Ophthalmology, Columbia University Medical Center ***CR**

5047 — *A0510* **Etiology, treatment and visual outcomes of patients with choroidal neovascularization under the age of 50.** *David Xu[1, 2], A. Obeid[1, 2], H. J. Levin[1, 2], D. Matsunaga[1], K. A. Gervasio[1], T. L. Jenkins[1, 2], R. R. Pandit[1, 2], A. C. Ho[1, 2].* [1]Retina Service, Wills Eye Hospital; [2]Retina, Mid Atlantic Retina ***CR**

5048 — *A0511* **Characteristics of Outer Choroidal Vessels in Eyes with Chronic Central Serous Chorioretinopathy Assessed by En Face Optical Coherence Tomography.** *Jun Takeuchi, K. Kataoka, Y. Nakano, A. Fujita, Y. Ito, H. Terasaki.* Department of Ophthalmology, Nagoya University Graduate School of Medicine ***CR**

5049 — *A0512* **Blue-light reflectance imaging in macular telangiectasia type 2 (MacTel) using two different SLO systems.** *Ferenc B. Sallo[1, 2], V. Rocco[3], I. Leung[3, 7], A. M. Dubis[3, 1], U. E. Wolf-Schnurrbusch[8], C. A. Egan[3], T. Peto[6, 7], T. E. Clemons[10], D. Pauleikhoff[4], E. Y. Chew[9], A. C. Bird[5].* [1]Visual Neuroscience, UCL Institute of Ophthalmology; [2]Hopital Ophtalmique Jules-Gonin; [3]Research & Development, Moorfields Eye Hospital; [4]Ophthalmology, St Franziskus Spital; [5]Inherited Eye Disease, Moorfields Eye Hospital; [6]Ophthalmology, Queens University Belfast; [7]NIHR Biomedical Research Center for Ophthalmology, at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London; [8]Ophthalmology, Inselspital, University of Bern; [9]National Eye Institute; [10]Emmes Corporation ***CR**

5050 — *A0513* **A Novel Autosomal Dominant Retinal Dystrophy: Phenotypic description and Preliminary Genetic Investigations in a Pedigree.** *Ajoy Vincent[1], M. DiScipio[2], E. Tavares[3], N. Roslin[2], E. Heon[1].* [1]Ophthalmology and Vision Sciences, Hospital for Sick Children; [2]Hospital for Sick children; [3]Hospital for Sick Children

West Exhibition Hall B0144-B0174

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Cornea

454 Cornea surgery: refractive

Moderators: Takashi Miyai and Yelena Bykhovskaya

5051 — *B0144* **Incidence of complications in Small Incision Lenticule Extraction (SMILE) surgery.** *Josue J. Avalos, R. Velasco, O. Baca Lozada, C. Pacheco Del Valle, O. Fernandez Vizcaya.* Cornea, Fundación Hospital Nuestra Señora de la Luz I.A.P.

5052 — *B0145* **Shack-Hartmann wavefront sensor bias at the pupil boundary: problem and solution.** *Vyas Akondi, A. Dubra.* Ophthalmology, Stanford University ***CR**

5053 — *B0146* **Refractive outcomes of sequential versus combined cataract surgery and DMEK in eyes with prior LASIK.** *Luke Potts[1], A. Bauer[1, 2], S. Chen[1], M. D. Straiko[1], M. A. Terry[1].* [1]Devers Eye Institute; [2]Lions VisionGift

5054 — *B0147* **Femtosecond laser versus mechanical microkeratome use for laser-assisted in-situ keratomileusis (LASIK): Systematic Review and Meta-analysis.** *Nicolás Kahuam-López[1, 2], A. Navas[1], C. Castillo-Salgado[3], E. O. Graue-Hernandez[1], A. Jimenez-Corona[1], A. Ibarra[2].* [1]Instituto de Oftalmología Fundación Conde de Valenciana; [2]Centro de Investigación en Ciencias de la Salud (CICSA), Facultad de Ciencias de la Salud, Universidad Anáhuac México, Campus Norte; [3]Epidemiology**.** Johns Hopkins Bloomberg School ofPublic Health

5055 — *B0148* **Intrastromal lenticule rotation (ISLR) for treatment of astigmatism up to 10 Diopters *ex vivo* in human corneas.** *Iben B. Damgaard[1, 2], A. Ivarsen[1, 2], J. Hjortdal[1, 2].* [1]Department of ophthalmology, Aarhus University Hospital; [2]Department of Clinical Medicine, Aarhus Univeristy

5056 — *B0149* **Placido topography-guided transepithelial PRK in treat asymmetric astigmatism.** *loay Daas[1], M. Anticic[2], A. Frings[3], B. Seitz[1], N. Ardjomand[4].* [1]Department of Ophthalmology, Saarland University Medical Center UKS, Homburg /Saar, Saarland, Germany; [2]Department of Ophthalmology, Klinikum Klagenfurt, Austria; [3]Department of Ophthalmology, Heinrich-Heine University Düsseldorf, Germany; [4]Sehzentrum für Augenlaser & Augenchirurgie Graz, Austria

5057 — *B0150* **Evaluation of Regenerating Matrix Agent Therapy (RGTA: Cacicol®) on epithelial corneal healing after photokeratectomy.** *arthus drevon, C. Burillon, r. mouchel, y. boujnah.* Hospices civils de Lyon ↗

5058 — *B0151* **Induced corneal higher-order aberrations and decentration following small-incision lenticule extraction procedure.** *Tae-im Kim[1], H. Lee[2], D. Kang[3], E. Kim[1], K. Seo[1], H. Lee[1].* [1]Ophthalmology, Severance Hospital, Yonsei University; [2]Ophthalmology, International St**.** Mary's Hospital, Catholic Kwandong University College of Medicine; [3]Eyereum Eye Clinic

5059 — *B0152* **Enhancement with TE-PRK for Residual Refractive Error after Cataract and Refractive Surgery.** *Simon P. Holland[1], D. T. Lin[1], S. Arba Mosquera[2], A. Covello[1].* [1]Pacific Laser Eye Centre; [2]SCHWIND eye-tech-solution ***CR**

5060 — *B0153* **The Post-Operative Thickness Characteristics of the Corneal Epithelial Layer after Refractive Excimer Laser Surface Ablation.** *Jeff G. Grigsby[1, 2], T. Guelker[2], Y. Ojeda[2], T. Walters[4], M. Tschoepe[3], B. Cook[2], R. Sheets[2], M. Pawlowski[2], C. Sczepanski[2].* [1]Redwine Research, LLC; [2]Eye LASIK Midland; [3]RealEyes; [4]Eye LASIK Austin ***CR**

5061 — *B0154* **Corneal collagen cross-linking and intrastromal corneal rings implantation in patients with keratoconus. Case series.** *Raul A. Flores Martin, R. Velasco, O. Baca Lozada, A. Babayan Sosa, E. Alegria Gomez, C. Pacheco Del Valle, O. Fernandez Vizcaya.* Cornea, Hospital de la Luz

5062 — *B0155* **Utilizing Deep Learning to Improve Prediction Outcomes of Vision Symptoms.** *Guangming Dai, C. Gong.* Research and Development, Johnson & Johnson Vision ***CR**

5063 — *B0156* **A new method for correcting an irregular surface of a cornea.** *Ioannis Pallikaris, E. Naoumidi, O. Sahin.* Institute of Vision and Optics, University of Crete ***CR**

5064 — *B0157* **Changes of corneal epithelial thickness in different regions after FS-LASIK in high astigmatism patients.** *Liang Hu, Z. C. Liu, M. Lin, F. Lu.* School of Optometry & Ophthalmology, Wenzhou Medical University

5065 — *B0158* **Posterior chamber intraocular lens implantation for correction of myopia after excimer laser corneal refractive surgery.** *zhou qizhi.* Aier school of ophthalmology, Central South University

5066 — *B0159* **Comparison of clinical outcomes between FDA recommended and modified TMR protocols with topography-guided LASIK.** *xuejun fang, x. zhong, D. wu, f. guo, b. li.* Aier School of Ophthalmology, Central South University

5067 — *B0160* **Implantation of Toric Phakic Intraocular Lenses To Treat Astigmatism in Children with Neurodevelopmental Disorders.** *Nicholas Faron, L. Tychsen, J. R. Hoekel.* Ophthalmology, Washington Univ Sch of Med

Wednesday Posters
10:15 am – 12:00 pm

5068 — *B0161* **Sensorless coherent aberrometry by PSF de-scanning with swept source OCT.** *Rainer A. Leitgeb[1, 2], L. Ginner[1, 2], A. Kumar[1].* [1]Ctr of Med Phys & Biomed Eng, Medical University of Vienna; [2]CDL-OPTRAMED, Medical University Vienna **CR*

5069 — *B0162* **Preliminary clinical study of LenSx femtosecond laser-assisted corneal keratotomy on correction of low or moderate astigmatism in intraocular collamer lens implantation.** *Yanli Peng[1, 2].* [1]Aier School of Ophthalmology, Central South University; [2]Chongqing Aier-Mega Eye Hospital, Aier Eye Hospital Group

5070 — *B0163* **Femtosecond Laser-Assisted Mini / Micro RK: An Effective Option to Address Refractive Surprises Post Cataract Surgery and Viable Alternative to the LASIK and Relex SMILE Procedures.** *E Valas Teuma, G. Gray, D. Terracciano.* R&D, LENSAR Inc **CR*

5071 — *B0164* **The changes of the anterior corneal surface, posterior surface and total cornea high order aberrations after SMILE or ICL correction for low and moderate myopia.** *Kangjun Li[1, 2].* [1]The AIER eye institute, Central south university; [2]XI'AN AIER eye hospital

5072 — *B0165* **Immediate visual recovery after photorefractive keratectomy with new laser beam profile.** *David T. Lin[1], S. P. Holland[1], S. Arba Mosquera[2], A. Covello[1].* [1]Pacific Laser Eye Center; [2]SCHWIND eye-tech-solution **CR*

5073 — *B0166* **Quality of Vision Outcomes of Fellow-Performed LASIK and PRK.** *Kristin Hirabayashi, E. E. Manche.* Stanford University **CR*

5074 — *B0167* **Comparing Agreement Between Optical Low-Coherence Reflectometry and Fourier-domain Optical Coherence Tomography during LASIK.** *Paul Lang, m. roozbahani, O. Golan, J. B. Randleman.* University of Southern California

5075 — *B0168* **Impact of Ocular Residual Astigmatism on Wavefront Guided LASIK.** *Ying Wang, L. Atiles, S. Bentow, S. Kasthurirangan.* Clinical Research, Johnson & Johnson **CR*, ↗

5076 — *B0169* **Short- and long-term impact of Laser-Induced Refractive Index Change (LIRIC) on corneal nerve distribution in rabbits.** *Kaitlin T. Wozniak[1], S. C. Butler[2], M. DeMagistris[3], C. Callan[3], W. Knox[1], J. D. Ellis[5], K. R. Huxlin[3, 4].* [1]The Institute of Optics, University of Rochester; [2]Clerio Vision Inc.; [3]Flaum Eye Institute, University of Rochester; [4]Center for Visual Science, University of Rochester; [5]The College of Optical Sciences, University of Arizona **CR*

5077 — *B0170* **Benzalkonium Chloride (BAC) for Transepithelial Riboflavin Delivery.** *Eric R. Mikula[1], S. Bradford[2], D. Brown[1], T. Juhasz[1, 2], J. V. Jester[1, 2].* [1]Ophthalmology, University of California, Irvine; [2]Biomedical Engineering, University of California, Irvine

5078 — *B0171* **Visual and keratometric outcomes after epithelium-off corneal collagen crosslinking for progressive keratoconus.** *Angelica Ortiz, E. E. Manche.* Ophthalmology, Stanford University

5079 — *B0172* **First-in-human laser-induced refractive index change (LIRIC) treatment of the cornea.** *Len Zheleznyak[1], S. C. Butler[1], I. G. Cox[8], K. R. Huxlin[5], J. D. Ellis[6], W. Knox[7], K. Waltz[2], J. A. Yukich[3], G. Quesada[4], R. Quesada[4], A. Melendez[4], J. J. Machat[9], S. M. MacRae[5].* [1]Clerio Vision, Inc.; [2]Ophthalmic Research Consultants; [3]Davis Duehr Dean Center for Refractive Surgery, SSM Health Care; [4]Clinica Quesada; [5]Flaum Eye Institute, University of Rochester; [6]College of Optical Sciences, University of Arizona; [7]Institute of Optics, University of Rochester; [8]ICG Consulting; [9]Crystal Clear Vision **CR*

5080 — *B0173* **Keratoconus Concordance in monozygotic twins.** *Filippos Vingopoulos[1, 2], A. J. Kanellopoulos[1, 3].* [1]Laservision Clinical and Eye Institute; [2]National & Kapodistrian University of Athens Medical School; [3]New York University Medical School **CR*

5081 — *B0174* **Left eye corneal nerves altered by corneal injury in the right eye.** *Thang L. PHAM, J. He, A. H. Kakazu, H. E. Bazan.* Neuroscience Center, Louisiana State University Health Science Center

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West Exhibition Hall B0216-B0253

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Cornea

455 Corneal Cell and Molecular Biology

Moderators: James W. Foster and Zala Luznik

5082 — *B0216* **Influence of psoriasin on VEGF-mediated corneal neovascularization.** *Fabian Garreis[1], E. Beckenbauer[1], U. Schulte[1], M. Schicht[1], U. Hampel[2], F. P. Paulsen[1].* [1]Department of Functional and Clinical Anatomy, Friedrich Alexander University Erlangen-Nürnberg (FAU); [2]Department of Ophthalmology, University Medical Center of the Johannes Gutenberg University Mainz

5083 — *B0217* **Metagenomics in eye banking: first application of Next Generation Sequencing in human donor cornea preservation medium.** *Dr. Davide Borroni[1, 2], M. Parekh[3], V. Romano[2], T. F. Somerville[2], C. Rocha de Lossada[2, 5], S. Ferrari[4], S. B. Kaye[2].* [1]Ophthalmology, Riga Stradins University; [2]St Paul's Eye Unit, Royal Liverpool University Hospital; [3]Institute of Ophthalmology, University College London; [4]International Center for Ocular Physiopathology, The Veneto Eye Bank Foundation; [5]Department of Ophthalmology, Hospital Regional Universitario Carlos Haya

5084 — *B0218* **VEGF Receptor Activation and Ligand Interactions in Neuronal and Endothelial Cells.** *Joy Sarkar[1], Y. Luo[1], Q. Zhou[1], E. Ivakhnitskaia[1], V. H. Guaiquil[1], M. Rosenblatt[1, 2].* [1]Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]Illinois Eye and Ear Infirmary

5085 — *B0219* **Characterization of human iPSC-derived corneal endothelial cells.** *Jiagang Zhao, N. A. Afshari.* Shiley Eye Center, University of California San Diego

5086 — *B0220* **FGF9 regulates endothelial-to-mesenchymal transition of corneal endothelial cells.** *JINGWEN YU[1, 2], S. Ou[1, 2], H. Sun[1, 2], H. Wu[1, 2], Y. Guo[1, 2], M. Zhang[1, 2], Z. Liu[1, 2], W. Li[1, 2].* [1]Eye Institute of Xiamen University; [2]Medical College of Xiamen University

5087 — *B0221* **Comparison and validation of *ex vivo* and *in vitro* corneal permeability models.** *Jenni J. Hakkarainen[1], A. Ziniauskaite[1], V. Cepla[2], R. Valiokas[2], G. Kalesnykas[1].* [1]R&D, Experimentica Ltd.; [2]Ferentis UAB **CR*

5088 — *B0222* **Detection and Gram Discrimination of Bacteria from Keratitis by Real-Time PCR Assay.** *Ana Hofling-Lima[1], L. Luchesi Jorge[2], R. T. Santos[2], T. T. Rocchetti[2, 1], P. J. Bispo[3, 1], M. Z. Zorat Yu[1], A. C. Pignatari[2].* [1]Ophthalmology, UNIFESP; [2]Department of Ophthalmology, University Federal de São Paulo; [3]Ophthalmology. Harvard Medical School

5089 — *B0223* **Autohaemotherapy based on gelsolin (GSN) enrichment supports corneal wound closure and has an anti-inflammatory effect on the ocular surface.** *Jessica Feldt[1], M. Schicht[1], F. Garreis[1], J. Welss[1], U. Schneider[2], F. P. Paulsen[1].* [1]Institute for functional and clinical anatomy, Friedrisch-Alexander-University Erlangen-Nuremberg; [2]Arthrogen GmbH **CR*

5090 — *B0224* **Topical delivery of Decorin using cell penetrating peptide enhances recovery of alkali burn-induced corneal injury in mice.** *Deepa N. Talreja, R. Kumar-Singh.* Tufts University School of Medicine

5091 — *B0225* **Mitomycin C-Triggering Nuclear Translocation of Fibulin-1 Contributes to Gene Reduction in Human Corneal Fibroblasts by Microarray Analysis.** *Tsan-Chi Chen, S. Chang.* Ophthalmology, Far Eastern Memorial Hospital

5092 — *B0226* **High throughput hypoxia screening system for oxidative stress on ocular surface cell study.** *Jeongyun Kim[1], H. Kim[1], K. Cho[2], J. Ju[1].* [1]Dept. of Physics, Dankook University; [2]Dept. of Ophthalmology, Dankook University

5093 — *B0227* **Identification of Herpes simplex virus type 1 by matrix assisted laser desorption/ ionization time of flight mass spectrometry (MALDI-TOF MS).** *Chao Cheng, T. Lin, M. Zhu, K. Wu.* Zhongshan Ophthalmic Center, State Key Laboratory of Ophthalmology, The Key Lab of Ophthalmology and Visual Science of Guangdong, Sun Yat-sen University, Guangzhou, China

5094 — *B0228* **Analysis of Tumor Necrosis Factor Alpha (TNF-α) Expression in Keratoconus Cornea.** *Khadija Raza[1, 2], F. Syed[2], M. Azam[2], R. Qamar[2].* [1]Boston Latin; [2]Biosciences, Comsats University

5095 — *B0229* **Levels of Wnt6 differentially regulate human limbal stem/progenitor cells.** *Denise Oh[1], H. Mei[2], S. X. Deng[1].* [1]Stein Eye Institute, University of California Los Angeles; [2]University of North Carolina Chapel Hill

5096 — *B0230* **Increased SFK activity enhances wound healing in neurotrophic keratopathy mouse model.** *Vivian Lee[1, 2], C. Lin[1], R. Y. Kweon[1], X. Yang[2], T. Dentchev[2], J. Seykora[2].* [1]Department of Ophthalmology, Scheie Eye Inst Univ PA; [2]Department of Dermatology, University of Pennsylvania

5097 — *B0231* **Activation of AMPK promotes human corneal endothelial cell proliferation in vitro.** *Yiran Wang[1], H. Cui[1], G. Xu[2].* [1]Shanghai East Hospital, Tongji University; [2]Tongji University

5098 — *B0232* **Nitric Oxide Attenuated Transforming Growth Factor-β induced Myofibroblast Differentiation of Human Keratocytes.** *BORA YIM, J. Park, C. Park.* Ophthalmology, Dongguk University Hospital

5099 — *B0233* **Moxifloxacin induced dose-dependent apoptosis of human corneal endothelial cells via activation of extrinsic caspase pathway.** *JooHee Park, B. YIM.* Ophthalmology, Dongguk University hospital

5100 — *B0234* **QFDE Visualization of Matrix Production by Human Corneal Fibroblasts: A Look at Fibrillogenesis.** *Ebraheim Ismail, J. Ruberti.* Bioengineering, Northeastern University

5101 — *B0235* **Induced Wnt/β-catenin signaling enhances differentiation in Human Limbal Epithelial Stem Cells.** *Jovana Bisevac[1, 2], G. Petrovski[1, 2], M. Moe[1, 2], A. Noer[1].* [1]Center for Eye Research, Department of Ophthalmology, Oslo University Hospital; [2]Institute of Clinical Medicine, University of Oslo

5102 — *B0236* **Proinflammatory and toxic effects in trigeminal neurons induced by a conditioned medium of corneal epithelial cells exposed to benzalkonium chloride.** *Michael-Adrien VITOUX[1, 2], C. BAUDOUIN[1, 3], S. Melik Parsadaniantz[1], M. CLARET[2], g. camille[2], F. Baudouin[1, 3], A. REAUX LE GOAZIGO[1].* [1]Institut de la Vision; [2]Horus Pharma; [3]15/20 Hospital **CR*

5103 — *B0237* **The Effect of Hyperglycemia on Gut Microbial diversity, Ocular Surface Inflammation and Corneal Re-epithelialization after Alkaline Chemical Injury in Mice.** *Yashan Bu, K. C. Shih, A. C. Lo.* OPhthalmology, The University of Hong Kong

5104 — *B0238* **Effect of Acute Prolonged Exposure to Benzalkonium Chloride on Structure and Function of Corneal Nerves and Epithelium.** *Evguenia Ivakhnitskaia[1], V. Dallacasagrande[2], K. Mizerska[2], T. Nguyen[1], V. H. Guaiquil[1], M. Rosenblatt[1], H. Hirata[2].* [1]University of Illinois-Chicago; [2]Weill Cornell Medical College

5105 — *B0239* **Tissue-Engineered Recombinant Human Collagen-Based Corneal Substitutes in End Stage keratoconus.** *Sana Niazi[1], H. Niknejad[1], F. Niazi[1], F. Doroodgar[2], A. Sanginabadi[3].* [1]Shahid Beheshti University of Medical Science; [2]Tehran University of Medical Science; [3]Iran University of Medical Science

5106 — *B0240* **KLF4 regulates corneal epithelial cell cycle progression by suppressing canonical TGF-β signaling, and upregulating CDK inhibitors P16 and P27.** *Anil Tiwari[1], S. Swamynathan[1], N. Alexander[1], J. S. Gnalian[2], S. Tien[1], P. R. Kinchington[1], S. Shivalingappa K[1].* [1]Ophthalmology, University of Pittsburgh; [2]Biological Sciences, University of Pittsburgh

5107 — *B0241* **HYAL4 and PH20, involved in the hydrolysis of chondroitin sulfate chains, undergo a subexpression in the cornea of keratoconus patients.** *Luis M. Quirós[1, 2], J. Merayo-Lloves[1, 3], I. Alcalde[1], C. Martín[1, 2], F. Vázquez[1, 4], J. Alfonso[1, 3], L. Fernández-Vega[1], B. García[1, 2].* [1]Instituto Universitario Fernández-Vega, Fundación de Investigación Oftalmológica & Universidad de Oviedo; [2]Department of Functional Biology, University of Oviedo; [3]Ophthalmology Area, Surgery Department, University of Oviedo; [4]Department of Microbiology, Hospital Universitario Central de Asturias

5108 — *B0242* **Regulation of oxidative stress in corneal endothelial cells by PRDX-6.** *Gary S. Peh[1, 2], M. Lovatt[1, 2], K. Adnan[1], J. S. Mehta[1, 3].* [1]Ocular Tissue Eng & Stem Cell Group, Singapore Eye Research Institute; [2]Eye-ACP, Duke-NUS Graduate Medical School; [3]Singapore National Eye Center

5109 — *B0243* **Interactions between KRT12 TSS and other genomic loci in corneal limbal epithelial stem cells.** *Suguru Nakagawa[1, 3], A. Okabe[2], S. Tsutsumi[2], R. Nakaki[2], S. Yamagami[1, 4], T. Usui[1, 5], H. Aburatani[2].* [1]Dpt of Opthalamology, Univ of Tokyo; [2]Genome Science Div, RCAST, Univ of Tokyo; [3]Dpt of Opthalamology, Saitama Red Cross Hospital; [4]Dpt of Opthalamology, Nihon Univ; [5]Dpt of Opthalamology, International Univ of Health and Welfare

5110 — *B0244* **Effect of SOX2 Repression on Corneal Endothelial Cells.** *Hochul Yi[1], Y. Shin[1], J. Hwang[2], T. Chung[2].* [1]Ophthalmology, Hallym University College of Medicine; [2]Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine

5111 — *B0245* **SP1 and SP3 mediate fibrosis induced by FGF2 in human corneal endothelium independently.** *JeongGoo Lee, E. Jung, J. M. Heur.* Ophthalmology, University of Southern California

5112 — *B0246* **Transcriptional Profiling of Daily Patterns of mRNA Expression in the Murine Cornea.** *Xinwei Jiao, D. Lu, J. Zhang, Z. Song, L. Wang, J. Gu, Z. Li.* Henan Provincial People's Hospital and People's Hospital of Zhengzhou University, Henan Eye Institute, Henan Eye Hospital

5113 — *B0247* **Comparative analysis of Pellucid marginal degeneration and Keratoconus corneas show divergence in molecular expression and tissue structure.** *Pooja Khamar, A. Ghosh, S. Sethu, A. Sinha Roy, N. R. Kumar, R. S.* Narayana Netralaya Foundation

5114 — *B0248* **Impact of prolactin and prolactin-inducible protein (PIP) for dry eye disease.** *Katharina Jüngert, F. P. Paulsen, F. Garreis.* Department of Functional and Clinical Anatomy, Friedrich-Alexander-University Erlangen-Nürnberg

5115 — *B0249* **KLF4 Prevents Epithelial-to-Mesenchymal Transition in Human Corneal Epithelia via SMAD2/3 Nuclear Translocation Inhibition of the TGF-β Signaling Pathway.** *Satoko Fujimoto[1], R. Hayashi[2, 1], Y. Sasamoto[3, 1], S. Hara[2], J. Harrington[2, 4], M. Tsujikawa[5], K. Nishida[1].* [1]Department of Ophthalmology, Osaka University Graduate School of Medicine; [2]Department of Stem Cells and Applied Medicine, Osaka University Graduate School of Medicine; [3]Division of Genetics, Brigham & Women's Hospital, Harvard Medical School; [4]Structural Biophysics Group, School of Optometry and Vision Sciences, College of Biomedical and Life Sciences, Cardiff University; [5]Department of Biomedical Informatics, Osaka University Graduate School of Medicine, Division of Health Sciences **CR*

5116 — *B0250* **Matrix-Assisted Laser Desorption Ionization (MALDI) Mass Spectrometry Imaging (MSI) of key proteins in corneal samples from Lattice dystrophy patients with *TGFBI*- H626R and R124C mutation.** *Anandalakshmi Venkatraman[1], J. S. Mehta[1, 2].* [1]Singapore Eye Research Institute; [2]Singapore National Eye Centre

5117 — *B0251* **Age-related anatomical changes in the cornea of spontaneous type 2 diabetes model rats.** *Machiko Shimmura-Tomita[1], H. Takano[1], N. Kinoshita[1], Y. Tanaka[1], R. Takagi[1], M. Kobayashi[1], T. Ohta[2], T. Sasase[2], M. Shinohara[3], A. Kakehashi[1].* [1]Ophthalmology, Jichi Medical Univ Saitama Med Ctr; [2]Central Pharmaceutical Research Institute, Japan Tobacco Inc.; [3]CLEA Japan, Inc**.** ***CR**

5118 — *B0252* **A Comparative study of Cytotoxicities and Anti-allergic Effects by Topical Ocular Dual-action Anti-allergic Agents.** *Jong-Soo Lee[2, 1], J. Lee[2, 3], S. Kim[2, 3], J. Lee[2, 3].* [1]Medical Research Institute, Pusan National University Hospital; [2]Ophthalmology, Pusan National University College of medicine; [3]Ophthalmology, Pusan National University Yangsan Hospital

5119 — *B0253* **Expression and localization of the Receptor for Advanced Glycation End Products (RAGE) in normal versus keratoconus cornea.** *jean malecaze[2, 1], C. GROSS[2], C. Belville[2], L. Blanchon[2], F. Chiambaretta[2, 1], V. Sapin[2, 3].* [1]ophtalmology, CHU Clermont-Ferrand; [2]GReD - UMR CNRS 6293 - U1103 INSERM, Universite Clermont Auvergne; [3]Biochimie medicale, CHU Clermont-Ferrand

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West Exhibition Hall B0522-B0568

Wednesday, May 01, 2019 10:15 AM-12:00 PM

Glaucoma

456 Trabecular Meshwork and Ciliary Body

Moderators: Wei Zhu and David Krizaj

5120 — *B0522* **Gene therapy for Glaucoma by CRISPR-Cas9 mediated disruption of Aquaporin 1 in the Ciliary Body.** *Colin J. Chu[1], J. Wu[1], O. H. Bell[1], D. Copland[1], R. Maswood[2], A. Young[1], J. Pooley[1], P. T. Khaw[3], R. R. Ali[3], A. D. Dick[1, 3].* [1]Translational Health Sciences, University of Bristol; [2]Molecular Therapy, UCL Institute of Ophthalmology; [3]UCL Institute of Ophthalmology & NIHR Biomedical Research Centre for Ophthalmology at Moorfields Eye Hospital ***CR**

5121 — *B0523* **Fluorophotometric determination of aqueous humor flow rates (AHFRs) in a canine model of *ADAMTS10*-Weill Marchesani syndrome-associated open-angle glaucoma (WMS-OAG).** *Christine Harman[1], K. L. Koehl[1], C. B. Toris[2], L. B. Teixeira[3], A. M. Komaromy[1].* [1]Small Animal Clinical Sciences, Michigan State University; [2]Ophthalmology and Visual Science, Case Western Reserve University; [3]Pathobiological Sciences, University of Wisconsin

5122 — *B0524* **Actomyosin contractility and the vimentin cytoskeleton influence giant vacuole life-cycle in Schlemm's canal endothelial cells.** *Darryl R. Overby[1], A. Spenlehauer[1], A. Cairoli[1], J. M. Sherwood[1], A. Vahabikashi[2], W. Stamer[3], C. Lee[1].* [1]Bioengineering, Imperial College London; [2]Cell and Molecular Biology, Northwestern University; [3]Ophthalmology, Duke University ***CR**

5123 — *B0525* **A new method for *en Face* confocal imaging of Schlemm's canal inner wall and juxtacanalicular trabecular meshwork.** *Mini Aga, J. Bradley, J. A. Vranka, T. S. Acott.* Ophthalmology, Casey Eye Institute/OHSU

5124 — *B0526* **Autophagy is a regulator of TGFβ-induced fibrogenesis in trabecular meshwork cells.** *April Nettesheim, M. Sim, U. Raychaudhuri, P. B. Liton.* Ophthalmology, Duke University

5125 — *B0527* **Nuclear LC3 triggers ribophagy upon cyclic mechanical stretch in human trabecular meshwork cells.** *Myoungsup Sim, A. Nettesheim, A. Dixon, P. B. Liton.* Ophthalmology, Duke University

5126 — *B0528* **JCAD (Junctional Protein Associated with Coronary Artery Disease) is a prominent cell-cell junction protein in the trabecular meshwork.** *Philip Mzyk, R. Maddala, V. Rao.* Duke University

5127 — *B0529* **Caveolar ultrastructural changes of the trabecular meshwork in primary open-angle glaucoma.** *Ying-Bo Shui, C. Siegfried, Y. Liu.* Ophthalmology & Visual Sciences, Washington University School of Medicine

5128 — *B0530* **Racial disparities of SDPR/Cavin2 expression in human trabecular meshwork.** *Carla J. Siegfried, Y. Shui, Y. Liu, A. Huang.* Ophthalmology and Visual Sciences, Washington University School of Medicine

5129 — *B0531* **Generation of Reversible Immortalized Cell Lines to Model Pseudoexfoliation Syndrome.** *Coralia Luna[1], P. Challa[1], U. Schlotzer-Schrehardt[2], P. Gonzalez[1].* [1]Ophthalmology, Duke University; [2]Ophthalmology, University of Erlangen-Nürnberg

5130 — *B0532* **New Tools for Understanding Segmental Flow: Generation and Characterization of Trabecular Meshwork High Flow and Low Flow Cell Lines.** *Julia Staverosky[1], R. VijayKrishna[2], J. A. Vranka[1].* [1]Casey Eye Institute, Oregon Health and Science University; [2]Optometry, University of Houston

5131 — *B0533* **The Role of Phosphoinositides in Aqueous Humor Dynamics via Optogenetic Stimulation in the Trabecular Meshwork.** *Jorge A. Alvarado[1], P. Prosseda[1], k. ning[1], T. Kowal[1], B. WANG[1], Y. Hu[1], Y. Sun[1, 2].* [1]Ophthalmology, Stanford University; [2]Palo Alto VA Medical Center

5132 — *B0534* **Small molecule inhibitors targeting canonical and non-canonical Wnt signaling have distinct effects on dexamethasone induced phenotypes of primary trabecular meshwork cells.** *Chi Zhang, L. U. Sanchez, J. J. Zheng.* Ophthalmology, UCLA

5133 — *B0535* **The role of Wnt signaling in TGFβ2-induced ocular hypertension.** *Weiming Mao[1, 2], N. Rayana[1, 2], J. Wu[3], A. Roberts[3], R. Fudala[3].* [1]Ophthalmology, Indiana University School of Medicine; [2]Eugene & Marilyn Glick Eye Institute; [3]University of North Texas Health Science Center

5134 — *B0536* **The role of TGFβ2 on mechano-responsive genes of bovine angular aqueous plexus cells.** *Jingwen Cai[1], K. M. Perkumas[2], W. Stamer[2], Y. Liu[1].* [1]Cellular Biology and Anatomy, Augusta University; [2]Duke University

5135 — *B0537* **TLR4 signaling in the human trabecular meshwork.** *Colleen M. McDowell, T. P. Sharma.* North Texas Eye Research Institute, Univ of North Texas Hlth Sci Ctr ***CR**

5136 — *B0538* **High-throughput single-cell contraction assay to assess the contractile heterogeneity of primary human trabecular meshwork cells.** *Luis U. Sanchez, C. Zhang, J. J. Zheng.* Ophthalmology, University of California Los Angeles

5137 — *B0539* **Histological Characterization of Transcriptionally Distinct Cell Types in the Human Trabecular Meshwork.** *Alexi McAdams[1], T. van Zyl[1, 3], W. Yan[2], J. Sanes[2].* [1]Massachusetts Eye and Ear; [2]Harvard University; [3]Harvard Medical School

5138 — *B0540* **The effects of a Rho-associated protein kinase (ROCK) inhibitor (Y39983) on human trabecular meshwork cells – a morphological and proteomic study.** *Sze Wan Shan[1], T. Lam[1], W. Stamer[2], H. Li[1], C. Do[1], C. To[1].* [1]School of Optometry, The Hong Kong Polytechnic University; [2]Ophthalmology, Duke University

5139 — *B0541* **Activation of αvβ3 integrin in human trabecular meshwork cells enhances Rho-independent assembly of fibronectin fibrils.** *Mark S. Filla[1], H. Desikan[1], D. M. Peters[1, 2].* [1]Pathology and Laboratory Medicine, University of Wisconsin; [2]Ophthalmology & Visual Sciences, University of Wisconsin

5140 — *B0542* **dCAS9-KRAB inhibits TGFβ2 in trabecular meshwork cells.** *Naga pradeep Rayana[1, 2], W. Mao[1, 2].* [1]Ophthalmology, Indiana school of Medicine; [2]Eugene and Marilyn Glick Eye institute

5141 — *B0543* **Suppression of SPARC in human trabecular meshwork cells upregulates Plasminogen Activator Inhibitor-1.** *William MacDonald, M. Kang, D. J. Rhee.* Ophthalmology and Visual Sciences, Case Western Reserve University

5142 — *B0544* **NPR expression in eyes of different mammalian species by RNAscope@.** *Hua Yang, M. Yuan, G. Patel, A. Latuszek, Y. Hu, C. Romano.* Ophthalmology, Regeneron pharmaceuticals **CR*

5143 — *B0545* **Trabecular meshwork cell swelling and osmoregulation is subserved by TRPV4 and TRPM4 cation channels.** *Jackson M. Baumann[1, 2], O. Yarishkin[2], M. Lakk[2], F. Vasquez-Chona[2], D. Krizaj[2, 1].* [1]Department of Biomedical Engineering, University of Utah; [2]Department of Ophthalmology and Visual Sciences, University of Utah

5144 — *B0546* **Inactivation of αvβ3 integrin in talin-1 deficient human trabecular meshwork cells prevents TGFβ2 induced increase in fibronectin protein expression.** *Jennifer A. Faralli[1], J. Balas[1], M. S. Filla[1], D. M. Peters[1, 2].* [1]Pathology and Laboratory Medicine, University of Wisconsin School of Medicine and Public Health; [2]Ophthalmology, University of Wisconsin School of Medicine and Public Health

5145 — *B0547* **Identification of extracellular matrix gene variants in a large glaucoma family and analysis of human trabecular meshwork cells harboring one or more of these variants.** *Kate E. Keller[1], Y. Sun[1], Y. Yang[1], R. Sykes[1], D. Keene[2], J. R. Samples[3], M. Wirtz[1].* [1]Ophthalmology, Casey Eye Insitute - OHSU; [2]Shriners Hospitals for Children; [3]Washington State University

5146 — *B0548* **Cell derived matrices modulate TGFβ2 signaling in human trabecular meshwork cells.** *Felix Yemanyi[1], J. A. Vranka[2], V. Raghunathan[1, 3].* [1]Department of Basic Sciences, University of Houston College of Optometry; [2]Department of Ophthalmology, Casey Eye Institute, Oregon Health and Science University; [3]Department of Biomedical Engineering, Cullen College of Engineering, University of Houston

5147 — *B0549* **Cathepsin B/Cystatin C interplay in ECM modulation in the trabecular meshwork.** *Urmimala Raychaudhuri, A. Dixon, P. B. Liton.* Ophthalmology, Duke University

5148 — *B0550* **Investigating MRTF-A as a novel anti-fibrotic target in trabecular meshwork cells for open angle glaucoma.** *Aftab Taiyab[1], J. Lorenz[2], D. M. Smith[2], M. Rzepka[1], R. Thareja[3], J. A. West-Mays[1].* [1]Pathology and Molecular Medicine, McMaster University; [2]Fraunhofer Institute for Cell Therapy and Immunology IZI; [3]McGill University

5149 — *B0551* **Glycosaminoglycans and Scaffold Morphology Influence Trabecular Meshwork Cell Behavior.** *Matthew J. Osmond[1], M. D. Krebs[1], M. B. Pantcheva[2].* [1]Chemical and Biological Engineering, Colorado School of Mines; [2]Ophthalmology Department, University of Colorado Denver

5150 — *B0552* **Glycosylation of SPARC is Critical for Binding to Extracellular Matrix Proteins and Protection from Matrix Metalloproteinase Degradation.** *Nathaniel Fox, B. Liu, K. Scavelli, A. Castillejos, M. Kang, D. J. Rhee.* Ophthalmology, Case Western Reserve University

5151 — *B0553* **Human Embryonic Stem Cells Differentiate into Trabecular Meshwork Cells.** *Yiqin Du[1, 2], W. Song[3, 4], A. KUMAR[3].* [1]Ophthalmology & Developmental Biology, University of Pittsburgh; [2]McGowan Institute for Regenerative Medicine, University of Pittsburgh; [3]Ophthalmology, University of Pittsburgh; [4]Ophthalmology, Xiangya Hospital, Central South University

5152 — *B0554* **Quantification of Human Trabecular Meshwork Stem Cells in Glaucomatous Donors.** *Yogapriya Sundaresan[1], M. VR[1], K. S. R[2], G. Chidambaranathan[1].* [1]Department of Immunology and Stem Cell Biology, Aravind Medical Research Foundation; [2]Glaucoma Clinic, Aravind Eye Hospital and Post Graduate Institute of Ophthalmology

5153 — *B0555* **Media borne factor that stimulates stem cell division following laser trabeculoplasty.** *Samuel J. Berk[2, 1], L. Peterkin[4], S. Tehrani[2], T. S. Acott[2, 1], M. J. Kelley[2, 3].* [1]Biochemistry and Molecular Biology, Oregon Health & Science University; [2]Department of Ophthalmology, Oregon Health & Science University; [3]Department of Integrative Biology, Oregon Health & Science University; [4]Department of Chemistry, Portland State University

5154 — *B0556* **Effects of Salidroside on Trabecular Meshwork Cell Extracellular Matrix Expression and Mouse Intraocular Pressure.** *tao guo[1], y. fan[1], l. guo[2], j. wei[1].* [1]Department of Ophthalmology, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine; [2]Department of Ophthalmology, Luan Affiliated Hospital of Anhui Medicine University

5155 — *B0557* **Aqueous humour outflow requires active cellular metabolism.** *Ester Reina-Torres, J. M. Sherwood, D. R. Overby.* Bioengineering, Imperial College London **CR*

5156 — *B0558* **Adenoviral Gene Transfer of TGF-β2 Upregulates Intraocular Pressure through SPARC and Integrin-Linked Kinase in Mice.** *Jaeyoung Heo, E. Ahadizadeh, Y. Zheng, M. Kang, D. J. Rhee.* Case Western Reserve University

5157 — *B0559* **Clusterin-Cathepsin K Signaling in Trabecular Meshwork Outflow Pathway Regulates Intraocular Pressure.** *Padmanabhan P. Pattabiraman, S. Vuda, J. Heo, H. Reddy, C. B. Toris, D. J. Rhee.* Ophthalmology, Case Western Reserve University

5158 — *B0560* **Hyperbranched cationic glycogen derivative-mediated IκBα gene silencing regulates the uveoscleral outflow pathway in rats.** *Yuqing Lan, R. Zeng, J. Li, H. Gong.* Sun Yat-Sen Memorial Hospital

5159 — *B0561* **Investigation of the Mechanism of Action and IOP Lowering Ability of CB1 Agonists using Glauconix Biosciences' 3D-HTM™ Tissue Model.** *Andrea Unser, A. Panneerselvam, F. Ahmed, G. Torrejon, K. Y. Torrejon.* Glauconix Biosciences Inc**.** **CR*

5160 — *B0562* **Ex-vivo cultured human anterior segment model to study the effects of glaucoma factors on trabecular meshwork.** *Ramesh Kasetti, P. D. Patel, G. Zode.* Department of Pharmacology and Neuroscience, University of North Texas Health Science Center

5161 — *B0563* **Surgical outcomes of trabecular micro-bypass (iStent) surgery performed by ophthalmology resident trainees compared to attending surgeons.** *Stephen Moster, C. X. Zheng, M. Lin, S. Copparam, D. Lee.* Glaucoma, Wills Eye Hospital

5162 — *B0564* **Age at Glaucoma Diagnosis in Germline Myocilin Mutation Patients: Association with Polymorphisms in Protein Stabilities.** *Jie J. Zheng, T. Tanji, E. Cohen, D. Shen, F. Yu.* Department of Ophthalmology, Jules Stein Eye Institute, UCLA

5163 — *B0565* **Histopathology findings in the trabecular meshwork of eyes with glaucoma drainage devices.** *Jacqueline Coblentz[1], N. Saheb[1], H. Saheb[2], P. Garcia de Alba Graue[1], C. Mastromonaco[1], M. N. Burnier[1].* [1]Ocular Pathology, McGill University; [2]McGill University

5164 — *B0566* **Improvement of trabecular outflow facility by Netarsudil Ophthalmic Solution in patients with primary open angle glaucoma or ocular hypertension.** *Arthur J. Sit[1], D. Gupta[2], A. Kazemi[1], H. McKee[3], J. Lopez[3], C. Kopczynski[4], T. Heah[3].* [1]Mayo Clinic; [2]Duke University; [3]Aerie Pharmaceuticals Inc.; [4]Aerie Pharmaceuticals Inc**.** **CR*, ↗

5165 — *B0567* **Primary open-angle glaucoma: A phenotype with two faces.** *Michael Giovingo[1], N. M. Pfahler[2], I. Bielskus[2], P. A. Knepper[2, 3].* [1]Ophthalmology, John H**.** Stroger, Jr**.** Hospital of Cook County; [2]Ophthalmology and Visual Sciences, University of Illinois at Chicago; [3]Ophthalmology, Northwestern University Feinberg School of Medicine

Wednesday Posters
10:15 am – 12:00 pm

5166 — *B0568* **Platelet TLR4 expression in degenerative disease.** *Paul A. Knepper[1, 2], N. M. Pfahler[2], I. Bielskus[2], M. Giovingo[3], N. J. Volpe[1].* [1]Ophthalmology, Northwestern University Feinberg School of Medicine; [2]Ophthalmology & Visual Science, University of Illinois at Chicago; [3]Ophthalmology, John H. Stroger, Jr. Hospital of Cook County

East 1

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Visual Neuroscience / Eye Movements/ Strabismus/Amblyopia/Neuro-Ophthalmology / Glaucoma / Immunology/Microbiology / Multidisciplinary Ophthalmic Imaging / Retina

457 Eye and Brain - the interrelationship and pathology (Second Edition) - SIG

There is increasing evidence supporting the link between eye and brain diseases**.** Following the success of last year's SIG, we propose to continue the discussion on this hot topic and to provide updates on new findings in this field**.** The panel will discuss the phenomenon of bidirectional neurodegeneration in the visual pathway and the potential use of ocular findings as biomarkers for brain pathology**.** The purpose of the course is to address the importance of considering the eye as a part of the central nervous system and to understand the interrelationships between eye and brain diseases and their clinical implication.

Moderator: Vivek Kumar Gupta

Opening statement + New ocular findings associated with infections in the central nervous system. *Alessandro Invernizzi.* [1]Eye Clinic, University of Milan, Fairlight, New South Wales, Australia; [2]Save Sight Institute, Sydney University, Sydney, New South Wales, Australia ***CR**

Organizer. *Yuyi You.* Save Sight Institute, Sydney University, Sydney, New South Wales, Australia

The spread of neurodegeneration in the visual system. *Yeni H. Yucel.* Univerity of Toronto, Toronto, Ontario, Canada

Updates on new findings of the transneuronal spread of human neurodegenerative disease. *Yuyi You.* Save Sight Institute, Sydney University, Sydney, New South Wales, Australia

Retinal changes in neurological disorders. *Maya Koronyo-Hamaoui.* Alzheimer's Disease Research Laboratory, CEDARS-SINAI, Los Angeles, CA

Is it the eye or the brain? *Alfredo A. Sadun.* Doheny Eye Center, UCLA, Los Angeles, CA

Organizer. *Alessandro Invernizzi.* [1]Eye Clinic, University of Milan, Fairlight, New South Wales, Australia; [2]Save Sight Institute, Sydney University, Sydney, New South Wales, Australia ***CR**

East 2/3

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Clinical/Epidemiologic Research / Cornea / Glaucoma / Lens / Retina

458 Excellence in sight: enhancing the methodological rigor of clinical research to inform eye care practice and future research - SIG

Global scientific output is doubling every decade, with 2.5 million new papers published each year**.** But does this proliferation of papers represent real knowledge growth? The scientific quality of a study is critical factor for determining whether its results can be trusted**.** However, many factors can undermine the validity of research findings, including insufficient power, small effects and invalid statistical analyses.

In this forum, members of Cochrane Eyes and Vision will discuss key findings from recent high-impact Cochrane systematic reviews covering topics such as age-related macular degeneration, diabetic retinopathy, minimally-invasive glaucoma surgery and dry eye disease**.** These reviews will also be used to illustrate common methodological errors**.** The implications of these reviews for practice and future research will be discussed.

This SIG will provide a forum for researchers, clinicians, methodologists and biostatisticians to consider how methods can be improved, as a basis for enhancing the quality of future clinical research in the field**.** Attendees will be able to engage in discussing focus areas (e.g**.** core outcome sets, practice-based registries, etc.) to prioritise moving forward.

Moderator: Tianjing Li

Critically appraising the literature relating to blue-light filtering intra-ocular lenses for macular health, and essential fatty acid interventions for dry eye disease. *Laura E. Downie.* Department of Optometry and Vision Sciences, The University of Melbourne, Parkville, Victoria, Australia

A snapshot of recent high-impact Cochrane systematic reviews. *Tianjing Li.* Center for Clinical Trials and Evidence Synthesis - Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

Risk of bias and level of equivocation in ophthalmic meta-evidence from the Cochrane Eyes and Vision Group. *Stephanie L. Watson.* Discipline of Ophthalmology, Sydney Medical School, Save Sight Institute, The University of Sydney, Sydney, New South Wales, Australia

Critical appraisal of the literature related to diabetic retinopathy. *Noemi Lois.* Wellcome-Wolfson Institute for Experimental Medicine, Queens University, Belfast and the Belfast Health and Social Care Trust, Belfast, Ireland

Critically appraising the literature relating to imaging devices and their use for diagnosis and monitoring of ocular disease. *Manuele Michelessi.* IRCCS - Fondazione GB Bietti, Rome, Italy ***CR**

Session Role: Organizer. *Tianjing Li.* Center for Clinical Trials and Evidence Synthesis - Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

Session Role: Organizer. *Laura E. Downie.* Department of Optometry and Vision Sciences, The University of Melbourne, Parkville, Victoria, Australia

East 8&15

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Retina

459 Integrating Robotics into Ophthalmic Surgery - SIG

Robotic systems have found widespread use in many surgical fields and applications thanks to their high precision, maneuverability, and improved visualization over traditional surgical techniques**.** However, ocular surgery presents unique challenges: workspace limitations; three-dimensional and high-magnification views of homogeneous and fragile intraocular structures; the inherent minimally invasive nature of intraocular surgery and its instrumentation; and the hindered maneuverability, range, and depth precision required of microsurgical instruments**.** This has resulted in a delayed adoption of robotic systems into eye surgery.

This SIG proposes a series of panelist discussions regarding the latest, state-of-the-art progress in robotic eye surgery, including the IRISS system from UCLA and the Preceyes Surgical System**.** Each system has evolved using different strategies to address the challenges stated above**.** The subsequent discussion will be focused on answering the following questions: What are the hurdles facing robotics in eye surgery? How does one overcome them? Where are we headed? Which key applications or developments should be targeted?

Moderators: Jean-Pierre Hubschman and Marc D. De Smet

Organizer. *Marc D. De Smet.* Preceyes B.V., Eindhoven, Netherlands ***CR**

Panelist. *Matthew J. Gerber.* Department of Mechanical and Aerospace Engineering, UCLA, Los Angeles, CA

Panelist. *Gerrit J. Naus.* Preceyes B.V., Eindhoven, Netherlands ***CR**

Panelist. *Marinko V. Sarunic.* School of Engineering Science, Simon Fraser University, British Columbia, Canada

Organizer. *Jean-Pierre Hubschman.* Department of Ophthalmology - Retina Div, Jules Stein Eye Institute - UCLA, Los Angeles, CA

East 11/12

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Retinal Cell Biology / Glaucoma / Retina / Visual Neuroscience

460 Retinal Ganglion Cell Differentiation from Pluripotent Stem Cells: Applications for Studying Development, Modeling Retinal Degeneration, and as a Vehicle for Cellular Replacement - SIG

This SIG will present an overview of the latest applications of retinal ganglion cells derived from pluripotent stem cells**.** Areas of emphasis will include the use of these retinal ganglion cells for in vitro modeling of retinal development**.** Additionally, discussions will center around their translational use as tools for disease modeling and pharmacological screening, including those cells derived from patient samples as well as the use of Crispr/Cas9 gene editing strategies to develop disease models or isogenic controls**.** Further conversations will discuss the use of these retinal ganglion cells for cellular replacement, including current obstacles to the successful implementation of pluripotent stem cell-derived retinal ganglion cells for this application.

Moderator: Jason S. Meyer

Modeling Development and Disease with Human Pluripotent Stem Cell-Derived Retinal Ganglion Cells. *Jason S. Meyer.* [1]Stark Neurosciences Research Institute, Indiana University, Indianapolis, IN; [2]Biology, Indiana Univ- Purdue Univ Indianapolis, Indianapolis, IN **CR*

Use of human stem cell-derived retinal ganglion cells to study RGC development, survival, and function. *Donald J. Zack.* [1]Department of Ophthalmology, Johns Hopkins University, Baltimore, MD; [2]Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

Rapid Induced-Retinal Ganglion Cells: Fidelity of Differentiation and Efficacy in Transplant. *Jeffrey L. Goldberg.* [1]Byers Eye Institute, Stanford University, Stanford, CA; [2]Department of Ophthalmology, Stanford University, Stanford, CA

Modeling human RGC development: Insight into glaucomatous degeneration and therapeutic regeneration. *Iqbal Ahmad.* University of Nebraska, Omaha, NE

Retinal ganglion cell replacement: overcoming the barriers. *Petr Y. Baranov.* Schepens Eye Institute, Harvard University, Boston, MA

East Ballroom A

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Multidisciplinary Ophthalmic Imaging Group / Glaucoma / Retina

461 Choriocapillaris Imaging with OCT Angiography - SIG

In vivo imaging of choriocapillaris (CC) in a routine clinical setting was not possible before the development of optical coherence tomography-based angiography (OCTA)**.** This forum will bring together scientists and clinicians to discuss novel CC OCT imaging strategies and their clinical applications for examining the CC in normal aging, diagnosing diseases, following the natural history of disease, and predicting disease progression**.** Emphasis will be on interactive panel discussions that focus on the importance of these technological developments in the study of CC abnormalities in human aging and chorioretinal diseases.

1) Instrumentation and Algorithms(Wang, Fujimoto)
Discuss challenges and novel techniques to image CC, focusing on technical and physical aspects, with an emphasis on the pitfalls and opportunities.

2) CC in aging and AMD(Rosenfeld, Waheed, Sadda)
Discuss CC imaging in aging and AMD using swept source OCT, with an emphasis on image interpretation and its clinical relevance to the development of AMD.

3) CC in other diseases(Sadda, Rosenfeld, Waheed)
Discuss OCTA imaging of CC in myopic and other eyes, and its clinical relevance and implications

Instrumentation and Algorithms. *Ruikang K. Wang.* Bioengineering, University of Washington, Seattle, WA **CR*

Choriocapillaris in aging and AMD. *Philip Rosenfeld.* Bascom Palmer Eye Institute, Miami, FL **CR*

Instrumentation and Algorithms. *James G. Fujimoto.* Massachusetts Institute of Technology, MA **CR*

Choriocapillaris in other diseases. *Srinivas R. Sadda.* Doheny Eye Institute, CA **CR*

Choriocapillaris in aging and AMD. *Nadia K. Waheed.* New England Eye Center, Boston, MA **CR*

East Ballroom B

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Genetics Group

462 Genetics Group - Spotlight on retinal ciliopathy from genetics to mechanism

Cilia are microtubule-based structures in almost all vertebrate cells and are very important for transduction of diverse biological signals, esp**.** in sensory organs, brain and kidney etc**.** Given the pivotal role of sensory cilium in transducing key signals in the highly metabolic photoreceptor, dissection of the biological mechanisms and clinical relevance in diverse retinal ciliopathies is becoming urgently important**.** So far, ciliopathies and related genetic mutations have been defined in many forms of retinal degenerations**.** This session will cover latest advancements in the field of genetic ciliopathies in retina from genetics to mechanisms, and discuss a future framework for investigating genetic networks associated with photoreceptor cilia biogenesis and pathology.

Moderators: Zi-Bing Jin, Yutao Liu and Susanne Roosing

— *12:15* **Social networking to deconvolute photoreceptor cilium (dys-) function.** *Ronald Roepman.* 855 Dept of Human Genetics, Radboud UMC

— *12:35* **Mutational load in ciliopathies: from genotype to phenotype.** *Erica Davis.* Duke Center for Human Disease Modeling

— *12:55* **Molecular mechanisms responsible for Stargardt macular degeneration linked to mutations in ABCA4.** *Robert S. Molday.* Biochemistry/Molecular Biology, University of British Columbia

— *1:15* **Disease Mechanisms and Therapy Design for Ciliopathies from Patient iPSC-Derived Retinal Cells and Organoids.** *Anand Swaroop.* N-NRL, Bldg 6, National Eye Institute

— *1:35* **Discussion**

East Ballroom C

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Glaucoma / Anatomy and Pathology/Oncology / Immunology/Microbiology / Lens / Physiology/ Pharmacology / Retina / Retinal Cell Biology

463 Developing Eye Drops in Ophthalmology: Practical Considerations for Smooth Translation to the Clinic - SIG

The eye lends itself to local (topical) treatment**.** However, key requirements in the development of an eye drop is its successful formulation, good safety and tolerability profile and maximal effectivity**.** This symposium will discuss the potential pitfalls and challenges of eye drop development in ophthalmology, addressing CMC, regulatory and clinical issues with panellists being expert in their field with experience of translating their formulations and research to the clinic.

Moderator: Ann Logan

Introduction. *M Francesca Cordeiro.* Glaucoma & Retinal Neurodegnrtn Res Grp, Imperial College, UCL IOO, Western Eye Hsp London, London, ENGLAND, United Kingdom **CR*

Differences between medical product and drug development. *Leopold Schmetterer.* Singapore Eye Institute, Singapore **CR*

Development pearls. *Clive Wilson.* Strathclyde University, United Kingdom **CR*

Seeing through the haze. *Uday B. Kompella.* university of Colorada Denver, CO **CR*

Commercial perspectives. *Naj Sharif.* Santen Inc, CA **CR*

West 211

Wednesday, May 01, 2019 12:15 PM-1:45 PM

464 Scientists as entrepreneurs (or how to apply your science to business)

ARVO as an organization has created an ecosystem of shared knowledge, intellectual expertise, and a physical infrastructure that supports entrepreneurship**.** Learning from entrepreneurs in the vision science field, the workshop panelists will share their stories of how they developed a career mindset to work in this space and find support for their projects**.** This workshop is designed to help those with ideas learn how to think strategically about the needs of the marketplace and a product's value to a customer when developing their own technology.

Moderators: Terri L. Young and Stella M. Robertson

— 12:15 **Introduction**

— 12:30 **From academia to big pharma -- opportunities in science and leadership.** *Cynthia L. Grosskreutz[1, 2].* [1]Ophthalmology, Novartis Inst for Biomedical Research; [2]Ophthalmology, Massachusetts Eye & Ear Infirmary, Harvard Medical School **CR*

— 12:45 **Founding a company: from academic discovery to start-up to acquisition.** *Barbara M. Wirostko[1, 2].* [1]Ophthalmology, University of Utah; [2]Clinical, EyeGate **CR*

— 1:00 **The pros and cons of independent consulting.** *Kathryn S. Crawford[1, 2].* [1]PharmOcu; [2]Allysta Pharmaceuticals **CR*

— 1:15 **Open Question and Answer**

West 212-214

Wednesday, May 01, 2019 12:15 PM-1:45 PM

465 How do I tell m(e)y(e) story? - Why effective communication is needed now more than ever to increase research funding

Everyone loves a good story, but what makes a story great? And, more importantly, what makes someone an effective storyteller? This interactive workshop, co-sponsored by ARVO's AOC, MIT and GMC committees, will explore how to harness the power of storytelling to effectively communicate your research**.** We will feature successful leaders and rising stars in our field who will discuss how to shape your narrative to engage a variety of audiences including experts in your field, funding bodies, patient groups and the general public**.** Our speakers will share real life examples of how effective communication has helped them build strong and sustainable research programs, launch their careers and make a difference for the patients and communities they serve**.** Attendees will also learn about resources available to ARVO members including practical advice on dos and don'ts in communicating one's research**.** Attendees will have the opportunity to work in small groups to implement strategies and practice the art of storytelling on their own research during the workshop**.** Attend this timely, practical and interactive workshop, which may even help you get that next grant!

Moderators: Teresa Puthussery and Pamela M. Martin

— 12:15 **Introduction**

— 12:20 **Communicating the Substance of Your Science, With Style.** *Lauren N. Ayton[1, 2].* [1]Bionic Eye Technologies; [2]Surgery (Ophthalmology), University of Melbourne **CR*

— 12:30 **Storytelling my glaucoma research.** *Gadi Wollstein.* Department of Ophthalmology, NYU

— 12:40 **Saving Sight: Telling the Researcher's Story.** *Stacy P. Haller.* BrightFocus Foundation

— 12:50 **Every story has a beginning, middle and end. Not necessarily in that order.** *Maria B. Grant.* Ophthalmology, University of Alabama

— 1:00 **The Cataract Villa: Storytelling as a didactic method for teaching Ophthalmology.** *Hosam Ibrahim-Elzembely.* Ophthalmology, Minia University

— 1:10 **Podium Discussion**

— 1:20 **Thesis Competition**

West 217-219

Wednesday, May 01, 2019 12:15 PM-1:45 PM

466 Clinician-scientist forum: How to become a successful clinician-scientist

Internationally renowned clinician-scientists at various stages in their careers will share their experiences and provide valuable advice on how to become a successful clinician-scientist**.** An NEI extramural representative will be available to discuss clinician-scientist specific funding mechanisms.

Moderators: Eszter Szalai and Wenlin Zhang

— 12:15 **Introductions**

— 12:23 **The role of clinician-scientists in vision research.** *Sophie X. Deng.* Ophthalmology, Stein Eye Institute

— 12:35 **How to find and what to look for in your first academic job as a clinician-scientist.** *Russell N. Van Gelder.* Ophthalmology, University of Washington

— 12:47 **Research and career development opportunities at NEI.** *Neeraj Agarwal.* National Eye Institute/NIH

— 12:59 **Mentor-mentee relationship - when east meets west.** *Weizhong Lan.* Aier School of Ophthalmology, Central South University

— 1:11 **Q&A**

— 1:36 **Closing remarks**

West 220

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Immunology/Microbiology / Genetics / Retina

467 The role of the human microbiome in ocular disease - SIG

The gut microbiome has been shown to be integral to digestion if food and contribute to a substantial portion of the variation in metabolites such as blood lipids**.** The introduction of next generation shotgun sequencing has allowed quantifying the microbiome of various niches in the human body**.** The gut microbiome is the largest such ecosystem and a vast number of microbes reside here**.** Alterations in the gut microbiome have been associated with cardiovascular disease, atherosclerosis and lately age related macular degeneration and inflammatory eye disease**.** This special interest group will discuss various aspects of the human microbiome and the impact on ocular health and disease**.** Furthermore, because many different bioinformatic pipelines are used to analyze the microbiome, possible means to standardize analysis of data will be discussed.

Moderator: Sebastian Wolf

Panelist. *Sebastian Wolf.* Ophthalmology, University Bern, Bern, Switzerland **CR*

Panelist. *Rachel R. Caspi.* NEI/NIH, Bethesda, MD

Panelist. *H Nida Sen.* Unit on Clinical and Translational Immunology, NIH, Bethesda, MD

Panelist. *MARK ASQUITH.* Casey Eye Institute and Dept**.** of Ophthalmology, Oregon Health & Science University, Portland, OR

Panelist. *Martin S. Zinkernagel.* Ophthalmology, University Bern, Bern, Switzerland **CR*

Organizer. *Sebastian Wolf.* Ophthalmology, University Bern, Bern, Switzerland **CR*

West 221/222

Wednesday, May 01, 2019 12:15 PM-1:45 PM

468 Overcoming the challenges of international collaboration in ocular research

The aim of the workshop is to share successful experiences of international collaborations, with special focus on overcoming the challenges of those collaborations, such as authorship in publications, data sharing, grant application and successful funding, legislation, collaboration agreement between countries and/or institutions, ethical or intellectual property issues, organizing teleconferences across different time zones, technology transfer, training manpower, etc.

Moderators: Ashik Mohamed and Ester Carreno

— 12:15 **Introduction**

— 12:30 **"Art of multinational collaborative studies - FEMTO approach".** *Rupesh V. Agrawal[1, 2].* [1]Ophthalmology, Tan Tock Seng Hospital; [2]Nanyang Technological University

— 12:45 **Spanish Retinal Dystrophies Network: a 28 years road".** *Carmen Ayuso.* University Hospital Fundación Jiménez Díaz **CR*

— 1:00 **The UNITE Consortium.** *Richard W. Lee.* Bristol and Moorfields (NIHR BRC) **CR*

— 1:15 **Improving clinical training abroad: planting the seed for future research collaborations.** *Cristos Ifantides.* University of Colorado at Denver **CR*

— 1:30 **Discussion**

West 223/224

Wednesday, May 01, 2019 12:15 PM-1:45 PM

469 Ethical challenges and solutions for CRISPR treatment in human eye disorders

This workshop will focus on the ethical challenges and potential solutions for CRISPR treatments in human disorders, especially eye disease**.** The concept of gene editing is not novel, but CRISPR/Cas9 (Clustered Regularly Interspaced Short Palindromic Repeats/CRISPR-associated Protein 9) seems to be more advantageous than older technologies with higher precision and efficiency**.** Leading biotech and pharmacological companies in the field (such as Editas Medicine, Intellia Therapeutics, and CRISPR Therapeutics) are gearing up toward clinical trials in human subjects with large investment of > $1 billion, indicating the high translational and clinical potential**.** As the CRISPR technique itself still evolves to become better, we still have to question ourselves whether we are ready to handle the safety and ethics of experimenting CRISPR intervention in human subjects**.** In this workshop, leading CRISPR scientists will share their extensive clinical and research experience with the vision and ophthalmology community, with special reference to the safety and ethics of this novel method of gene editing in comparison to other technologies.

Moderators: Yutao Liu, Muhammad Abdulrazik and Pedram Hamrah

— 12:15 **Introduction**

— 12:25 **Promise and Challenges of CRISPR for Curing Heritable Blindness.** *Budd Tucker.* Ophthalmology and Visual Science, Institute for Vision Research, University of Iowa

— 12:40 **CRISPR genome surgery for patients with autosomal dominant disorders.** *Stephen H. Tsang.* Columbia Coll Phys Surg, Columbia Univ-Harkness Eye Inst

— 12:55 **Gene editing for the cornea - the options.** *Tara C. Moore[1, 2].* [1]University of Ulster; [2]Avellino Labs **CR*

— 1:10 **Suprachoroidal Delivery for Ocular Gene Transfer.** *Peter A. Campochiaro.* Ophthalmology and Neuroscience, Johns Hopkins Wilmer Eye Inst **CR*

— 1:25 **Q & A**

Harbour Ballroom

Wednesday, May 01, 2019 12:15 PM-1:45 PM

Retina / Cornea / Glaucoma / Multidisciplinary Ophthalmic Imaging

470 Advances and Challenges in Utilization of Artificial intelligence in Ophthalmology Research and Clinical Practice - SIG

Artificial intelligence (AI) revolution, including the advent of modern machine learning and deep learning based methods, has had a profound impact on all fields of medicine, including ophthalmology**.** Today, AI based software can mimic clinicians by diagnosing a multitude of diseases from ocular images with high accuracy**.** Some go even further, enriching their decision-making paradigm by exploiting big data archives of genetic, electronic health record, and modern high-dimensional imaging resources**.** Despite all these exciting progresses many misunderstanding about the capabilities, challenges in utilizations, and limitations of these technologies has remained**.** In this SIG, a panel of academic, clinical, and industry experts will present a brief outline of the current and future perspectives of AI applications in ophthalmology and its limitations**.** Topics of discussion will also include AI in reading centers and clinical trials, academy-industry collaborations, funding opportunities' and hurdles, and common misconceptions about AI.

Moderators: Ygal Rotenstreich and Sina Farsiu

AI from the Ophthalmologist's perspective. *Ygal Rotenstreich.* [1]Goldscheleger Eye Institute, Sheba Medical Center, Tel Hashomer, Israel; [2]Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel **CR*

Artificial Intelligence in Retinal Image Analysis: Current and Future Perspectives. *Delia Cabrera DeBuc.* Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami, Miami, FL

AI in the reading center: Why we need the best analyses where new therapies are being processed first. *Ursula Schmidt-Erfurth.* Department of Ophthalmology and Optometry, Medical University Vienna, Wien, Austria **CR*

Effective collaboration examples in engineering and medicine. *Sam Kavusi.* Verily (Google Life Sciences), Google, San Francisco, CA **CR*

Industry Scientists and Ophthalmologists Facing Advances and Challenges in Utilization of AI in Ophthalmology. *Sina Farsiu.* Departments of Biomedical Engineering and Ophthalmology, Duke University, Durham, NC **CR*

ARVO Ballroom

Wednesday, May 01, 2019 2:00 PM-2:45 PM

471 Cogan Award and Lecture

Pathological angiogenesis is a hallmark of blinding diseases such as diabetic retinopathy and age related macular degeneration**.** However, only ~1-2% of cells in the retina are vascular cells, with the bulk being of neuronal or glial origin**.** Our lab has been deciphering the contribution of neurovascular and neuroimmune cross-talk to retinal vascular diseases**.** In doing so, we identified important roles for neuronal metabolism, cellular senescence and classical guidance proteins such as semaphorins and netrins in retinopathies**.** Collectively, these findings highlight the role of retinal neurons in retinal vasculopathies and identify potential novel therapeutic targets.

— *2:00* **Introduction: Lois EH Smith**

— *2:05* **Neurovascular and Neuroimmune Communication in Retinal Vascular Disease - Mike Sapieha, PhD**

East 8&15

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Retina

472 Retinitis Pigmentosa-Clinical

Moderators: Jacque L. Duncan and Elise Heon

5167 — *3:00* **Deep Phenotyping of *PDE6C*-Associated Retinopathy.** *Michalis Georgiou[1, 2], A. G. Robson[1, 2], N. Hirji[1, 2], N. Singh[1, 2], T. Kane[1, 2], A. Dubra[3], J. Carroll[4], A. Webster[1, 2], A. Kalitzeos[1, 2], M. Michaelides[1, 2].* [1]Institute of Ophthalmology, UCL; [2]Moorfields Eye Hospital NHS Foundation Trust; [3]Department of Ophthalmology, Stanford University; [4]Department of Ophthalmology & Visual Sciences, Medical College of Wisconsin **CR*

5168 — *3:15* **Natural History of the Progression of RPGR-Associated X-Linked Retinitis Pigmentosa (XOLARIS) Study: Cross-Sectional Analysis of Baseline Characteristics.** *Moreno Menghini[1, 12], D. G. Birch[4], C. Boon[2, 13], J. L. Duncan[5], M. Fischer[3], F. G. Holz[6], C. C. Hoyng[7], K. N. Khan[8], I. A. Meunier[9], M. E. Pennesi[10], E. K. Sankila[11], R. E. MacLaren[1, 12].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Ophthalmology, Leiden University Medical Center; [3]STZ Eye Trial am Department für Augenheilkunde, Universitatsklinikum der Eberhard Karls Universitat Tübingen; [4]Retina Foundation of the Southwest; [5]Ophthalmology, University of California San Francisco; [6]University Eye Clinic Bonn; [7]Ophthalmology and Human Genetics, Radboud University Medical Center; [8]Leeds Teaching Hospitals NHS Trust, St James's Hospital; [9]Service d'Ophtalmologie centre de références maladies rares, CHU Montpellier; [10]Casey Eye Institute, Oregon Health and Science University; [11]Eye Clinic, Helsinki University Central Hospital; [12]Oxford Eye Hospital; [13]Ophthalmology, Academic Medical Center, Amsterdam University Medical Centers **CR*

5169 — *3:30* **Structure and function in retinitis pigmentosa patients with mutations in *RHO* vs. *RPGR*.** *Katharina G. Foote[1, 2], J. J. Wong[2], A. E. Boehm[1], E. Bensinger[1], T. C. Porco[2, 3], A. Roorda[1], J. L. Duncan[2].* [1]School of Optometry and Vision Science Graduate Group, University of California, Berkeley; [2]Department of Ophthalmology, University of California, San Francisco; [3]Department of Ophthalmology, Francis I**.** Proctor Foundation **CR*

5170 — *3:45* **The Phenotype & Genotype of Usher Syndrome in Ireland.** *Kirk Stephenson[1, 3], A. Dockery[2, 3], N. C. Wynne[4, 3], E. Duignan[4, 3], G. Silvestri[5, 3], P. F. Kenna[4, 3], G. Farrar[2, 3], D. J. Keegan[1, 3].* [1]Mater Retinal Research Group, Mater Misericordiae University Hospital; [2]School of Genetics, Trinity College Dublin; [3]Fighting Blindness; [4]The Research Foundation, The Royal Victoria Eye & Ear Hospital; [5]Ophthalmology, Belfast Trust

5171 — *4:00* **Assessing relationship between vascular integrity and macular sensitivity in patients with Usher Syndrome.** *Ahmed M. Hagag[1, 2], A. Mitsios[1, 2], J. Gill[1, 2], A. Abbouda[1, 2], V. Theofylaktopoulos[1, 2], J. Nunez Do Rio[1, 2], S. Houston[1, 2], A. M. Dubis[1, 2], M. Moosajee[1, 2].* [1]Moorfields Eye Hospital; [2]UCL Institute of Ophthalmology

5172 — *4:15* **Longitudinal phenotypic comparison of syndromic and non-syndromic RP in *USH2A*-associated retinopathy.** *Adam M. Dubis[1, 2], Y. Ang[1], A. Mitsios[1], J. Gill[1], A. Webster[1, 3], M. Moosajee[1, 3].* [1]UCL - Institute of Ophthalmology; [2]NIHR BRC; [3]Moorfields Eye Hospital NHS Trust

5173 — *4:30* **AAV2-*hCHM* Subretinal Delivery to the Macula in Choroideremia: 2 year Results of an Ongoing Phase I/II Gene Therapy Trial.** *Tomas S. Aleman[1, 5], R. M. Huckfeldt[3], L. Serrano[1, 5], G. Vergilio[1], D. J. Pearson[1, 5], K. E. Uyhazi[1], S. McCague[4], K. Marshall[4], D. C. Chung[2], E. Liu[2], E. A. Pierce[3], J. I. Morgan[1, 5], J. Bennett[1, 5], D. Eliott[3], J. Comander[3], A. M. Maguire[1, 5].* [1]Department of Ophthalmology, Scheie Eye Institute, University of Pennsylvania; [2]Spark Therapeutics; [3]Department of Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School; [4]The Children's Hospital of Philadelphia; [5]Center for Advanced Retinal and Ocular Therapeutics, Department of Ophthalmology, University of Pennsylvania **CR*, ↗

East 11/12

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Retinal Cell Biology

473 Neuroprotection

Moderators: John O'Brien and Diana Mitchell

5174 — *3:00* **Neuroprotection of retinal ganglion cells by BMSC-derived exosomes.** *Ben Mead[1, 2], D. J. Zack[3], Z. Ahmed[1], S. I. Tomarev[2].* [1]Neuroscience and Ophthalmology, University of Birmingham; [2]Section of Retinal Ganglion Cell Biology**.** National Eye Institute, National Institutes of Health; [3]Genetic Engineering and Molecular Ophthalmology, Johns Hopkins University School of Medicine

5175 — *3:15* **Soluble CX3CL1 gene therapy improves cone survival and function in mouse models of retinitis pigmentosa.** *Sean K. Wang, Y. Xue, P. Rana, C. Hong, C. Cepko.* Genetics, Harvard Medical School

5176 — *3:30* **Zinc and microglia regulate retinal ganglion cell survival and axon regeneration after optic nerve injury.** *Kimberly A. Wong, S. Peterson, L. Benowitz.* Neurosurgery, Boston Children's Hospital, Harvard Medical School

5177 — *3:45* **PARP inhibitors: The protective ways on retinal degeneration.** *Ayse Sahaboglu[1], m. miranda[2], S. Durdagi[3], G. Kayik[3], E. Zrenner[1].* [1]Division of Experimental Ophthalmology, University-Eye-Clinic Tuebingen; [2]Universidad CEU Cardenal Herrera; [3]Department of Biophysics, School of Medicine, Bahcesehir University (BAU)

5178 — *4:00* **Potential cancer therapy for activation of metabolic enzyme pyruvate kinase muscle isozyme 2, PKM2, provides photoreceptor neuroprotection.** *Thomas Wubben, M. D. Pawar, E. Weh, Z. Lutrzykowska, A. Smith, C. G. Besirli.* Ophthalmology and Visual Sciences, University of Michigan **CR*

5179 — *4:15* **Interplay between Histone Methyltransferases Ezh2 and G9a Regulates Retinal Ganglion Cell Gene Expression during Development.** *Jia Xie[2, 1], K. Cho[1], L. Wong[1], M. Mistry[3], J. Hutchinson[3], L. Yang[2], D. F. Chen[1].* [1]Schepens Eye Research Institute; [2]Department of Ophthalmology, Peking University First Hospital; [3]Department of Biostatistics, Harvard Chan Bioinformatics Core

5180 — *4:30* **Secondary cone degeneration is prevented by HDAC inhibition.** *Dragana Trifunovic[1], K. Masarini[1], A. Armento[1], J. E. Roger[2], M. Ueffing[1].* [1]Institute for Ophthalmic Research, University-Eye-Clinic Tuebingen; [2]Paris-Saclay Institute of Neuroscience, CNRS**.** Université Paris-Sud, Université Paris-Saclay

East Ballroom A

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Immunology/Microbiology

474 Ocular surface infection and inflammation

Moderators: Daniel J. Carr and Ester Carreno

5181 — *3:00* **Particulates Mediate Corneal Oxidative Stress, Upregulate Innate Immunity, and Enhance Keratitis.** *Sandamali Amarasingha Ekanayaka, S. A. McClellan, A. Pitchaikannu, R. Francis, L. D. Hazlett.* Department of Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine

5182 — *3:15* **Effects of a novel photochemical antimicrobial therapy for keratitis with an improved riboflavin conjugate on experimentally induced infectious corneal ulceration in rabbits.** *Ashley Behrens[1], A. Tarff[1], R. Yee[2], Y. Zhang[2].* [1]Ophthalmology, Johns Hopkins Wilmer Eye Inst; [2]Molecular Microbiology & Immunology, Johns Hopkins University

Wednesday Papers/ Minisymposia 3:00 pm – 4:45 pm

5183 — *3:30* **Putative Carpet Accumulation of Bactericidal Peptide N-104 on Model Gram-Negative and Positive Bacterial Membranes.** *Mohammad Sharifian Gh.[1], M. Ryan[1], M. Sorci[3], G. Belfort[3], G. Georgiev[2], G. W. Laurie[1].* [1]Cell Biology, University of Virginia; [2]Optics and Spectroscopy, University of Sofia; [3]Biological and Chemical Engineering, Rensselaer Polytechnic Institute

5184 — *3:45* **Transient Receptor Potential (TRP)-receptors protect the healthy murine cornea against colonization by *Pseudomonas aeruginosa* and environmental bacteria.** *Stephanie Wan[1], S. Ma[2], M. Metruccio[2], D. Bautista[3], D. J. Evans[4, 2], S. M. Fleiszig[2].* [1]Vision Science, UC Berkeley; [2]Optometry, UC Berkeley; [3]Molecular and Cell Biology, UC Berkeley; [4]College of Pharmacy, Touro University

5185 — *4:00* **The miR-183/96/182 cluster regulates corneal resident macrophages and early response to *Pseudomonas aeruginosa* infection.** *Shunbin Xu[1], L. D. Hazlett[1], S. A. McClellan[1], c. muraleedharan[1], R. Francis[1], L. Zhang[1], E. van Buren[2], J. Back[2].* [1]Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine; [2]Department of Oncology, Wayne State University School of Medicine

5186 — *4:15* **High-resolution imaging and arabinose reporter induction to study *Pseudomonas aeruginosa* localization within the mouse cornea *in situ*.** *David J. Evans[1, 2], A. Kroken[2], H. Horneman[2], M. R. Grosser[2], S. M. Fleiszig[2].* [1]College of Pharmacy, Touro University California; [2]School of Optometry, University of California Berkeley

5187 — *4:30* **EKC causing human adenovirus D37, its interaction with host proteins and analysis during infection.** *Jaya Rajaiya[1, 2], A. Ismail[1, 2], J. Lee[1], G. Singh[3], J. Chodosh[1, 2].* [1]Ophthalmology, Massachusetts Eye and Ear; [2]Harvard Medical School; [3]Toronto University

East Ballroom B

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Retina

475 AMD clinical trials

Moderators: Philip J. Rosenfeld and Rishi P. Singh

5188 — *3:00* **Higher-Order Optical Coherence Tomography (OCT) Fluid Burden Assessment: Analysis From the OSPREY Extended Phase.** *Atsuro Uchida[1], J. Clark[2], S. K. Srivastava[1], N. A. Figueiredo[1], A. Babiuch[1], K. E. Talcott[1], L. Lunasco[1], T. Le[1], A. Rogozinski[1], J. L. Reese[1], J. P. Ehlers[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Novartis Pharmaceuticals **CR*, ↗

5189 — *3:15* **Relationship between sub retinal fluid (SRF) and vision outcomes in eyes with neovascular age-related macular degeneration (nAMD) in the HARBOR trial.** *Srinivas R. Sadda[1, 2], A. Ghanekar[3], L. Hill[3], S. Gune[3].* [1]Ophthalmology, Geffen School of Medicine, University of California - Los Angeles; [2]Doheny Eye Institute; [3]Genentech Inc**.** **CR*, ↗

5190 — *3:30* **Optimizing treat and extend regimens using artifical intelligence based on OCT imaging in the FLUID study.** *Jennifer J. Arnold[1], H. Bogunović[3], R. H. Guymer[2], S. M. Waldstein[3], C. Markey[4], A. Sadeghipour[3], B. Gerendas[3], U. Schmidt-Erfurth[3].* [1]Marsden Eye Specialists; [2]CERA; [3]Medical University of Vienna; [4]Markey Medical Consulting **CR*, ↗

5191 — *3:45* **Ziv-aflibercept Efficacy in Better Regulating Neovascular AMD (ZEBRA) Trial.** *Haley D'Souza[1], K. Kapoor[2, 1], A. Wagner[2, 1].* [1]Eastern Virginia Medical School; [2]Wagner Macula and Retina Center ↗

5192 — *4:00* **Port Delivery System with ranibizumab (PDS): Using Ladder phase 2 results to inform phase 3 Archway design.** *David Callanan[1], E. Morgenthien[2], N. Singh[2], G. Barteselli[2].* [1]Texas Retina Associates; [2]Genentech, Inc**.** **CR*, ↗

5193 — *4:15* **Phase 3 evaluation of the efficacy and safety of abicipar compared with ranibizumab for treatment of neovascular age-related macular degeneration (nAMD).** *Derek Kunimoto.* Retinal Consultants of Arizona **CR*, ↗

5194 — *4:30* **Visual and expanded anatomical outcomes for brolucizumab versus aflibercept in patients with neovascular AMD: 96-week data from HAWK and HARRIER.** *Rishi P. Singh[1], C. C. Wykoff[2], R. Tadayoni[3], Y. Ogura[4], A. C. Koh[5], F. G. Holz[6], R. Hamilton[7], D. Tanzer[9], G. Weissgerber[8], J. Alam[9], P. U. Dugel[10].* [1]Ophthalmology i-32, Cole Eye Institute; [2]Retina Consultants of Houston Blanton Eye Institute & Houston Methodist Hospital; [3]Hôpital Lariboisière, AP-HP, Université Paris; [4]Department of Ophthalmology and Visual Science, Graduate School of Medical Sciences, Nagoya City University, Nagoya; [5]Eye & Retina Surgeons Clinic, Camden Medical Center; [6]Department of Ophthalmology, University of Bonn; [7]Moorfields Eye Hospital, London; [8]Novartis Pharma AG, Basel; [9]Novartis Pharmaceutical Corporation, East Hanover, New Jersey; [10]Retinal Consultants of Arizona **CR*, ↗

East Ballroom C

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Biochemistry/Molecular Biology

476 Advanced therapies for ocular disease

Moderators: Robert E. MacLaren, Bela Anand-Apte and Juana Gallar

5195 — *3:00* **Mirtron gene therapy for the treatment of rhodopsin-related dominant retinitis pigmentosa.** *Harry O. Orlans[1, 2], M. E. McClements[1], A. R. Barnard[1], C. Martinez-Fernandez dela Camara[1], R. E. MacLaren[1, 3].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Ophthalmology, Imperial College Healthcare NHS Trust; [3]Oxford Eye Hospital **CR*

5196 — *3:15* **Immuno-phenotyping of X-linked retinoschisis (XLRS) subjects in a Phase I/IIa AAV8-RS1 gene therapy clinical trial reveals baseline differences in systemic immune cell proportions but minimal further changes after vector administration.** *Alaknanda Mishra[1], C. Vijaysarathy[1], R. Villasmil[2], H. Wiley[2], Y. Zeng[1], J. Laux[2], B. Chaigne-Delalande[2], L. Wei[2], H. Sen[2], C. A. Cukras[2], P. A. Sieving[1, 2].* [1]Section for Translational Research on Retinal and Macular Degeneration, National Institute of Deafness and Communication Disorders, National Institute of Health; [2]National Eye Institute, National Institute of Health ↗

5197 — *3:30* **Systemic AAV delivery of complement regulator, Factor H Like-1 (FHL-1) impacts visual function.** *Daniel Grigsby[1], M. Landowski[1], U. Kelly[1], M. Klingeborn[1], M. Groelle[1], C. Bowes Rickman[1, 2].* [1]Opthalmology, Duke University; [2]Cell Biology, Duke University

5198 — *3:45* **Restoration of high-sensitivity and adapting vision with a cone opsin.** *Michael Berry[2, 1], A. Holt[2], J. Levitz[2], A. Salari[2], J. G. Flannery[3], E. Isacoff[2, 3].* [1]Oregon Health & Science University; [2]Molecular & Cell Biology, University of California, Berkeley; [3]Helen Wills Neuroscience Institute, University of California, Berkeley

5199 — *4:00* **AAV-mediated protein *trans*-splicing in the retina.** *Patrizia Tornabene[1], I. Trapani[1, 2], F. Dell'Aquila[1], E. Marrocco[1], C. Gesualdo[3], S. Rossi[3], L. Giaquinto[1], S. Albert[4], C. Hoyng[5], E. Polishchuk[1], F. P. Cremers[4], E. Surace[1, 2], F. Simonelli[3], A. De Matteis[1, 6], R. Polishchuk[1], A. Auricchio[1, 7].* [1]Telethon Institute of Genetics and Medicine (TIGEM); [2]Medical Genetics, Department of Translational Medicine, Federico II University; [3]Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania L.Vanvitelli; [4]Department of Human Genetics and Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center; [5]Department of Ophthalmology and Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center; [6]Department of Molecular Medicine and Medical Biotechnology, Federico II University; [7]Department of Advanced Biomedicine, Federico II University

5200 — *4:15* **Safety and long-term efficacy of AAV2-*BEST1* gene augmentation therapy in canine model of Best vitelliform macular dystrophies.** *Karina E. Guziewicz[1], A. V. Cideciyan[2], B. T. Kendrick[1], V. L. Dufour[1], G. Ruthel[3], A. M. Komaromy[4], S. Iwabe[1], W. Hauswirth[5], W. A. Beltran[1], S. G. Jacobson[2], G. D. Aguirre[1].* [1]Clinical Sciences and Advanced Medicine, University of Pennsylvania; [2]Department of Ophthalmology, University of Pennsylvania; [3]Department of Pathobiology, University of Pennsylvania; [4]Department of Small Animal Clinical Sciences, Michigan State University; [5]Department of Ophthalmology, University of Florida **CR*

5201 — *4:30* **Intracorneal AAV Gene Therapy Prevents and Reverses Corneal Clouding in a Mucopolysaccharidosis I Canine Model – Translational Lessons and Promises.** *Keiko Miyadera[1], C. Spector[1], L. Conatser[2, 3], T. Llanga[2, 3], B. C. Gilger[4], M. Hirsch[2, 3].* [1]Department of Clinical Sciences & Advanced Medicine, University of Pennsylvania; [2]Gene Therapy Center, University of North Carolina at Chapel Hill; [3]Department of Ophthalmology, University of North Carolina at Chapel Hill; [4]Department of Clinical Sciences, North Carolina State University **CR*

West 211

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Cornea

477 Dry eye clinical

Moderators: Anat Galor and Deborah S. Jacobs

5202 — *3:00* **Autonomic Function Testing and After-sensations as Predictors for Post-operative Dry Eye Symptoms after Laser-Assisted in Situ Keratomileusis.** *Mario J. Rojas, E. Felix, L. Small, R. Goldhardt, A. Galor.* Ophthalmology, Bascom Palmer ↗

5203 — *3:15* **The Effects of Ocular Magnetic Neurostimulation on the Corneal Epithelium and Subjective Scores in Dry Eye Patients.** *ABRAHAM SOLOMON[1], H. Ben Eli[1], D. Wajnstajn[1], D. Smadja[2], H. Avizemer[3], D. Zadok[2].* [1]Ophthalmology, Hadassah Medical Center; [2]Ophthalmology, Shaarei Zedek Medical Center; [3]Ophthalmology, Wolfson Medical Center ↗

5204 — *3:30* **Gut dysbiosis in individuals with and without Sjögren's disease.** *leslie small[1], R. Mendez[4], M. Farhangi[5], K. M. Cavuoto, M.D.[5], S. Budree[2], A. Galor[5, 3], S. Banerjee[4].* [1]Optometry, Bascom Palmer Eye Institute; [2]Openbiome; [3]Ophthalmology, Miami Veterans Administration Medical Center; [4]Department of Surgery, University of Miami; [5]Ophthalmology, Bascom Palmer Eye Institute

5205 — *3:45* **Efficacy of a saline rinse of the ocular surface immediately upon awakening: a novel therapeutic approach for dry eye disease.** *Cameron K. Postnikoff[1], K. S. Held[2], D. Gann[1], T. Swain[1], V. Viswanath[2], K. K. Nichols[1].* [1]Vision Science, University of Alabama at Birmingham; [2]Allergan **CR*, ↗

5206 — *4:00* **Multi-Center, Randomized, Double-Masked, Parallel-Group, Vehicle-Controlled Phase 2b Dry Eye Disease Clinical Trial to Evaluate Safety and Efficacy of Topical Ocular Reproxalap, a Novel RASP Inhibitor.** *John D. Sheppard.* Ophthalmology, Eastern Virginia Medical School **CR*, ↗

5207 — *4:15* **Change in Dendritiform Cell Density by In Vivo Confocal Microscopy may be used as a Surrogate Biomarker for Therapeutic Response in Dry Eye Disease Patients Enriched for Presence of Inflammation: Results from the Therapeutic Response to Anti-inflammatory agents in the Corneal Epithelium (TRACE) Study.** *Pedram Hamrah[1, 2], A. Akhlaq[1, 2], M. C. Ozmen[1, 2], A. Kheirkhah[3, 4], S. Aggarwal[3], B. Cavalcanti[3], R. Mueller[3], A. Abbouda[1, 2], Z. Salem[1, 2], G. Dieckmann[1, 2], R. Dana[4].* [1]Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center; [2]Cornea Service, Department of Ophthalmology, New England Eye Center, Tufts Medical Center; [3]Ocular Surface Imaging Center, Department of Ophthalmology, Massachusetts Eye & Ear Infirmary, Harvard Medical School; [4]Cornea Service, Massachusetts Eye & Ear Infirmary, Department of Ophthalmology, Harvard Medical School **CR*, ↗

5208 — *4:30* **Exploratory Outcome Measures of the DRy Eye Assessment and Management (DREAM) Study.** *Marko Oydanich[1], J. V. Greiner[2], P. Hamrah[3], M. C. Lin[4], M. Pistilli[5], M. G. Maguire[5], G. Ying[5], P. A. Asbell[6].* [1]Rutgers New Jersey Medical School; [2]Ophthalmology, Harvard Medical School; [3]Ophthalmology, Tufts University School of Medicine; [4]Clinical Research Center, School of Optometry - University of California, Berkeley; [5]Ophthalmology, University of Pennsylvania Perelman School of Medicine; [6]Ophthalmology, University of Tennessee Health Science Center **CR*, ↗

West 212-214

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Glaucoma

478 Trabecular Meshwork and Ciliary Body

Moderators: Donna M. Peters and VijayKrishna Raghunathan

5209 — *3:00* **Matrix Gla Functions as a Keeper of Physiological Intraocular Pressure (IOP) in the Mouse Eye.** *Terete Borras[1, 2], P. Asokan[1], M. Sivakumar[3], M. R. Falvo[3].* [1]Department of Ophthalmology, University of North Carolina; [2]Gene Therapy Center, University of North Carolina at Chapel Hill; [3]Physics and Astronomy, Univ of NC at Chapel Hill

5210 — *3:15* **Remodeling of focal adhesions and actin regulatory proteins in trabecular meshwork under tensile stress requires TRPV4-dependent Rho signaling.** *David Krizaj, M. Lakk.* Ophthalmology & Visual Sciences, Univ of Utah School of Med

5211 — *3:30* **Permeability of cell junctions in the Schlemm's canal correlates with pressure-dependent phosphorylation of VE-CADHERIN.** *Krishnakumar Kizhatil[1], D. Sunderland[1], G. Clark[1], S. John[1, 2].* [1]The Jackson Laboratory; [2]Howard Hughes Medical Institute

5212 — *3:45* **Defined- and Xeno-free differentiation of human iPSCs to functional trabecular meshwork cells.** *Wei Zhu[1], Y. Miao[1], H. Duan[2], Q. Zhou[2], S. Wu[3], j. zhang[3], N. Wang[3], K. Wang[1].* [1]Department of Pharmacology, Qingdao University; [2]Qingdao Eye Hospital, Shandong Eye Institute; [3]Beijing Institute of Ophthalmology, Beijing Tongren Hospital Eye Center

5213 — *4:00* **In vivo measurement of TM stiffness: proof-of-principle in mice.** *C R. Ethier[1], G. Li[2], C. Lee[1], K. Wang[1], I. D. Navarro[2], J. M. Sherwood[3], K. Crews[4], S. Farsiu[2], C. Lin[4], W. Stamer[2].* [1]Biomedical Engineering, Georgia Institute of Technology; [2]Duke Eye Center; [3]Bioengineering, Imperial College London; [4]Aerie Pharmaceuticals

5214 — *4:15* **Blockade of the BK-*α*/*β*4 potassium ion channel reduces outflow facility in mice.** *Jacques A. Bertrand[1], J. M. Sherwood[1], M. Schicht[2], E. Lütjen-Drecoll[2], D. Selwood[3], W. Stamer[4], D. R. Overby[1].* [1]Bioengineering, Imperial College London; [2]functional and clinical anatomy, University of Erlangen-Nurnberg; [3]Wolfson Institute for Biomedical Research, University College London; [4]Duke University

5215 — *4:30* **Increased expression of ATF4 in trabecular meshwork elevates IOP and leads to glaucomatous neurodegeneration by increasing secretory protein load of the endoplasmic reticulum.** *Gulab Zode[1], R. Kasetti[1], P. D. Patel[1], P. Maddineni[1], V. Sheffield[2].* [1]Department of Pharmacology and Neuroscience, University of North Texas HSC at Fort Worth; [2]University of Iowa

West 217-219

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Lens

479 Physiological biochemistry of the lens - Minisymposium

This minisymposium will begin with a discussion of cutting edge methods for metabolomics analysis and imaging of metabolites in tissues by imaging mass spectrometry**.** Applications of these technologies will be presented on metabolism in the lens and how lens metabolism and physiology serves to maintain homeostasis over decades of life**.** Emphasis will be placed on the effects of aging and cataract.

Moderators: Paul J. Donaldson and Kevin L. Schey

5216 — *3:00* **New views on the physiological biochemistry of the lens.** *Paul J. Donaldson.* School of Medical Sciences, University of Auckland

— *3:17* **Q&A**

5217 — *3:21* **Challenges in studying and interpreting the metabolome of the lens.** *Stephen Barnes.* Pharmacology & Toxicology, Univ of Alabama at Birmingham

— *3:38* **Q&A**

5218 — *3:42* **Interactions between the lens and ocular humors: identification and visualisation of antioxidant metabolite uptake and efflux pathways in the lens.** *Julie C. Lim[1, 2].* [1]Physiology, School of Medical Sciences,, University of Auckland; [2]New Zealand National Eye Centre, University of Auckland

— *3:59* **Q&A**

5219 — *4:03* **Role of Gap Junctions in the Maintenance of a Reducing Environment in the Lens Nucleus.** *Miduturu Srinivas.* Biological Sciences, SUNY College of Optometry

— *4:20* **Q&A**

5220 — *4:24* **Metabolites and homeostasis mediated by gap junction/connexin in vivo.** *Xiaohua Gong[1, 2].* [1]Vision Sci School of Optometry, University of California, Berkeley; [2]UC Berkeley - UCSF Graduate Program in Bioengineering

— *4:41* **Q&A**

West 220

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Clinical/Epidemiologic Research

480 Genetic Epidemiology

Moderators: Katie Williams and Patrice M. Hicks

5221 — *3:00* **Identification of novel serum metabolites associated with intraocular pressure: the Singapore Chinese Eye Study.** *Ching-Yu Cheng[1, 2], S. Thakur[3], Y. Tham[3], M. Chee[3], M. Chee[3], X. Chai[3], L. Zhou[3], C. Sabanayagam[3, 2], T. Aung[1, 2], T. Y. Wong[1, 2].* [1]Singapore Eye Research Institute, Singapore National Eye Centre; [2]Duke-NUS Medical School; [3]Singapore Eye Research Institute

5222 — *3:15* **The relationship between refractive error, intraocular pressure, and glaucoma in the UK Biobank.** *Robert Wojciechowski[1, 2], P. G. Hysi[3], P. Li[1].* [1]Epidemiology, Johns Hopkins School of Public Health; [2]Institute for Data Intensive Engineering and Science, Johns Hopkins University; [3]Kings College London

5223 — *3:30* **Gene-drug interactions alter response to prostaglandin analogue treatment of high intraocular pressure and glaucoma.** *Pirro G. Hysi[1], M. J. Simcoe[1], A. P. Khawaja[2], C. J. Hammond[1].* [1]King's College London; [2]Moorfields Eye Hospital

5224 — *3:45* **Genome-wide association study identifies a novel locus associated with strabismus.** *Denis Plotnikov[1], J. A. Guggenheim[1], C. Williams[2].* [1]School of Optometry and Vision Sciences, Cardiff University; [2]School of Social and Community Medicine, University of Bristol

5225 — *4:00* **Genetic Epidemiologic Analysis of Hypertensive Retinopathy (HTR) Reveals Unique Risk in a Native American Population.** *Patrice M. Hicks[1], S. Collazo-Melendez[1], A. T. Vitale[1], W. Self[1], M. Hartnett[1], P. S. Bernstein[1], D. J. Morgan[1], M. Feehan[1, 2], A. Shakoor[1], I. K. Kim[3], L. A. Owen[1], M. M. DeAngelis[1, 2].* [1]Ophthalmology and Visual Sciences, University of Utah; [2]College of Pharmacy, University of Utah; [3]Retina Service, Harvard Medical School

5226 — *4:15* **Effect of the age of myopia onset, environmental factors and genetic risk on myopia in the CREAM Consortium.** *Katie Williams[1], P. G. Hysi[1], S. Sensaki[2], W. Tideman[3], S. Yazar[4], j. wedenoja[5], M. He[6], O. Parssinen[5], D. A. Mackey[4], C. C. Klaver[3], C. J. Hammond[1], S. Saw[2].* [1]Section of Academic Ophthalmology, King's College London; [2]Myopia Unit, Singapore Eye Research Institute; [3]Erasmus Medical Center; [4]Lions Eye Institute; [5]Central Hospital of Central Finland; [6]University of Melbourne

5227 — *4:30* **GWAS of corneal biomechanics identifies over 200 novel associated loci providing additional insight into the genetic aetiology of ocular disease.** *Mark J. Simcoe[1, 2], A. P. Khawaja[3, 4], C. J. Hammond[1, 2], P. G. Hysi[1, 2].* [1]Ophthalmology, King's College London; [2]Department of Twin Research and Genetic Epidemiology, King's College London; [3]Institute of Ophthalmology, University College London; [4]Department of Public Health and Primary Care, University of Cambridge

West 221/222

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

481 Imaging in Neuro-ophthalmic Disorders

Moderators: Heather Moss, Frank A. Proudlock, Bill Morgan and Donny W. Suh

5228 — *3:00* **Effect of posterior optic nerve and sheath boundary conditions on globe deformation in high intracranial pressure (ICP) states.** *Heather Moss[1], J. Arash Mehr[2], H. Hatami-Marbini[2].* [1]Stanford University; [2]University of Illinois at Chicago

5229 — *3:15* **Utilization of Retinal Vein Photoplethysmography to Measure Intracranial Pressure.** *Bill Morgan[1, 2], Y. Khoo[1, 2], A. Kermode[3], C. Lind[3], M. Hazelton[4], A. Rahman[1], D. Yu[1, 2].* [1]Centre for Ophthalmology and Visual Science, University of Western Australia; [2]Physiology Pharmacology, Lions Eye Institute; [3]University of Western Australia; [4]Maths and Statistics, Massey University **CR*

5230 — *3:30* **Reliability and Recommendations for Optimal Settings of Pediatric Circumpapillary Retinal Nerve Fibre Layer Imaging Using Hand-Held Optical Coherence Tomography.** *Frank A. Proudlock[1], S. Shah[1], A. Haq[2], S. Toufeeq[3], Z. Tu[1], J. Abbott[4], I. Gottlob[1].* [1]Ulverscroft Eye Unit, Neuroscience, Psychology and Behaviour, University of Leicester; [2]Moorfields Eye Hospital NHS Foundation Trust; [3]Ophthalmology Department, Stoke Mandeville Hospital; [4]Ophthalmology Department, Birmingham Childrens' Hospital

5231 — *3:45* **Automated Classification of Retinal Folds and Wrinkles in *En-Face* Optical Coherence Tomography Images with Optic Disc Swelling.** *Jui-Kai Wang[2, 3], M. Islam[3], Y. M. Permeswaran[3], S. Johnson[3], R. H. Kardon[2, 1], M. Garvin[2, 3].* [1]Ophthalmology and Visual Sciences, University of Iowa; [2]Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health System; [3]Electrical and Computer Engineering, University of Iowa **CR*

5232 — *4:00* **Longitudinal Changes of Malarial Retinopathy on Hand-held Optical Coherence Tomography.** *Zhanhan Tu[1], J. Gormley[2], V. Sheth[1], K. Seydel[3], T. Taylor[3], C. Manda[4, 5], F. A. Proudlock[1], S. P. Harding[2], I. Gottlob[1].* [1]Neuroscience, Psychology and Behaviour, University of Leicester; [2]University of Liverpool; [3]University of Michigan; [4]University of Malawi College of Medicine; [5]Lions Sight First Eye Unit, Queen Elizabeth Central Hospital

5233 — *4:15* **Optical Coherence Tomography Angiography in Preclinical Alzheimer's Disease.** *Aleid van de Kreeke[1], H. T. Nguyen[1], E. Konijnenberg[2], J. Tomassen[2], A. den Braber[3, 2], M. ten Kate[2], M. Yaqub[4], B. van Berckel[4], D. I. Boomsma[3], H. S. Tan[1], P. Visser[2], F. D. Verbraak[1].* [1]Ophthalmology, Amsterdam UMC, location VUmc; [2]Alzheimer Center, Neurology, Amsterdam UMC, location VUmc; [3]Biological Psychology, VU University Amsterdam; [4]Radiology and Nuclear Medicine, Amsterdam UMC, location VUmc

West 223/224

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Anatomy and Pathology/Oncology

482 The choroid in ocular physiology, pathology and myopia

Moderators: Audra M. Shadforth and Jody A. Summers

5234 — *3:00* **Mesenchymal stromal cells (MSC) can be cultivated from human choroidal tissue.** *Audra M. Shadforth[1, 2], N. Alexander[1, 2], D. Harkin[1, 2].* [1]Queensland University of Technology; [2]Queensland Eye Institute

5235 — *3:15* **Clocks in the choroid: Localization of PER3 in chicks and humans.** *Falk Schroedl[1, 2], A. Kaser-Eichberger[1, 2], C. Platzl[1, 2], A. Trost[1], C. Runge[1], D. Bruckner[1], B. Bogner[1], L. M. Heindl[2], H. Reitsamer[1], R. A. Stone[3], P. Iuvone[4], D. L. Nickla[5].* [1]Dept. of Ophthalmology and Optometry, Research Program for Experimental Ophthalmology and Glaucoma Research, Paracelsus Medical University; [2]Dept. of Anatomy, Paracelsus Medical University; [3]Dept. of Ophthalmology, University of Pennsylvania School of Medicine; [4]Dept. of Ophthalmology, Emory University School of Medicine; [5]Dept. of Biomedical Science, New England College of Optometry

5236 — *3:30* **Regional changes in human choroidal thickness in response to short-term monocular hemifield myopic defocus.** *Hosein Hoseini-Yazdi, S. J. Vincent, M. J. Collins, S. A. Read.* School of Optometry and Vision Science, Queensland University o Technology

5237 — *3:45* **Choroidal Col1+ perivascular cells are the source of retinoic acid during recovery from induced myopia.** *Jody A. Summers[1], F. Schroedl[2, 3].* [1]Dept of Cell Biology, Univ of Oklahoma Hlth Sci Ctr; [2]Dept. of Anatomy, Paracelsus Medical University, Salzburg, Austria; [3]Dept Ophthalmology/ Optometry, Research Program Experimental Ophthalmology, Paracelsus Medical University

5238 — *4:00* **Indian hedgehog (Ihh) secreted by adult choroid endothelial cells` regulates choroidal homeostasis and immune response.** *Christin Hanke-Gogokhia[1], G. Lehmann[1, 2], Y. Hu[3], R. Bareja[3], M. Ginsberg[6], D. Nolan[6], A. Wojcinski[7], R. F. Mullins[9], G. A. Lutty[8], O. Elemento[3], A. Joyner[7], S. Rafii[4], I. Benedicto[1, 5], E. J. Rodriguez-Boulan[1].* [1]Ophthalmology, Weill Cornell Medical College; [2]Regeneron Pharmaceuticals; [3]Physiology and Biophysics, Weill Cornell Medical College; [4]Regenerative Medicine, Weill Cornell Medical College; [5]Centro Nacional de Investigaciones Cardiovasculares; [6]Angiocrine Bioscience; [7]Memorial Sloan Kettering Cancer Center; [8]Wilmer Ophthalmological Institute, Johns Hopkins Hospital; [9]Institute for Vision Research, University of Iowa

5239 — *4:15* **Sustained Depletion of Choroidal Macrophages is Associated with Choroidal Vascular Atrophy and RPE Disorganization.** *Xiao Yang[1], L. Zhao[1], M. M. Campos[1], M. S. Abu-Asab[1], D. Ortolan[1], N. Hotaling[2], K. Bharti[1], W. T. Wong[1].* [1]National Eye Institute, National Institutes of Health; [2]National Center for Advancing Translational Sciences, National Institutes of Health

5240 — *4:30* **Diabetes alters fenestrations and transcytosis in choriocapillaris: Insight into the pathogenesis of diabetic choroidopathy.** *Sang A Kim[1, 3], J. Choi[2], A. Kim[1, 3], H. Lee[3], Y. Yoon[2], J. Lee[1, 3].* [1]Department of Ophthalmology, Yeungnam University; [2]Asan Medical Center, University of Ulsan College of Medicine; [3]Research Center for Visual Science and Vascular Biology, Yeungnam University College of Medicine

ARVO Ballroom

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Glaucoma

483 Surgery and Wound Healing

Moderators: Hari Jayaram, Stefano A. Gandolfi and Douglas J. Rhee

5241 — *3:00* **In vitro and in vivo delivery of a sustained release nanocarrier-based formulation of an MRTF/SRF inhibitor in conjunctival fibrosis.** *Cynthia Yu-Wai-Man[1, 2], S. Larsen[3], R. Neubig[4], K. Lim[1], A. Tagalakis[5].* [1]King's College London; [2]UCL Institute of Ophthalmology; [3]Vahlteich Medicinal Chemistry Core, University of Michigan; [4]Department of Pharmacology and Toxicology, Michigan State University; [5]Edge Hill University

5242 — *3:15* **Implantation of two second-generation trabecular micro-bypass stents with concomitant cataract surgery in primary angle closure glaucoma: one-year outcome.** *Ali Salimi[1], P. Harasymowycz[2, 3].* [1]Faculty of Medicine, McGill University; [2]Ophthalmology, University of Montreal; [3]Clinique d'ophtalmologie Bellevue **CR*

5243 — *3:30* **InnFocus MicroShunt for the Treatment of Primary Open Angle Glaucoma: Safety & Preliminary Outcomes at 18 months.** *Giacinto Triolo[1], K. Barton[1, 2], G. Gazzard[1, 2], N. Strouthidis[1, 2], P. T. Khaw[1, 2], H. Jayaram[1, 2].* [1]Glaucoma Service, Moorfields Eye Hospital; [2]NIHR Moorfields Biomedical Research Centre **CR*

5244 — *3:45* **IOP fluctuation in primary open angle glaucoma (POAG) receiving canaloplasty (CP) and microcatheter-assisted trabeculotomy (MAT).** *Chen Xin, h. wang, P. Yin, N. Wang.* Beijing Institute of Ophthalmology, Beijing Tongren Hospital

5245 — *4:00* **Deep Sclerectomy Outcomes over 15 years.** *Pouya Alaghband[1, 2], N. Anand[3].* [1]Ophthalmology, Leeds Teaching Hospitals; [2]King's College London; [3]Ophthalmology, Gloucestershire Hospitals NHS Foundation Trust

5246 — *4:15* **Establishing a New Gold Standard: Improving Outcomes in Trabeculectomy Surgery.** *Hari Jayaram[2, 1], N. Srikantha[2], J. Clarke[1, 2].* [1]NIHR Moorfields Biomedical Research Centre, UK; [2]Glaucoma Service, Moorfields Eye Hospital **CR*

5247 — *4:30* **Postoperative visual acuity decrease and recovery after tube shunt procedure for glaucoma.** *Yingna Liu[1], L. Huang[1], Q. Liu[1], Q. Zhao[2], R. L. Stamper[1], Y. Han[1].* [1]Ophthalmology, University of California San Francisco; [2]Stanford University

Harbour Ballroom

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Cornea

484 Corneal Stroma Wound Healing and Repair

Moderators: Kathy K. Svoboda, Mary Ann Stepp and Vickery E. Trinkaus-Randall

5248 — *3:00* **Effects of wounding on exosomal cargo of corneal epithelial cells *in vitro*.** *Tina B. McKay, A. E. Hutcheon, X. Q. Guo, J. D. Zieske.* Dept. of Ophthalmology, Harvard Medical School, Schepens Eye Research Institute/Mass. Eye and Ear

5249 — *3:15* **Topical corneal application of mescenchymal stem cell-derived exosomes: an evaluation of feasibility, distribution, and safety of administration.** *Hon Shing Ong[1, 2], G. Yam[2], T. Goh[2], S. Lim[3], J. S. Mehta[1, 2].* [1]Corneal and External Diseases, Ophthalmology, Singapore National Eye Centre; [2]Tissue Engineering and Stem Cells, Singapore Eye Research Institute; [3]Institute of Molecular Biology, A*Star

5250 — *3:30* **MyoD gene silencing promotes corneal fibroblast de-differentiation and reverses fibrosis.** *Rajiv R. Mohan[1, 2], R. Tripathi[3, 2], P. Balne[3, 2], S. Gupta[3, 2], J. Rodier[3, 2], S. Heil[3], P. R. Sinha[3, 2], N. P. Hesemann[2, 3], A. Ghosh[4], S. S. Chaurasia[3, 2].* [1]Mason Eye Institute and VMTH, University of Missouri-Columbia; [2]Harry S. Truman VA Hospital; [3]University of Missouri; [4]GROW research laboratory, Narayana Nethralaya Foundation

5251 — *3:45* **Descemet's basement membrane modulation of corneal fibrosis.** *Steven E. Wilson[1], C. S. Medeiros[1, 2], P. Saikia[1], R. C. de Oliveira[1], L. Lassance[1], M. R. Santhiago[2, 3].* [1]Cole Eye Institute, Cleveland Clinic; [2]Ophthalmology, University of Sao Paulo; [3]Ophthalmology, Federal University of Rio de Janeiro

5252 — *4:00* **Collagen XII Regulates Corneal Stroma Stiffness and Myofibroblast Differentiation.** *Edgar M. Espana[1], M. Sun[2], D. E. Birk[2].* [1]Ophthalmology, University of South Florida; [2]Pharmacology and Physiology, University of South Florida

5253 — *4:15* **mTOR Regulates the Differentiation of Corneal Schwann cells into Myofibroblasts.** *Paola Bargagna-Mohan[1], A. Ishii[1], G. Schultz[1], M. Lopez[1, 2], R. bansal[1], R. Mohan[1].* [1]Neuroscience, University 0f Connecticut; [2]University of Saint Joseph

5254 — *4:30* **Proteome of keratocyte-derived versus bone marrow-derived myofibroblasts. Are they different?** *Paramananda Saikia[1], M. Juszczak[1], L. L. Dibbin[1], R. C. Oliveira[1], C. S. Medeiros[1, 2], B. Willard[1], J. Geeng-Fu[1], J. S. Crabb[1], J. W. Crabb[1], S. E. Wilson[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Ophthalmology, University of Sao

West Exhibition Hall A0114-A0128

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Visual Neuroscience

485 ipRGCs and Circadian Rhythms

Moderator: Sara Patterson

5255 — *A0114* **Exposure to blue light decreases the number of melanopsin-expressing retinal ganglion cells and nerve fibers in rats.** *Natalia Ziolkowska[1], W. Sienkiewicz[2], H. Ziolkowski[3], B. Lewczuk[1].* [1]Histology and Embryology, University of Warmia and Mazury, Faculty of Veterinary Medicine; [2]Animal Anatomy, University of Warmia and Mazury, Faculty of Veterinary Medicine; [3]Pharmacology and Toxicology, University of Warmia and Mazury, Faculty of Veterinary Medicine

5256 — *A0115* **The role of salt-inducible kinase 1 in retinal physiology and light responses.** *Teele Palumaa, L. Taylor, M. Nurlankyzy, B. Yücel, S. N. Peirson, R. Foster, A. Jagannath.* Nuffield Department of Clinical Neurosciences, University of Oxford

5257 — *A0116* **Melanopsin-immunoreactive neurons in the fish retina.** *Tareq Yousef[1, 3], W. H. Baldridge[1, 2].* [1]Medical Neuroscience, Dalhousie University; [2]Ophthalmology & Visual Sciences, Dalhousie University; [3]Retina and Optic Nerve Research Laboratory, Dalhousie University

5258 — *A0117* **Orexin-A potentiates intrinsic light responses of intrinsically photosensitive retinal ganglion cells in mouse retina.** *Yong-Mei Zhong, S. Weng, W. Zhou, X. Yang.* Institutes of Brain Science and State Key Laboratory of Medical Neurobiology, Fudan University

5259 — *A0118* **Light regulates gut microbiome composition and rhythmicity through ipRGCs.** *Tsung-Hao Lu[2], C. Lee[1].* [1]Washington University in St. Louis; [2]Life science, National Taiwan University

5260 — *A0119* **Endogenous Adenosine-Mediated Suppression of ipRGC Photoresponses during Dark Adaptation.** *Phillip T. Yuhas[1], P. Sodhi[2], A. Hartwick[1].* [1]Optometry, The Ohio State University College of Optometry; [2]BioMotiv

5261 — *A0120* **Retinal and visual pathway components mediating light- behavior in a mouse model of photoallodynia.** *Sachin Parikh, S. Nusinowitz, M. B. Gorin, A. Matynia.* Ophthalmology, UCLA

5262 — *A0121* **Effects of mydriatics on the ipRGC-driven post-illumination pupil response.** *Sarah C. Flanagan[1], K. Saunders[1], H. M. Queener[2], P. Richardson[1], L. A. Ostrin[2].* [1]Optometry and Vision Science, Ulster University; [2]College of Optometry, University of Houston

5263 — *A0122* **Identification of hypoxia-regulated genes and pathways involved in retinal neovascularization by RNAseq analysis of wild type and clock gene knock out mouse retinal Müller cells.** *Lili Xu[1], Q. Liu[2], D. G. McMahon[1].* [1]Biological Science, Vanderbilt University; [2]Center for Quantitative Sciences, vanderbilt university

5264 — *A0123* **Light and dopamine alter properties of horizontal cell feedback to photoreceptors in mammalian retina.** *Steven A. Barnes[1, 2], C. F. McHugh[1], S. Purohit[4], J. C. Grove[3], A. A. Hirano[4, 5], N. Brecha[4, 5].* [1]Doheny Eye Institute; [2]Department of Ophthalmology, UCLA; [3]Neurobiology Graduate Program, UCSF; [4]Department of Neurobiology, UCLA; [5]Veterans Administration, VAGLAHS

5265 — *A0124* **The role of tyrosinase in the time course of light-induced cone contraction in the goldfish retina.** *Sophie Thapa[1], W. H. Baldridge[1, 2].* [1]Medical Neuroscience, Dalhousie University; [2]Ophthalmology & Visual Sciences, Dalhousie University

5266 — *A0125* **Characterization of Trpm1 function in mammalian iris constriction.** *Shane A. Chambers, M. T. Walker.* James Madison University

5267 — *A0126* **Blind-spot stimulation with blue light changes pupil size and enhances contrast sensitivity.** *Hamed Bahmani[1, 2], Y. Seshadri[1], T. T. Schilling[1].* [1]Dopavision GmbH; [2]Physiology of Cognitive Processes, Max Planck Institute for Biological Cybernetics ***CR***

5268 — *A0127* **Fundus fluorescein angiography (FFA) in human subjects displays circadian variation.** *Alan Hopkins[1, 2], N. Hudson[1], S. Doyle[3], M. Cahill[2], M. Campbell[1].* [1]Smurfit Institute of Genetics, Trinity College Dublin; [2]Ophthalmology, Royal Victoria Eye and Ear Hospital; [3]School of Medicine, Trinity College Dublin

5269 — *A0128* **A highly selective filter of circadian light improves sleep quality and limits the melatonin suppression induced by light at night.** *Coralie Barrau[1], M. Elbaz[2, 3], E. Poletto[1], D. Léger[2, 3].* [1]R&D Light & Vision Sciences, Essilor; [2]Université Paris-Descartes EA7330 VIFASOM; [3]Assistance publique des Hôpitaux de Paris-APHP5-Hôtel-Dieu-Centre du Sommeil et de la Vigilance ***CR***, ↗

West Exhibition Hall A0129-A0163

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Visual Neuroscience

486 Ganglion cells and Beyond

Moderators: Ben Sivyer and Paul R. Martin

5270 — *A0129* **Absence of TRPV1 alters retinal ganglion cell compensation during glaucomatous stress.** *Nolan R. McGrady, M. L. Risner, K. B. D'Alessandro, D. J. Calkins.* Ophthalmology and Visual Sciences, Vanderbilt University Medical Center

5271 — *A0130* **Approach motion sensitivity in primate retinal ganglion cells.** *Michael B. Manookin, T. R. Appleby.* Ophthalmology, University of Washington

5272 — *A0131* **Characterization of ganglion cells that express Special AT-rich Sequence Binding Protein 1 (SATB1) in primate retina.** *Sammy C. Lee[1, 2], P. R. Martin[1, 2], U. Grunert[1, 2].* [1]Save Sight Institute and Discipline of Clinical Ophthalmology, The University of Sydney; [2]Australian Research Council Centre of Excellence for Integrative Brain Function, The University of Sydney

5273 — *A0132* **Physiological characterization of lesser known ganglion cell types in primate retina.** *Todd Appleby[1], F. Rieke[1], C. Rhoades[2], M. B. Manookin[1].* [1]University of Washington; [2]Stanford University

5274 — *A0133* **Parasol and smooth monostratified ganglion cells in macaque retina.** *Rebecca J. Girresch[1], S. Patterson[3, 4], A. Bordt[2], J. Anderson[6], J. A. Kuchenbecker[5], J. M. Ogilvie[1], J. Neitz[5], M. B. Manookin[5], D. Marshak[2].* [1]Department of Biology, Saint Louis University; [2]Department of Neurobiology & Anatomy, University of Texas Health Science Center; [3]Neuroscience Graduate Program, University of Washington, Seattle; [4]Department of Ophthalmology, University of Washington, Seattle; [5]University of Washington, Seattle; [6]John A. Moran Eye Center, University of Utah

5275 — *A0134* **Developing a comprehensive retinal ganglion cell typology using FuncSeq.** *Jillian Goetz, G. Schwartz.* Ophthalmology, Northwestern University

5276 — *A0135* **Achromatic contrast adpatation in parasol and midget ganglion cells of the macaque monkey retina.** *Yeon Jin Kim, O. S. Packer, P. B. Detwiler, D. M. Dacey.* Biological structure, University of Washington

5277 — *A0136* **Retinal direction-selective circuitry requires FLRT2 and Unc5C for selective laminar dendrite targeting.** *Cameron L. Prigge[1, 2], J. Kay[1, 2].* [1]Neurobiology, Duke University; [2]Ophthalmology, Duke University

Wednesday Posters 3:00 pm – 4:45 pm

5278 — *A0137* **Nicotinic Acetylcholine Receptors in Bipolar Cells Contribute to Motion Detection in Ganglion Cells and Optomotor Response in the Mouse Retina.** *Leo Hall, C. B. Hellmer, C. Koehler, T. Ichinose.* Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine

5279 — *A0138* **Identification of retinal ganglion cell types expressing the transcription factor special AT-rich binding protein 2 (Satb2) in macaque and human.** *Subha Nasir-Ahmad[1, 2], S. C. Lee[1, 2], P. Martin[1, 2], U. Grunert[1, 2].* [1]Save Sight Institute, The University of Sydney; [2]Australian Research Council Centre of Excellence for Integrative Brain Function

5280 — *A0139* **ON-OFF direction selective ganglion cells in macaque monkey retina are tracer-coupled to an ON-OFF direction selective amacrine cell type.** *Dennis M. Dacey[1, 3], Y. Kim[1], O. S. Packer[1], P. B. Detwiler[2].* [1]Biological Structure, University of Washington; [2]Physiology and Biophysics, University of Washington; [3]Washington National Primate Research Center, University of Washington

5281 — *A0140* **Characterization of correlated spiking pattern in mouse and monkey retinal network.** *Jungryul Ahn[1], Y. Yoo[2], Y. Goo[1].* [1]Department of Physiology, Chungbuk National University School of Medicine; [2]Department of Electronics Engineering, Incheon National University

5282 — *A0141* **Temporal properties of the receptive field center of rat retinal ganglion cells *in vivo*.** *Nick Johnson[1], W. Heine[2], C. L. Passaglia[3].* [1]Molecular Pharmacology and Physiology, University of South Florida; [2]Beth Israel Deaconess Medical System; [3]Chemical and Biomedical Engineering, University of South Florida

5283 — *A0142* **Multi-Electrode-Recording for classification of retinal ganglion cells for bionic vision: comparison with calcium imaging responses.** *hamed shabani[1], M. Sadeghi[2], Z. Hosseinzadeh[2], E. Zrenner[1], D. L. Rathbun[1].* [1]Institute for Ophthalmic Research, University of Tuebingen; [2]University of Tuebingen ***CR**

5284 — *A0143* **Ganglion cell function in adult zebrafish.** *Maarten Kamermans, M. H. Howlett.* Retinal Signal Processing, Netherlands Institute for Neuroscience

5285 — *A0144* **Responses of retinal ganglion cells to electrical stimulation of photovoltaic-powered sub-retinal prosthesis in vitro.** *Fang-Liang Chu[3], Y. Tsai[4], C. Wu[1, 2], C. Chiao[5].* [1]Biomedical Electronics Translational Research Center; [2]Electronics Engineering, National Chiao Tung University; [3]Molecular Medicine, National Tsing Hua University; [4]Systems Neuroscience, National Tsing Hua University; [5]Life Science, National Tsing Hua University

5286 — *A0145* **Defocused images affect the multi-neuronal firing patterns in the mouse retina-a multielectrode array study.** *Seema Banerjee[1, 2], Q. wang[1, 2], k. pang[1], N. henry[1], Y. man[1], F. Pan[1, 2].* [1]school of optometry, The Hong Kong polytechnic university; [2]center for myopia research, The Hong Kong polytechnic university

5287 — *A0146* **Temporal properties of the receptive field surround of rat retinal ganglion cells *in vivo*.** *Christopher L. Passaglia[1], N. Johnson[1], W. Heine[2].* [1]University of South Florida; [2]Beth Isreal Deaconess Medical Center

5288 — *A0147* **Functional Piezo1 Mechanosensitive Ion Channels in Retinal Ganglion Cells.** *Taylor Friemel, S. L. Stella.* The Pennsylvania State College of Medicine

5289 — *A0148* **Location-dependent AIS variations in mouse OFF-α T cells.** *Paul Werginz[1, 2], V. Raghuram[3, 4], S. Fried[1, 3].* [1]Massachusetts General Hospital, Harvard Medical School; [2]Vienna University of Technology; [3]Boston VA Healthcare System; [4]Tufts University

5290 — *A0149* **Behavioral responses to visual stimuli in Brn3b knockout mice.** *Rebecca Lees, T. Badea.* National Eye Institute, National Institutes of Health

5291 — *A0150* **GABAergic Retinal Ganglion cell Circuitry and Function.** *Yin Shen, X. Luo, D. Cai, K. Shen.* Eye Center, Wuhan University

5292 — *A0151* **Gap Junctions between Heterotypic RGCs Mix ON and OFF Polarity Signals.** *Sam Cooler, G. Schwartz.* Ophthalmology, Northwestern University

5293 — *A0152* **Heterotypic coupling of retinal ganglion cells.** *Christian Puller, S. Duda, E. Lotfi, Y. Arzhangnia, C. Block, M. Greschner.* Neuroscience, University of Oldenburg

5294 — *A0153* **Pannexin3 as a novel marker for ganglion cells in the feline retina.** *Wenyao Wang[1], Y. Nan[1], l. luan[1], J. Gao[1], K. Du[2], Y. Tian[1], T. Huang[1], M. Pu[1].* [1]Peking University; [2]Karolinska Insititutet

5295 — *A0154* **The effect of laminar flow on cultured retinal ganglion cell survival and neurite outgrowth.** *Matthias Strake[1, 2], F. Rehfeldt[2], C. Stanischa[1], P. Lauermann[1], H. Hoerauf[1], C. van Oterendorp[1].* [1]Department of Ophthalmology, Georg-August-University Hospital; [2]Third Institute of Physics - Biophysics, University of Göttingen

5296 — *A0155* **Case for Ganglion Cell Segmentation.** *Steven A. Newman.* Ophthalmology, University of Virginia

5297 — *A0156* **Directional outgrowth of retinal ganglion cell neurites along microchannels on polyacrylamide gels and glass scratches.** *Christian van Oterendorp[1], M. Strake[1, 2], P. Lauermann[1], C. Stanischa[1], C. Fischer[1], H. Hoerauf[1], F. Rehfeldt[2].* [1]Dpt. of Ophthalmology, University of Goettingen; [2]3rd Institute of Physics - Biophysics, Georg-August-University Goettingen

5298 — *A0157* **Bilateral enucleations alters the intrinsic excitability of thalamocortical neurons in the dLGN.** *Ashish Bhandari[1, 2], J. C. Smith[2], M. J. Van Hook[2].* [1]Neuroscience, University of Nebraska Medical Center; [2]Opthalmology and Visual Sciences, University of Nebraska Medical Center

5299 — *A0158* **Ocular hypertension alters spiking behavior of neurons in the visual thalamus.** *Matthew J. Van Hook, S. Fan, L. Reid, T. Goeser, J. C. Smith, D. A. Ghate.* University of Nebraska Medical Center

5300 — *A0159* **Hemodynamic responses recorded in V1 to multimodal stimulation using functional near infrared spectroscopy.** *Uma Shahani[1], R. T. Aitchison[1], S. Denham[2].* [1]Vision Sciences, Glasgow Caledonian University; [2]Psychology, University of Plymouth

5301 — *A0160* **A live animal model of continuously observing the damage of primary visual cortex caused by the optic nerve crush using Two-photon microscope.** *Zongyi Zhan[1], Y. Wu[1], Z. Liu[1], D. Li[1], S. Yang[2], L. Huang[2], M. Yu[1].* [1]Zhongshan Ophthalmic Center; [2]Sun Yat-sen University

5302 — *A0161* **Pulvinar activation in a case of congenital idiopathic photophobia.** *Thanasis Panorgias[1], D. Lee[2], K. Silva[2], D. Borsook[2], E. A. Moulton[2].* [1]Vision Science, New England College of Optometry; [2]Boston Children's Hospital

5303 — *A0162* **Morphological classification of neocortical neurons using machine learning.** *WANJING HUANG, R. Liu, J. Wei, X. Tie, M. Huang, B. Gou, Y. Liu, J. Su, Z. Hao, S. Liu.* Zhongshan Ophthalmic Center, Sun Yat-Sen University

5304 — *A0163* **Neuro-Visual and Cognitive Rehabilitation Following Complex Traumatic Brain Injury.** *Christopher J. Bertke.* Kentucky College of Optometry

West Exhibition Hall B0001-B0016

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Retina

487 Screening and Risk Factors in Diabetic Retinopathy

Moderator: Fabio Scarinci

5305 — *B0001* **Characteristics of type 1 diabetes patients using continuous glucose monitoring systems and development of retinopathy.** *Christopher A. Khouri[1], A. Ooms[2], L. Thangmathesvaran[2], P. Khouri[3], B. Szirth[2].* [1]Biology, Drexel University; [2]Ophthalmology, Rutgers University; [3]Biomedical Engineering, Drexel University ***CR**

5306 — *B0002* **Influence of Insulin Pump Use and Continuous Glucose Monitors in Type 1 Diabetes Mellitus.** *Ariel Omiunu, A. Ooms, S. Singh, B. Szirth, A. S. Khouri.* Rutgers New Jersey Medical School

5307 — *B0003* **iTeleGEN: Development of a Web-Based Diabetic Retinopathy Education Module.** *Emily Cole[7], F. Beca[2], G. L. Gil[4], D. Oh[7], A. Zolot[3], S. Zahid[7], R. Chee[7], N. K. Scripsema[7], N. Valikodath[7], A. C. Scanzera[7], K. E. Jonas[5], J. I. Lim[7], J. E. Kim[1], J. Campbell[6], M. F. Chiang[6], R. Chan[6].* [1]Ophthalmology, University of Illinois - Chicago; [2]University of Illinois College of Medicine; [3]Medical College of Wisconsin; [4]Institute of Ophthalmology Conde de Valenciana, Mexico City; [5]Memorial Sloan Kettering Cancer Center; [6]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University; [7]Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago ***CR**

5308 — *B0004* **A Needs Assessment and Development of Video-based Diabetic Retinopathy Patient Education.** *Osama M. Ahmed, D. M. Ahmed, P. Juthani, K. H. Nwanyanwu.* Yale School of Medicine

5309 — *B0005* **Diabetic Retinopathy Screening in a Primary Care Setting Using Non-Mydriatic Photography and Automated Retinal Image Analysis Improves Compliance with Follow-Up Ophthalmic Care.** *James Liu[1], V. Shankar[1], S. Ramchal[1], E. Gibson[1], j. kuo[1], M. Bhaskaranand[2], K. Solanki[2], P. K. Rao[1], T. Margolis[1], E. Fondahn[1], R. Rajagopal[1].* [1]Washington University in School of Medicine; [2]Eyenuk, Inc**.** ***CR**

5310 — *B0006* **Screening of diabetic retinopathy by the public health system with a new teleophthalmology programme based on the incorporation of a external reading center. Effectiveness and degree of satisfaction of patients and healthcare proffesionals.** *Gabriela Estefania Pacheco Callirgos[1], L. Lima Modino[1], M. Valpuesta Martín[2], C. Blando Labrandero[1], M. López Gálvez[1].* [1]Hospital Clinico Universitario de Valladolid; [2]Centro de Atención Primaria de Peñafiel

5311 — *B0007* **DiabBase Ophthalmic IT-System – a Digitized Health Care System for Diabetic Retinopathy.** *Martin Breimer[1], H. Kalm[1], M. Bitziou[1], L. Holmqvist[1], P. Laurén[1], D. Skiljic[1], M. A. Gronlund[1, 2].* [1]Department of Ophthalmology, Sahlgrenska University Hospital; [2]Department of Clinical Neuroscience, Institute of Neuroscience and Physiology, University of Gothenburg

5312 — *B0008* **RetinOpTIC - Automatic Evaluation of Diabetic Retinopathy.** *Bruno Lay[1], R. Danno[1], G. Quellec[2], E. Decenciere[3], A. Erginay[4], P. Massin[4], A. LE GUILCHER[5], M. Lamard[2], B. Cochener[6], R. Alais[3].* [1]ADCIS; [2]Inserm; [3]CMM; [4]AP-HP; [5]Evolucare; [6]Service Ophtalmologie CHRU Brest

5313 — *B0009* **Enhancing Risk Assessment in Patients with Diabetic Retinopathy (DR) by Adding Retinal Function Assessment to Structural Information.** *Mitchell G. Brigell[1], B. Chiang[2, 3], A. Y. Maa[3, 2], C. Q. Davis[4].* [1]Aerpio Pharmaceuticals; [2]Ophthalmology, Emory University School of Medicine; [3]Ophthalmology, Atlanta VA Medical Center; [4]LKC Technologies Inc ***CR**, ↗

5314 — *B0010* **The b-wave and the Photopic Negative Response of the Cone Electroretinogram are similarly affected by mild Non Proliferative Diabetic Retinopathy.** *Angelo M. Minnella[1, 2], g. placidi[1], V. Pagliei[1], G. Gambini[1], E. De Siena[1], G. Rocca[1], A. Caporossi[1, 2], B. Falsini[1, 2].* [1]Ophthalmology, Catholic University Rome; [2]Fondazione Policlinico A**.** Gemelli IRCCS

5315 — *B0011* **Diagnosis of Type 2 Diabetes With Automated Pupilometer System Based On Pupil Chromatic Reflex.** *Eduardo Nery R. Camilo[1], A. Paranhos[1], N. Rassi[2], R. M. Costa[3], c. r. Silva[3], L. R. Tome[2], C. G. Camilo[3].* [1]Unversidade Federal de Sao Paulo; [2]Hospital Geral de Goiania; [3]Universidade Federal de Goias

5316 — *B0012* **Association Between Stage of Diabetic Retinopathy and Iris Thickness.** *Neal Kansara, I. U. Scott, E. M. Bowie.* Ophthalmology, Penn State Hershey Medical Center

5317 — *B0013* **Can visual function tests act as early functional biomarkers of Diabetic Retinopathy prior to clinical features?** *Radha Das, J. Perais, K. Graham, K. Naska, S. Halliday, N. B. Quinn, U. Chakravarthy, R. Hogg.* Queens University ***CR**, ↗

5318 — *B0014* **Fast macular capillary impairment in young patients with uncontrolled type 1 diabetes.** *Carlo Alessandro Lavia, A. Erginay, A. Gaudric, R. Tadayoni, B. Dupas.* Service d'ophtalmologie, Hopital Lariboisiere, Paris ***CR**

5319 — *B0015* **Adherence to minimum recommended monitoring protocols by patients with mild or moderate diabetic retinopathy.** *Andrew A. Moshfeghi[1], A. Ghanekar[2], V. Garmo[2], I. Abbass[2].* [1]USC Roski Eye Institute; [2]Genentech, Inc**.** ***CR**

5320 — *B0016* **Barriers to treatment in patients newly diagnosed with proliferative diabetic retinopathy.** *Matt Hill[1], I. Abbass[2], V. Garmo[2], D. Sheinson[2], A. Ghanekar[2], A. Moshfeghi[3].* [1]University of Texas; [2]Genentech, Inc.; [3]USC Roski Eye Institute ***CR**

West Exhibition Hall B0017-B0048

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Retina

488 Diabetic Retinopathy Imaging

Moderators: Amitha Domalpally and Maria Cristina Savastano

5321 — *B0017* **Low serum vitamin D levels correlate with disorganization of retinal inner layers, ellipsoid zone disruption and retinal pigment epithelium alterations in diabetic retinopathy.** *Sandeep Saxena[1], G. Nadri[1], A. Kaur[1], A. Mahdi[3], K. Ahmad[3], P. Garg[2].* [1]Ophthalmology, KGs Medical University; [2]Ophthalmology, Era Medical University; [3]Biochemistry, KGs Medical University

5322 — *B0018* **Ganglion Cell Complex Measurements with OCT over 3 Years in Type 1 Diabetes Mellitus.** *Nithisha Prasad, A. Ooms, L. Thangmathesvaran, B. Szirth, A. S. Khouri.* Rutgers New Jersey Medical School

5323 — *B0019* **Early Detection and Spatial Co-incidence of Localized Retinal Neuronal and Vascular Dysfunction in Diabetic Retinopathy.** *Yuen Ying J. Chan, A. Mora, J. H. Hill, C. Villanueva, N. Issa, L. Mein, J. M. Iltis, D. Wilde, R. Renteria, D. Narayanan, R. D. Glickman.* UT Health San Antonio -Department of Ophthalmology

5324 — *B0020* **Progressive retinal neurodegeneration and microvascular change in diabetic retinopathy: A longitudinal study using OCTA.** *Kiyoung Kim, S. Yu, E. Kim.* Opthalmology, Kyung Hee University Hospital ***CR**

5325 — *B0021* **Longitudinal Change in Retinal Layer Thicknesses in Subjects with Proliferative Diabetic Retinopathy Treated with Intravitreal Aflibercept.** *Swetha Bindu Velaga[1], M. Nittala[1], T. Brown[1], Z. Hu[1], C. C. Wykoff[2], M. S. Ip[1], S. R. Sadda[1].* [1]Doheny Eye Institute; [2]Retina Consultants of Houston ***CR**, ↗

Wednesday Posters 3:00 pm – 4:45 pm

5326 — *B0022* **Evaluation of Diabetic Retinal Neuronopathy (DRN) Pre- and Post-treatment in Patients with Treatment Naïve Proliferative Diabetic Retinopathy (PDR).** *Nicole M. Pumariega, W. Li.* Ophthalmology, Drexel College of Medicine/Hahnemann Univ Hospital

5327 — *B0023* **Correlation between Optic Disc Retinal Nerve Fiber Layer (RNFL) changes and peripapillary microvasculature abnormalities using Optical Coherence Tomography Angiography (OCTA) in diabetic retinopathy.** *luisa D. Malheiro[1], P. M. Baptista[1], V. Lages[1], D. Santos[1], C. Coelho[3], J. Beirão[1, 2], A. Meireles[1, 2], B. Pessoa[1, 2].* [1]Ophthalmology, Centro Hospitalar e Universitário do Porto; [2]Instituto de ciências biomédicas Abel Salazar; [3]Faculdade de Medicina da Universidade de Lisboa, Genetics Laboratory, Institute of Environmental Health

5328 — *B0024* **Macular retinal ganglionar cell thickness and superficial capillary plexus – real correlation in diabetic retinopathy patients.** *Pedro M. Baptista[1], l. D. Malheiro[1], J. Coelho[1], N. Sanches[1], C. Coelho[2], J. Beirão[1, 3], A. Meireles[1, 3], B. Pessoa[1, 3].* [1]Ophthalmology, Centro Hospitalar e Universitário do Porto; [2]Faculdade de Medicina da Universidade de Lisboa, Genetics Laboratory, Institute of Environmental Health; [3]Instituto de ciências biomédicas Abel Salazar

5329 — *B0025* **Correlation between retinal vessel density and retinal layer thickness in eyes with proliferative diabetic retinopathy.** *Aditya Verma[4, 3], M. Nittala[4], S. Velaga[4], Z. Hu[4], B. Zhou[2], S. Lampen[2], M. S. Ip[3, 1], C. C. Wykoff[2], S. R. Sadda[4, 3].* [1]DIRRL, Doheny Eye Institute; [2]Retina Consultants of Houston; [3]David Geffen School of Medicine at UCLA; [4]Doheny Eye Institute **CR*, ↗

5330 — *B0026* **Repeatability of central macular thickness in non-centre involving diabetic macular oedema – analysis of the CLEOPATRA trial.** *Thushanthi Ramakrishnan, L. Nicholson, n. patrao, S. Sivaprasad.* Moorfields eye hospital

5331 — *B0027* **Withdrawal_Evolution of macular choroidal thickness in patients treated with intravitreal injections of ranibizumab and aflibercept for diabetic macular edema.** *Audrey Giocanti Auregan, P. Eymard, B. Bodaghi, F. Fajnkuchen.* Ophthalmology, Hospital Avicenne **CR*

5332 — *B0028* **Comparison of 1-Field, 2-Fields, and 3-Fields Fundus Photography for Detection of Diabetic Retinopathy.** *Jessica C. Lee[1], L. Nguyen[2], P. H. Blomquist[1].* [1]Ophthalmology, The University of Texas Southwestern Medical Center; [2]Ophthalmology & Visual Sciences, Washington University School of Medicine

5333 — *B0029* **Comparison of Diabetic Retinopathy Severity Level Assessment Between Standard 7-field Imaging and Ultrawide Field Color Imaging.** *Kristi Dohm, N. Barrett, K. McDaniel, B. A. Blodi, A. Domalpally.* Fundus Photograph Reading Center

5334 — *B0030* **Wide-Field Fluorescein Angiographic-Guided Aflibercept (WFFAGA) Monotherapy for Proliferative Diabetic Retinopathy (PDR).** *Lindsay Williamson, D. Starnes, C. Taylor, R. Levy, V. Kasetty, P. Rex, H. Singh, R. Lalane, D. M. Marcus.* Southeast Retina Center **CR*

5335 — *B0031* **Correlation of peripheral non-perfusion from ultrawide field fluorescein angiography to color ETDRS severity level in eyes with diabetic retinopathy.** *Ellie Corkery, K. McDaniel, A. Domalpally, B. A. Blodi.* University of Wisconsin

5336 — *B0032* **Correlation of Quantitative Ultra-Widefield Angiographic Metrics and Diabetic Retinopathy Severity Score Improvement Following Aflibercept Therapy in the PERMEATE Study.** *Natalia A. Figueiredo[1], S. K. Srivastava[1], M. Hu[2], J. L. Reese[1], J. P. Ehlers[1].* [1]Cole Eye Institute, Cleveland Clinic Foundation; [2]Lerner Research Institute, Cleveland Clinic Foundation **CR*

5337 — *B0033* **Longitudinal Panretinal Leakage Index Assessment in Proliferative Diabetic Retinopathy Treated with Intravitreal Aflibercept on Ultra-Widefield Fluorescein Angiography from the RECOVERY Study.** *Jenna M. Hach[1], C. C. Wykoff[2], A. Babiuch[1], N. A. Figueiredo[1], S. K. Srivastava[1], B. Zhou[2], A. M. Rusakevich[2], A. Rogozinski[1], T. Le[1], L. Lunasco[1], J. L. Reese[1], J. P. Ehlers[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Retina Consultants of Houston **CR*, ↗

5338 — *B0034* **Characteristics of Diabetic Capillary Nonperfusion in Extramacular White Spots on Optical Coherence Tomography Angiography.** *Kazuya Morino, T. Murakami, T. Yoshitake, Y. Dodo, M. Fujimoto, s. yasukura, A. Tsujikawa.* Ophthalmology and Visual Sciences, Kyoto University ↗

5339 — *B0035* **Retinal Capillary Non-Perfusion Relationship to Arteries or Veins as Observed on Widefield Optical Coherence Tomography Angiography: A Pilot Study in Diabetic Retinopathy.** *Akihiro Ishibazawa[1, 2], L. R. De Pretto[3], A. Alibhai[1], M. Arya[1], O. Sorour[1], N. Mehta[1], E. Moult[3], C. R. Baumal[1], A. J. Witkin[1], A. Yoshida[2], J. S. Duker[1], J. G. Fujimoto[3], N. K. Waheed[1].* [1]New England Eye Center, Tufts Medical Center; [2]Ophthalmology, Asahikawa Medical University; [3]Electrical Engineering and Computer Science, and Research Laboratory of Electronics, Massachusetts Institute of Technology **CR*

5340 — *B0036* **Comparison of retinal capillary plexus density in patients with or without diabetes mellitus using swept-source optical coherence tomography angiography.** *Sophie Beka, J. Wendelstein, D. Podkowinski, M. Ring, M. Bolz.* Ophthalmology and Optometry, Kepler University Clinic

5341 — *B0037* **Retinal vascular geometry measures as prognostic markers for successful panretinal photocoagulation in patients with proliferative diabetic retinopathy.** *Thomas Lee Torp[1, 2], R. Kawasaki[3, 2], T. Y. Wong[4], T. Peto[5, 2], J. Grauslund[1, 2].* [1]Department of Ophthalmology, Odense University Hospital; [2]Department of Clinical Research, University of Southern Denmark; [3]Department of Vision Informatics, Osaka University Graduate School of Medicine; [4]General Cataract and Comprehenvise Ophthalmology, Singapore National Eye Center; [5]School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast ↗

5342 — *B0038* **Three-dimensional nonperfused area in temporal raphe of diabetic retinopathy on wide-field optical coherence tomography angiography.** *Daiki Uchitomi, T. Murakami, Y. Dodo, K. Morino, s. yasukura, T. Yoshitake, M. Fujimoto, A. Tsujikawa.* Kyoto University Hospital

5343 — *B0039* **Proximal but not distal retinal ischemia is associated with microaneurysms in diabetic retinopathy.** *Yoshihiro Kaizu, S. Nakao, M. Arima, I. Wada, M. Yamaguchi, K. Ishikawa, K. Sonoda.* Ophthalmology, Kyushu University

5344 — *B0040* **Differential Association of Macular Superficial versus Deep Vascular Density with Microaneurysms and Nonperfusion in Diabetic Retinopathy.** *Mohamed A. Elmasry[1, 2], K. Sampani[1], c. M. pitoc[4], A. Fleming[3], G. Robertson[3], P. S. Silva[1, 2], L. P. Aiello[1, 2], J. K. Sun[1, 2].* [1]Beetham Eye Institute, Joslin Diabetes Center; [2]Ophthalmology, Harvard Medical School; [3]Optos plc; [4]Philippine Eye Research Institute **CR*

5345 — *B0041* **Fractal Dimension Analysis of OCTA Images in Normal and Diabetic Eyes using the Circular Mass-radius Method.** *Jennifer Lopez[2, 1], B. Chiu[2], H. Chiu[2], P. Kumar[2], S. Hashmi[2, 1], A. Gupta[2], S. Sarrafpour[2], J. A. Young[2].* [1]NYU School of Medicine; [2]Ophthalmology, New York University

5346 — *B0042* **The effect of signal intensity on the reliability of OCT angiography measurements in patients with diabetes.** *Illes Kovacs[1, 2], C. Czaka[1], L. Istvan[1], M. Ecsedy[1], Z. Recsan[1], F. Benyo[1], H. Horvath[1], Z. Z. Nagy[1].* [1]Department of Ophthalmology, Semmelweis University; [2]Ophthalmology, Weill Cornell Medical College

5347 — *B0043* **Optical Coherence Tomography Angiography Parameters And Inner Retinal Layers Thickness Correlation In Type 1 Diabetes Mellitus.** *Fabio Scarinci[1, 3], S. Frontoni[2], F. Picconi[2], M. Palmery[3], M. Varano[1], G. Virgili[4], M. Parravano[1].* [1]Ophthalmology, IRCCS - Fondazione Bietti; [2]Endocrinology, Diabetes and Metabolism, S**.** Giovanni Calibita Fatebenefratelli Hospital, University of Rome Tor Vergata; [3]Physiology and Pharmacology "V**.** Erspamer",, Sapienza University of Rome; [4]Ophthalmology, Azienda Ospedaliero-Universitaria Careggi

5348 — *B0044* **Correlation between middle retinal layers structural changes and deep capillary plexus dropout in diabetic retinopathy.** *Vinicius Vanzan[1], S. Karst[1], M. Heisler[2], N. Page[2], T. Yu[2], J. Lo[2], M. V. Sarunic[2], E. V. Navajas[1].* [1]University of British Columbia; [2]Simon Fraser University

5349 — *B0045* **Evaluating signs of microangiopathy secondary to diabetes in different areas of the retina with swept source OCTA.** *Sonja Karst[2, 1], M. Heisler[3], N. Page[3], T. Yu[3], J. Lo[3], M. Etminan[2], M. V. Sarunic[3], D. Maberley[2], E. V. Navajas[2].* [1]Department of Ophthalmology and Optometry, Medical University Vienna; [2]Department of Ophthalmology, University of British Columbia; [3]Simon Fraser University *CR, ↗

5350 — *B0046* **Quantitative Analysis of Macular Ischemia in Diabetic Retinopathy using OCT Angiography.** *A. Yasin Alibhai[1], S. Chen[2], E. Moult[2], J. Schottenhamml[3], M. Arya[1], C. R. Baumal[1], A. J. Witkin[1], E. Reichel[1], J. S. Duker[1], J. G. Fujimoto[2], N. K. Waheed[1].* [1]New England Eye Center, Tufts Medical Center; [2]Department of Electrical Engineering and Computer Science/ Research Laboratory of Electronics, Massachusetts Institute of Technology; [3]Pattern Recognition Lab, Friedrich-Alexander-Universitat Erlangen-Nurnberg *CR

5351 — *B0047* **Non-invasive assessment of retinal mitochondrial dysfunction in diabetic retinopathy.** *Raffaele Raimondi[1], G. L. Hom[1], T. F. Conti[1], J. Hsueh[1, 2], R. P. Singh[1].* [1]1**.** Cole Eye Institute, Cleveland Clinic Foundation,; [2]Case Western Reserve University School of Medicine *CR

5352 — *B0048* **Retinal vessel oxygen saturation and duration of type 1 diabetes in young adults compared to healthy controls.** *Nina Veiby[1], H. Margeirsdottir[2, 3], A. Simeunovic[2, 3], M. Heier[4, 3], C. Brunborg[5], K. Dahl-Jørgensen[4, 3], M. C. Moe[1, 3], G. Petrovski[1, 3].* [1]Ophthalmology, Oslo University Hospital; [2]Pediatric and adolescent Medicine, Akershus University Hospital; [3]Faculty of Medicine, University of Oslo; [4]Pediatrics, Oslo University Hospital; [5]Centre of Biostatistics and Epidemiology, Oslo University Hospital

West Exhibition Hall B0049-B0071

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Physiology/Pharmacology

489 Diabetic retinapathy, cytokines and growth factors

Moderator: Silke Becker

5353 — *B0049* **α-Melanocyte-stimulating hormone protects against retinal damage in a murine model of Type II diabetes.** *Xiaorong Li, Y. Zhang, S. Cai, M. Wu, X. Zhang.* Tianjin Medical University Eye Hospital

5354 — *B0050* **Global Safety Update: Long Term Intraocular Pressure Signals in Patients Receiving the 0.2 µg/day Fluocinolone Acetonide Intravitreal Implant.** *Caesar Luo.* Bay Area Retina Associates *CR

5355 — *B0051* **Pyrogallol-*O*-sulfate decreases the expression of pro-angiogenic and pro-inflammatory proteins in diabetic retinopathy.** *Daniela F. Santos[1, 2], M. Pais[1], G. A. Silva[1].* [1]CEDOC-NMS-UNL; [2]UNL, ProRegeM PhD Program, NOVA Medical School

5356 — *B0052* **Oral administration of the novel small molecule drug OCX063 protects against inflammation and vascular pathology in a rat diabetic retinopathy (DR) model.** *Roy Chze Khai Kong[1, 2], A. Edgley[1, 2], E. Chan[3, 2], A. J. Cox[1], S. Glowacka[1], M. Papadimitriou[1, 2], F. Khong[1, 2], D. Kelly[1, 2].* [1]Department of Medicine, The University of Melbourne; [2]OccuRx Pty Ltd; [3]Centre for Eye Research Australia *CR

5357 — *B0053* **Alpha-1 Anti-trypsin Modulates Insulin Signaling in RPE cells in an in Vitro Model of Diabetic Retinopathy.** *Juan E. Gallo[1, 3], M. Petrigliano[2], M. Fernandez Acquier[4], G. Ortiz[2], M. POTILINSKI[2].* [1]Ophthalmology, Hospital Universitario Austral; [2]Instituto de Investigaciones en Medicina Traslacional, Universidad Austral; [3]Instituto de Investigaciones en Medicina Traslacional, Universidad Austral; [4]Neumonologia, Hospital Cetrangolo

5358 — *B0054* **Patients ultra-responsive to ranibizumab: rates of ≥4-step improvement in diabetic retinopathy severity in DRCR.net Protocol S.** *Michael A. Klufas[1], A. Chiang[1], L. Hill[2], M. Tsuboi[2], I. Stoilov[2].* [1]Wills Eye Hospital; [2]Genentech, Inc**.** *CR, ↗

5359 — *B0055* **Reduction of GLUT1 in the BKS.*Lepr$^{db/db}$* mouse model of Type 2 diabetes ameliorates retinal pathology and defects in retinal function.** *Ivy S. Samuels[1, 2], J. J. Aiello[1], T. D. Trobenter[1], N. C. Holoman[1].* [1]Research Service, Louis Stokes Cleveland VA Medical Center; [2]Ophthalmic Research, Cole Eye Institute, Cleveland Clinic

5360 — *B0056* **Metformin reduces risk of diabetic retinopathy independent of glycemic control.** *Catherine Psaras, C. Oldenburg, S. Ackley, Q. Liu, J. M. Stewart.* Ophthalmology, University of California, San Francisco *CR

5361 — *B0057* **Establishment of retinal pericyte loss model induced by PDGFR inhibitor in mice.** *Chiaki Tomimoto, O. Sakai.* Senju Pharmaceutical Co., Ltd**.** *CR

5362 — *B0058* **Vitreous and plasma cytokine levels in subjects with advanced proliferative diabetic retinopathy in the Ranibizumab in Diabetic Vitrectomy (RaDiVit) Study.** *Oliver Comyn[1, 2], C. Lange[1, 3], J. W. Bainbridge[1, 4].* [1]Moorfields Eye Hospital NHS Foundation Trust; [2]St George's Eye Care; [3]Eye Center, University of Freiburg; [4]University College London Institute of Ophthalmology *CR, ↗

5363 — *B0059* **Transcriptional regulation of TL1A expression and its protection mechanism on pathological vascular permeability in nonproliferative diabetic retinopathy.** *Hua Yan, J. Li.* Tianjin Medical University

5364 — *B0060* **Alpha-1 antitrypsin avoids epithelial to mesenchymal transition in ARPE-19 cells in a model of Diabetic Retinopathy.** *MARÍA CONSTANZA POTILINSKI[2], J. Salica[2], M. Petrigliano[2], E. Chuluyan[1, 3], J. E. Gallo[2, 4].* [1]Universidad Austral; [2]Nanomedicine & Vision, IIMT-Austral-CONICET; [3]Farmacología, UBA; [4]Oftalmología, Hospital Universitario Austral

5365 — *B0061* **Effect of lutein in early diabetic retinopathy using the Ins2Akita mice.** *Amy C. Lo, W. Wang.* The University of Hong Kong

5366 — *B0062* **K_{ATP} opener pinacidil alleviates microglia activation and alters muller gliosis.** *Hong Li[1, 2], H. Xu[1, 2], H. Ma[1], C. Luo[1, 2], S. Tang[1, 2].* [1]Central South University; [2]Aier Eye Institute

5367 — *B0063* **Retinal transcriptome analysis in db/db mice after sodium-glucose cotransporter 2 inhibitor application.** *Jeeyun Ahn[1, 2], J. Shin[1, 2], J. Park[3], M. Moon[4, 5].* [1]Department of Ophthalmology, Seoul National University College of Medicine; [2]Department of Ophthalmology, Seoul Metropolitan Government Seoul National University Boramae Medical Center; [3]Department of Ophthalmology, Inje University, Seoul Paik Hospital; [4]Department of Internal Medicine, Seoul National University College of Medicine; [5]Department of Internal Medicine, Seoul Metropolitan Government Seoul National University Boramae Medical Center

5368 — *B0064* **Effects of Probucol on high glucose-induced expressions of SP1/Keap1/ Nrf2/GCLC in the cultured human Müller cells.** *Zhongping CHEN[1, 2], C. Li[1], S. Ai[3], X. Zhou[1].* [1]AIER School of Ophthalmology, Central South University; [2]Department of Fundus Oculi, AIER Eye Hospital of Changsha; [3]Department of Ophthalmology, the Seventh Affiliated Hospital of Sun Yat-sen University

5369 — *B0065* **Determining immune-related factors of intraocular diseases by artificial intelligence methods.** *Naoya Nezu[1], Y. Usui[1], M. Asakage[1], H. Shimizu[1], M. Ogawa[1], N. Yamakawa[1], C. Yanagida[1], K. Tsubota[1], A. Narimatsu[1], K. Maruyama[1], A. Saito[2], M. Kuroda[2], H. Goto[1].* [1]Ophthalmology, Tokyo Medical Univercity; [2]Tokyo Medical Univercity

5370 — *B0066* **The effect of collection method on tear interleukin-6 levels in healthy individuals: A pilot study.** *Gauri S. Shrestha, A. Vijay, F. Stapleton, N. A. Carnt.* School of Optometry and Vision Science, University of New South Wales

5371 — *B0067* **Selective Anti-Plgf Protects Human Retinal Endothelial Cells Against High Glucose.** *Francesca Lazzara, A. Fidilio, C. B. Platania, F. Conti, S. Salomone, F. Drago, C. Bucolo.* Biomedical and Biotechnological Sciences, University of Catania ↗

5372 — *B0068* **Day Regimes of CONbercept on CytokinEs of PDR Patients Undergoing Vitrectomy Trial (CONCEPT)–Effects of preoperativeintravitreal conbercept on cytokines in the vitreous with proliferative diabetic retinopathy.** *Qinghuai Liu, P. Xie, S. Yuan, Z. Hu.* Jiangsu Province Hosp ↗

5373 — *B0069* **Non-coding Alu RNAs enhance corneal nerve regeneration following ocular surface injury.** *Jooyoung Cho, G. Botzet, N. Fowler, C. Williams, R. Albuquerque.* University of Kentucky

5374 — *B0070* **Abnormal Levels of Aqueous Humor Trace Elements in Patients with Cytomegalovirus Retinitis.** *Jing Feng, Y. Tao.* Ophthalmology, Beijing Chaoyang Hospital, Capital Medical University

5375 — *B0071* **In Vitro Degradation of Human Vascular Endothelial Growth Factor.** *Ryan A. Shields, J. Davila, I. H. Schachar.* Stanford Hospital

West Exhibition Hall B0072-B0107

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Physiology/Pharmacology

490 AMD and Antiangiogenic agents

Moderators: Ian F. Pitha and Francesca Lazzara

5376 — *B0072* **Endomucin regulates Vascular Endothelial Growth Factor (VEGF) induced endothelium functions through its extracellular domain.** *Zhengping Hu[1], M. LeBlanc[1], k. Saez-Torres[1], M. Saint-Geniez[1], Y. Ng[1], P. A. D'Amore[1, 2].* [1]Schepens Eye Research Institute; [2]Harvard medical school

5377 — *B0073* **Protective mechanisms of polyphenolic-enriched extract of plants against H_2O_2-induced oxidative stress in human retinal pigment epithelial cells.** *Hachemi Nezzar[1, 2], s. Hermitte[3], p. goupil[4], C. Richard[5], M. Sleiman[5], E. Peghaire[3], H. El Alaoui[3], N. Acar[6], a. kocer[7].* [1]Ophthalmology Dept., Dubai Health Authority, DH; [2]neuroscience, IGCNC-728, Image Guided Clinical Neuroscience and Connectomics,; [3]CNRS, LMGE, Université Clermont Auvergne, CNRS, LMGE; [4]UMR 547-UBP/INRA PIAF; [5]CNRS, SIGMA Clermont, ICCF; [6]Centre des Sciences du Goût et de l'Alimentation,Nutrition and eye research group, INRA; [7]Laboratoire GReD "Génétique, Reproduction & Développement", UMR CNRS 6293, INSERM U1103

5378 — *B0074* **Nanoceria protect retinal pigment epithelium in the light damaged retina.** *Annamaria Tisi, G. Parete, M. Passacantando, V. Flati, R. Maccarone.* University of L'Aquila

5379 — *B0075* **Content validity of the Port Delivery System with ranibizumab Patient Preference Questionnaire.** *Elizabeth Tschosik[1], A. Kapre[1], D. Ferrara[1], M. Chang[2].* [1]Genentech, Inc.; [2]Retinal Consultants **CR*, ↗

5380 — *B0076* **The efficacy of mast cell stabilizer in the experiment rat model of geographic atrophy.** *Shuntaro Ogura, R. Baldeosingh, S. P. Kambhampati, G. A. Lutty.* Department of Ophthalmology, Johns Hopkins University

5381 — *B0077* **Anti-inflammatory Activity of a New Class of JAK/ROCK Inhibitors for Posterior Segment Disease.** *Mitchell A. deLong[1, 2], K. Vick[1], j. Sturdivant[1], C. Kopczynski[1], C. Lin[1].* [1]Aerie Pharmaceuticals; [2]Chemistry, Duke University **CR*

5382 — *B0078* **Pathophysiological significance of adrenomedullin-RAMP2 system in age-related macular degeneration.** *Masaaki Tanaka[3, 2], K. Hirabayashi[3, 2], A. Imai[1, 2], Y. Toriyama[3, 2], Y. Iesato[3, 2], A. Yamauchi[4, 2], M. Tanaka[2], T. Sakurai[2], A. Kamiyoshi[2], Y. Ichikawa-Shindo[2], H. Kawate[2], T. Murata[1], T. Shindo[2].* [1]Ophthalmology, Shinshu uni.; [2]Cardiovascular Research, Shinshu University; [3]Ophthalmology, Shinshu University; [4]Japan Bio Products Co.

5383 — *B0079* **The hybrid compound SA-2 is neuroprotective in a rodent model of eye stroke.** *Adnan Dibas[1, 2], W. Zhang[1, 2], S. Chavala[1, 2], S. Acharya[1, 2].* [1]Pharmacology & Neuroscience, university of north texas health science center at fort worth; [2]North Texas Eye Research Institute **CR*

5384 — *B0080* **Nanostructured-based soft contact lenses for controlled delivery of ophthalmic drugs.** *Cesar Torres[1], N. Wang[1], N. Hu[2].* [1]Chemical & Biomolecular Engineering, University of Maryland; [2]Industrial Science & Technology Network, Inc

5385 — *B0081* **BIO201 Protects Retinal Pigment Epithelium Against A2E-Induced Phototoxicity Through A Mechanism Involving The PPARS.** *Valerie Fontaine[1], M. Fournié[1], E. Monteiro[1], C. Nivoit[1], S. CAMELO[2], P. Dilda[2], S. Veillet[2], J. A. Sahel[1], R. Lafont[2].* [1]Institut de la Vision; [2]Biophytis **CR*

5386 — *B0082* **The involvement of G protein-coupled receptor 35 on pathology of non-exudative age-related macular degeneration.** *Masamitsu Shimazawa, M. Moriguchi, S. Nakamura, H. Hara.* Molecular Pharmacology, Department of Biofunctional Evaluation, Gifu Pharmaceutical University

5387 — *B0083* **Ocular Tissue Distribution and Duration of Release of AR-13503 Following Administration of AR-13503 Sustained Release Intravitreal Implant in Rabbits and Miniature Swine.** *Jindong Ding, K. Crews, K. Carbajal, M. Weksler, L. Moore, E. C. Carlson, C. Lin.* Research and Development, Aerie Pharmaceuticals, Inc**.** **CR*

5388 — *B0084* **Patient experience data from the phase 2 Ladder trial of the Port Delivery System with ranibizumab.** *Richard F. Dreyer[1], M. Rabena[2], G. Barteselli[2], F. Tang[2], B. Tschosik[2].* [1]Retina Northwest; [2]Genentech, Inc**.** **CR*, ↗

5389 — *B0085* **SYL1801: Preclinical Efficacy and Safety of a siRNA-based eye drops treatment for Age Related Macular Degeneration.** *Ana Isabel Jimenez[1], V. Ruz[2], L. Rico[2], T. Martinez[2], S. Monteiro[2], A. Cuesta[2], A. Guerra[2], A. Cuenca[2], V. Gonzalez[2].* [1]R & D, Sylentis; [2]Sylentis **CR*

5390 — *B0086* **Bi-layered Capsule for Sustained Release of Bevacizumab to treat Wet Age-Related Macular Degeneration.** *Pengfei Jiang[1], J. Lannutti[2], M. Ohr[3], K. E. Swindle-Reilly[1, 4].* [1]William G**.** Lowrie Department of Chemical and Biomolecular Engineering, The Ohio State University; [2]Department of Materials Science and Engineering, The Ohio State University; [3]Department of Ophthalmology & Visual Science, The Ohio State University; [4]Department of Biomedical Engineering, The Ohio State University

5391 — *B0087* **AG-67650, a bi-specific fusion protein for the treatment of wet age-related macular degeneration.** *Larry A. Wheeler[1], A. Wu[2], B. Chang[2], T. Nguyen[2], M. Cherukury[2].* [1]Zeteo Drug Discovery LLC; [2]Allgenesis Biotherapeutics Inc**.** **CR*

5392 — *B0088* **A novel sphingosine-1-phosphate agonist, HY-3011, protects porcine retinal pigment epithelial cells from 7-keto Cholesterol induced oxidative damage.** *Ji-Ye J. Wei[1, 2], L. Yin[1, 2], C. X. Wei[3], J. Tombran-Tink[4], Y. Tan[3], C. Wei[3], L. Xu[2], C. J. Barnstable[4], C. Wei[5], X. He[1, 2], W. He[1, 2].* [1]Ophthalmic Drug Innovation Research Institute, He University Eye Hospital; [2]Clinical Trials and Clincial Research Center, He Eye Hospitals; [3]Community Medicine, University of North Texas Health Science Center; [4]Neural and Behavior Science, Penn State University Medical Center at Hershey; [5]Internal Medicine, Indiana University Medical Center

5393 — *B0089* **Sustained neuroprotective effect of novel Aβ aggregation modulator GAL-101 shown in dry AMD and glaucoma models with transient peak concentrations using eye drops.** *Hermann Russ[1], C. Parsons[1], Y. Barkana[1], A. L. Pearlman[5], J. Heier[4], L. A. Levin[6], R. N. Weinreb[2], J. M. Liebmann[3].* [1]Science, Galimedix Therapeutics; [2]Department of Ophthalmology, Shiley Eye Institute; [3]Department of Ophthalmology, Columbia University Medical Center; [4]Ophthalmology, Ophthalmic Consultants of Boston; [5]Management, Galimedix Therapeutics Inc.; [6]Montreal Neurological Insitute and Hospital **CR*

5394 — *B0090* **Sustained in vitro release of bevacizumab from biodegradable silica microparticle-silica hydrogel composite formulations.** *Panu S. Noppari[1, 2], L. Puskala[1], M. Lagström[3], M. Päiviö[1], J. Mikkola[1], L. Leino[1].* [1]DelSitech Ltd; [2]School of Chemical Engineering, Aalto University; [3]Biosciences, Åbo Akademi University

5395 — *B0091* **Injectable, hydrolytically degradable hydrogel for controllable, sustained protein release in the posterior eye.** *Chi Ming Laurence Lau, Y. Chau.* Chemical and Biological Engineering, The Hong Kong University of Science and Technology

5396 — *B0092* **Development of Novel Bispecific Anti-Inflammatory and Anti-Angiogenic Therapy for the Treatment of both Retinal Vascular and Inflammatory Diseases.** *Fernando Correa, R. Jacobson, N. Prasad, W. Ngo, J. Lu, C. Su, X. Huang, h. liang, D. Perlroth.* Kodiak Sciences **CR*

5397 — *B0093* **Chitosan coated Hyaluronic Acid Antibiotic Transport System (CHATS).** *Margaret Hubbell[1], M. Fullerton[1], N. Sahiner[1], S. Horsley[3], Z. Zhang[1], R. Ayyala[2, 1].* [1]Ophthalmology, Tulane University; [2]Ophthalmology, University of South Florida; [3]Texas Women's University

5398 — *B0094* **Sustained Delivery of Proteins to the Ocular Surface via a Mucoadhesive, Biodegradable Delivery System, NanoM.** *Kevin Ward, Y. Li, S. P. Barman.* Integral BioSystems **CR*

5399 — *B0095* **Topical Lifitegrast Inhibits Pathological Ocular Neovascularization.** *Isabel Franklin[1], S. Li Calzi[2], M. B. Grant[2], D. Cunningham[3], A. J. Franklin[4].* [1]Auburn University; [2]University of Alabama at Birmingham; [3]Dell Laser Consultants; [4]Diagnostic and Medical Clinic

5400 — *B0096* **Efficacy of Ranibizumab plus Aflibercept Therapy with Dexamethosone Intravitreal Injection in Patients with DME.** *Joao J. Nassaralla[1], A. A. Nassaralla[3], A. A. Nassaralla[5], M. H. Amaro[2], J. J. Nassaralla[4].* [1]Retina, Instituto de Olhos de Goiania; [2]Retina, Laser Associados; [3]Medical School São Leopoldo Mandic; [4]Medical School UFG; [5]UniEvangelica Medical School ↗

5401 — *B0097* **Comparative evaluation of Aflibercept and Ranibizumab on central choroidal subfield thickness (CCST) in patients treated for wet AMD.** *Kanishka R. Mendis[2, 1], J. Rivero[2], D. Nawaz[1], M. Juliet[1], A. Haider[1].* [1]Canberra Hospital; [2]Canberra Retina Clinic

5402 — *B0098* **Dopamine agonists- a new way to inhibit pathological angiogenesis in zebrafish model.** *Swiech- Zubilewicz Anna[1], K. Danieluk[1, 2], J. Dolar-Szczasny[1], M. Oseka[3], J. Mackiewicz[1].* [1]Department of Retina and Vitreus Surgery, Medical University of Lublin, Poland; [2]2**.** Centre of Experimental Medicine, Medical University of Lublin, Poland; [3]Oftalabs **CR*

5403 — *B0099* **The Effect of Multiple Anti-VEGF Injections on Retinal Nerve Fiber Layer (RNFL) Thickness.** *Petar Yanev[1], C. Krambeer[2], J. M. Iltis[1], A. Mendlovitz[2], M. Singer[2].* [1]University of Texas Health Science Center San Antonio; [2]Medical Center Ophthalmology Associates

5404 — *B0100* **Aflibercept and Ranibizumab modulate retinal pigmented epithelial cells viability/proliferation and protect them from oxidative stress by mechanisms related to their cross talk with vascular endothelial cells.** *Stefano De Cillà[1, 2], C. Toma[1], S. Vujosevic[1], A. Muraca[1], S. Farruggio[3], G. Raina[3], E. Grossini[3].* [1]University Hospital Maggiore della Carità, Novara; [2]Health Sciences, University East Piedmont "A.Avogadro"; [3]Translational Medicine, University East Piedmont "A.Avogadro"

5405 — *B0101* **Discovery of ferrochelatase inhibitors as antiangiogenic agents.** *Kamakshi Sishtla[1, 2], S. Lee[3], J. Lee[3], S. Seo[3], T. Corson[1, 2].* [1]Eugene and Marilyn Glick Eye Institute; [2]Ophthalmology, Indiana University School of Medicine; [3]College of Pharmacy, Gachon University **CR*

5406 — *B0102* **Anti-angiogenic effect of Spironolactone on a model of corneal neovascularization.** *Clemence Bonnet[1, 3], M. Zhao[3], M. Seminel[3], R. Dailleux[3], E. Gelize[3], J. Bourges[2, 3], F. F. Behar-Cohen[3, 2].* [1]Stein Eye Institute; [2]Cochin Hospital; [3]Centre de Recherches des Cordeliers

5407 — *B0103* **Comparison of the effects of intravitreal aflibercept, bevacizumab and ranibizumab on retinal function and vasculature after oxygen-induced retinopathy.** *wai ching Lam, J. Tsang, A. C. Lo.* Ophthalmology and Vision Sciences, University of Hong Kong **CR*

5408 — *B0104* **Angiopoietin 2 specific inhibitors optimized for use in retinal diseases.** *Matthew J. Warner[1], D. J. Parks[2], S. Kossodo[3], R. Quick[4], A. A. Paylor[5], K. G. McLure[2], S. E. Thacker[2], R. Carris[4], M. Levy[1], C. Erickson[6], C. Rusconi[7].* [1]Discovery, Vitrisa Therapeutics; [2]Biology, Vitrisa Therapeutics; [3]Non-Clinical, Vitrisa Therapeutics; [4]Chemistry, Vitrisa Therapeutics; [5]Program Management, Vitrisa Therapeutics; [6]CEO, Vitrisa Therapeutics; [7]Research, Vitrisa Therapeutics **CR*

5409 — *B0105* **New technology for administering antiVEGF.** *Sergio Zaccaria Scalinci[1], M. ENRICO[2], M. Gioia[1], L. Scorolli[3].* [1]Ophthalmology, University of Bologna SOrsola Malpighi; [2]Ophthalmology, medical University of Sofia; [3]Ophthalmology, poliambulatorio santa lucia

5410 — *B0106* **Dopamine 2 receptor activation suppresses VEGF-induced proliferation of primary cultured human retinal microvascular endothelial cells.** *Jeong-Hyeon Sohn[1], N. Akimov[1], E. Zediker[2], A. Gregory[2], S. Ali[2], F. Gerilechaogetu[1], L. Fortepiani[3, 4], R. Renteria[3, 1].* [1]Ophthalmology, University of Texas Health Science Center; [2]University of the Incarnate Word, Rosenberg School of Optometry; [3]Clinically Applied Science Education, University of the Incarnate Word, School of Osteopathic Medicine; [4]Cellular and Integrative Physiology, University of Texas Health Science Center

5411 — *B0107* **A PLGA-Carboxyamidotriazole (CAI) Polymeric Suspension Suppresses Pathological Ocular Angiogenesis in rodent CNV model.** *Sergio Li Calzi[1], D. CHAKRABORTY[1], B. Asare-Bediako[1], I. Franklin[2], S. Kakumanu[3], L. Balenci[4], M. B. Grant[1], A. Franklin[3].* [1]Ophthalmology and Visual Science, University of Alabama at Birmingham; [2]Auburn University; [3]None; [4]None **CR*

West Exhibition Hall B0303-B0322

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Genetics Group

491 Cornea and diabetes-related disorders

Moderator: Francisco C. Figueiredo

5412 — *B0303* **Wnt/PCP signaling in ocular adnexa and pathogenesis.** *Chunqiao Liu, D. Guo, B. Zou, J. Ru, L. Wei, H. Ouyang.* Zhongshan Ophthalmic Center, SYSU, State Key Laboratory of Opthalmology

5413 — *B0304* **Low mitogenic conditions maintain the corneal endothelial cell phenotype in vitro.** *Payton Boere, J. Wu, R. F. Frausto, A. J. Aldave.* Cornea Genetics, University of California, Los Angeles

5414 — *B0305* **Punctiform and Polychromatic Pre-Descemet Corneal Dystrophy: report of two families and the identification of a segregating intronic variant in *PDZD8* using whole-exome sequencing.** *Alice R. Barrington, D. Chung, J. Alio del Barrio, K. Jatavallabhula, V. Swamy, A. J. Aldave.* Jules Stein Eye Institute, UCLA

5415 — *B0306* **Genetic and molecular study of keratoconus in a Brazilian family.** *Rossen M. Hazarbassanov[1, 2], A. Besborodco[2], P. A. Otto[2], R. C. Netto[2].* [1]Department of Ophthalmology and Visual Sciences, Paulista School of Medicine, Federal University of São Paulo; [2]Department of Genetics and Evolutionary Biology, Instituto de Biociências - Universidade de São Paulo

5416 — *B0307* **ZEB1 insufficiency causes corneal endothelial cell state transition and altered cellular processing.** *Anthony J. Aldave[3], R. F. Frausto[3], D. Chung[3], V. Swamy[3], H. Duong[3], W. Zhang[3], P. Boere[3], M. Zakharevich[3], M. Hanser[3], I. Kurtz[2], M. Pellegrini[1].* [1]Department of Molecular, Cell and Developmental Biology, UCLA; [2]Division of Nephrology, David Geffen School of Medicine at UCLA; [3]The Stein Eye Institute, David Geffen School of Medicine at UCLA

5417 — *B0308* **Detection of genes associated with proliferative diabetic retinopathy using Nanostring technique.** *Alon Zahavi[1, 2], J. Abu dbai[3], S. Weiss[4], N. Goldenberg-Cohen[3, 5].* [1]Ophthalmology, Rabin Medical Center; [2]Ophthalmology, Tel Aviv University; [3]Ophthalmology, Bnai Zion Medical Center; [4]The Krieger Eye Research Laboratory; [5]Technion

5418 — *B0309* **Blood pressure and early diabetic retinopathy: A Mendelian Randomization study.** *Yu Huang[1], M. Siddiqui[1], R. Kwan[1], E. Trucco[2], C. Palmer[1].* [1]Division of Population Health and Genomics, University of Dundee; [2]Computing, School of Science and Engineering, University of Dundee

5419 — *B0310* **Genetic analysis of self-reported glaucoma from the Health and Retirement Study.** *Jessica Cooke Bailey[1], T. Kinzy[1], N. Schiltz[2].* [1]Population & Quantitative Health Sciences, Case Western Reserve University School of Medicine; [2]Frances Payne Bolton School of Nursing

5420 — *B0311* **Variants in myelin regulatory factor (*MYRF*) cause autosomal dominant nanophthalmos.** *Lev Prasov[10, 1], S. J. Garnai[2, 1], M. Brinkmeier[5], B. Emery[9], T. S. Aleman[3, 8], L. C. Pyle[7], B. O. Veleva-Rotse[9], R. Sisk[4], S. E. Moroi[1], S. M. Archer[1], L. Wiinikka-Buesser[1], F. W. Rozsa[1], G. L. Skuta[6], S. Camper[5], J. Richards[1].* [1]Ophthalmology, University of Michigan; [2]Harvard Medical School; [3]Scheie Eye Institute; [4]Cincinnati Eye Institute; [5]Human Genetics, University of Michigan; [6]Dean McGee Eye Institute; [7]Human Genetics, Children's Hospital of Philadelphia; [8]Children's Hospital of Philadelphia; [9]Jungers Center for Neurosciences Research, Oregon Health and Sciences University; [10]Ophthalmic Genetics Branch, National Eye Institute, National Institutes of Health

5421 — *B0312* **Leber Congenital Amaurosis associated with *GUCY2D* variants: A Retrospective Natural History Study in preparation for future Therapies.** *ZAINA I. BOUZIA[2, 1], M. Georgiou[2, 1], S. Hull[2, 1], A. G. Robson[2, 1], A. Webster[2, 1], A. J. Hardcastle[1], A. Fiorentino[1], M. Michaelides[2, 1].* [1]University College London; [2]Moorfields Eye Hospital ***CR***

5422 — *B0313* **Multimodal imaging and electroretinography analysis of end-stage presentations of X-linked retinoschisis.** *Jesse D. Sengillo[1, 3], W. Lee[3], R. Jauregui[3], S. H. Tsang[3, 2].* [1]Department of Medicine, Reading Hospital of Tower Health; [2]Department of Ophthalmology, Columbia University; [3]Jonas Children's Vision Care, Columbia University

5423 — *B0314* **Awareness of olfactory impairment in a cohort of patients with *CNGB1*-associated retinitis pigmentosa.** *Farid Afshar[1, 2], G. Arno[1, 2], R. Ba-Abbad[1, 2], S. D. Esposti[1, 2], M. Michaelides[1, 2], A. Webster[1, 2], O. Mahroo[1, 2].* [1]UCL Institute of Ophthalmology, University College London; [2]Genetics service, Moorfields Eye Hospital

5424 — *B0315* **Ocular phenotype and associations with systemic findings in patients with primary hyperoxaluria type I.** *Johannes Birtel[1, 2], P. Herrmann[1, 2], S. F. Garrelfs[3], S. Dulz[4], Y. Atiskova[4], R. M. Diederen[7], M. Gliem[1, 5], F. Brinkert[6], F. G. Holz[1, 2], C. Boon[7, 8], B. Hoppe[9], P. Charbel Issa[1, 5].* [1]Department of Ophthalmology, University of Bonn; [2]Center for Rare Diseases Bonn (ZSEB), University of Bonn; [3]Emma Children's Hospital, Department of Pediatric Nephrology, University of Amsterdam; [4]Department of Ophthalmology, University Medical Center Hamburg-Eppendorf; [5]Department of Clinical Neurosciences, Oxford Eye Hospital, Oxford University Hospitals NHS Foundation Trust, and Laboratory of Ophthalmology; [6]Department of Pediatrics, University Children's Hospital, University Medical Center Hamburg-Eppendorf; [7]Department of Ophthalmology, Amsterdam UMC, University of Amsterdam; [8]Department of Ophthalmology, Leiden University Medical Center; [9]Department of Pediatrics, Division of Pediatric Nephrology, University of Bonn ***CR***

5425 — *B0316* **A Novel Imaging Analysis Method to Quantify Fleck Area in *ABCA4* Retinopathy.** *Laryssa Huryn, R. Jauregui, N. Hotaling, W. M. Zein, D. Cunningham, B. G. Jeffrey, C. A. Cukras, B. P. Brooks.* Ophthalmic Genetics and Visual Function, National Eye Institute ↗

5426 — *B0317* **Severe Female Carrier Phenotype in an Irish Pedigree with Novel Massive Deletion in the CHM Gene.** *Julia Zhu[1], K. Stephenson[1], A. Dockery[2], N. C. Wynne[3], G. Farrar[2], P. F. Kenna[2, 3], G. Silvestri[4], D. J. Keegan[1].* [1]Mater Retinal Research Group, Mater Misericordiae University Hospital; [2]The School of Genetics & Microbiology, Trinity College Dublin; [3]The Research Foundation, Royal Victoria Eye and Ear Hospital; [4]Belfast Health and Social Care Trust

5427 — *B0318* **Clinical and histopathological findings in a family with Meretoja's syndrome carrying a novel gelsolin mutation.** *JOSE MARIO PEREZPEÑA-DIAZCONTI[1], J. Cabral-Macias[2], E. O. Graue-Hernandez[2], J. C. Zenteno[1], O. Chacon[1].* [1]Unidad de Investigacion, Instituto de Oftalmologia Conde De Valenciana; [2]Departamento de Cornea, Instituto de oftalmología Conde de Valenciana

5428 — *B0319* **Identification of novel mutations in *PITX2* gene in Pakistani and Mexican Families with Axenfeld-Rieger Syndrome.** *Valeria Lo Faro[1, 2], S. Micheal[2], S. Noorani Siddiqu[6], M. Khan[4], P. Wagstaff[2], C. Villanueva Mendoza[5], N. M. Jansonius[1], A. A. Bergen[2, 3].* [1]Ophthalmology, University Medical Center Groningen; [2]Clinical Genetics, Academic Medical Center; [3]Ophthalmology, Academic Medical Center; [4]Human Genetics, Donders Institute for Brain,Cognition and Behaviour**.** Radboud UMC; [5]Genetics, Asociación Para Evitar la Ceguera en México; [6]Pediatric Ophthalmology, Al-Shifa Eye Trust Hospital

5429 — *B0320* **Anterior segment dysgenesis with cardiac anomalies caused by a novel truncating variant of *FOXC1*.** *Mariya R. Ahmed[1], S. Sethna[2], M. B. Yang[3], R. B. Hufnagel[1].* [1]National Eye Institute, National Institutes of Health; [2]University of Maryland Baltimore; [3]Cincinnati Children Hospital Medical Center

5430 — *B0321* **Observation of nineteen *SLC4A11* mutations among 20 Iranian CHED probands and identification of a novel candidate CHED causing gene.** *Elahe Elahi[1], H. Moazzeni[1, 2], M. Javadi[3], D. Asgari[1], M. Panahi-Bazaz[4], M. Hosseini Tehrani[5].* [1]School of Biology, University of Tehran; [2]Department of Medical Genetics, Tarbiat Modares University; [3]Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences; [4]Ahvaz Jondishapour University of Medical Sciences; [5]Eye Research Center, Tehran University of Medical Sciences

5431 — *B0322* **Mutations in proteasome 26S subunit, non-ATPase 5 gene (*psmd5)* cause ocular coloboma and vertebral defects.** *VIJAY K. KALASKAR[1], N. Diaz Torres[2], A. George[1], T. Cogliati[1], B. P. Brooks[1].* [1]Pediatric, Developmental & Genetic Ophthalmology Section, Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health; [2]University of Puerto Rico School of Medicine

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West Exhibition Hall B0323-B0374

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Clinical/Epidemiologic Research

492 Healthcare Delivery

Moderator: Varshini Varadaraj

5432 — *B0323* **Activity-Based Costing of the Intravitreal Injection Procedure.** *Jonathan Go[1], C. Y. Weng[2].* [1]Baylor College of Medicine; [2]Department of Ophthalmology, Baylor College of Medicine - Cullen Eye Institute ***CR***

5433 — *B0324* **Follow-up Rates at a Free Ophthalmology Homeless Clinic.** *Lauren Hennein[1], K. Spaulding[2], V. Karlegan[3], A. de Alba Campomanes[1].* [1]Ophthalmology, University of California San Francisco Department of Ophthalmology; [2]University of California San Francisco; [3]San Francisco State University

5434 — *B0325* **Association Of Muscular Skeletal Disorders And Visual Fatigue In A Group Of Assistants Medical Users Of Video Terminals.** *Omar García-Lievanos[1], L. Hernández Flores[1], L. Sanchez Gonzalez[1], F. Colin Romero[2], D. Montijo Cigales[1].* [1]Optometria, Instituto Politecnico Nacional; [2]Odontologia, Instituto Politecnico Nacional

5435 — *B0326* **Postoperative follow-up adherence for first-time ophthalmic surgery in the South Bronx.** *Stephen V. Lau[1, 2], A. Mehta[1, 2], N. Nataneli[1, 2], P. S. Rosenbaum[1, 2].* [1]BronxCare Health System; [2]Icahn School of Medicine at Mount Sinai

Wednesday Posters 3:00 pm – 4:45 pm

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. ***CR** Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

5436 — *B0327* **Effectiveness and patient acceptance of novel immersive serious games for population eye health education.** *Dinesh V. Gunasekeran[1, 2], R. Low[1, 3], R. Gunasekeran[4, 1], B. Chan[3], H. Ong[3], D. Raje[5], H. Mi[1], Q. D. Nguyen[6], R. V. Agrawal[1, 4].* [1]National Healthcare Group Eye Institute, Tan Tock Seng Hospital, Singapore; [2]VISRE; [3]National University of Singapore; [4]Nanyang Technological University (NTU); [5]MDS Bioanalytics; [6]Byers Eye Institute, Stanford Medicine **CR*

5437 — *B0328* **The Effect of Digital Media in Eye Care: Improving Patient Education and Compliance.** *Matthew Ajaj[1], D. Patel[1], T. Parekh[1], S. Parekh[2], J. G. Parekh[3, 4].* [1]EyeCare Consultants Center for Ocular Surface Excellence of New Jersey; [2]New York Medical College, New York; [3]New York Eye and Ear Infirmary of Mount Sinai; [4]The Icahn School of Medicine at Mt**.** Sinai, New York

5438 — *B0329* **To Compare Patient Satisfaction In Two Different Medical Retina Clinic Settings: Face-to-Face Versus Virtual Clinic.** *Meriam Islam[1], C. Kern[1, 2], K. U. Kortuem[1, 3], K. Balaskas[1, 3], P. A. Keane[1, 3], D. A. Sim[1, 3].* [1]Moorfields Eye Hospital; [2]Department of Ophthalmology, University Hospital LMU; [3]National Institute for Health and Research (NIHR) Biomedical Center **CR*

5439 — *B0330* **Ophthalmic Care Needs Assessment for Indigenous Peoples living in Isolated Environments in French Guiana.** *thibaut Chapron[1, 2], T. Barthelemy[3], P. Dalens[3], Q. Zhang[3], M. Gerard[3], P. Brousse[3].* [1]Paris Descartes University; [2]fondation rothschild; [3]Centre Hospitalier Andre Rosemond

5440 — *B0331* **Ophthalmology consultations at an academic hospital.** *Levi Kanu, D. Oh, J. Chen, A. Aref, W. F. Mieler, P. MacIntosh.* University of Illinois at Chicago

5441 — *B0332* **Engaging patients and clinical stakeholders to increase teleophthalmology use for diabetic eye screening in rural primary care clinics.** *Yao Liu[1], J. Carlson[1], N. Zupan[1], T. D. Molfenter[2], J. E. Mahoney[3], D. Boss[2], R. Klein[1], T. D. Bjelland[4], M. A. Smith[2, 5].* [1]Dept of Ophthalmology and Visual Science, University of Wisconsin, Madison; [2]Dept**.** of Family Medicine and Community Health, University of Wisconsin School of Medicine and Public Health; [3]Dept**.** of Medicine, University of Wisconsin School of Medicine and Public Health; [4]Mile Bluff Medical Center; [5]Dept**.** of Population Health Sciences, University of Wisconsin School of Medicine and Public Health

5442 — *B0333* **Decreasing Medical and Surgical Vitreoretinal Physicians for Seniors in Ontario, Canada from 2009 to 2016.** *Peng Yan[1], P. Kertes[1], Y. Jin[1, 2], S. Jin[1].* [1]Department of Ophthalmology and Vision Sciences, University of Toronto, and Kensington Eye Institute; [2]Dalla Lana School of Public Health, University of Toronto

5443 — *B0334* **An Adherence Survey into the use of eye drops in Inflammatory Eye Disease.** *Hedayat Javidi[1, 2], N. Poonit[1, 2], R. P. Patel[1, 2], R. J. Barry[1, 2], S. Rauz[1, 2], P. I. Murray[1, 2].* [1]Academic Unit of Ophthalmology, Institute of Inflammation and Ageing; [2]Inflammatory Eye Disease Service, Birmingham & Midland Eye Centre

5444 — *B0335* **Identifying Predictors of Patient no-shows in Pediatric Ophthalmology.** *Isaac Goldstein, W. Lin, L. G. Reznick, M. F. Chiang, M. Hribar.* OHSU **CR*

5445 — *B0336* **A Conditional Inference Tree for predicting non-Adherence to Post-Ophthalmic Screening Tertiary Referrals in Type-2 Diabetic patients.** *Alfred Gan[1], E. K. Fenwick[1, 2], E. L. Lamoureux[1, 2], R. Man[1].* [1]Singapore Eye Research Institute; [2]Duke-NUS Medical School

5446 — *B0337* **Differences in Receiving Eye Care Based on Dementia Status.** *Suzann Pershing[1], M. Goldstein[1], V. Henderson[1], Y. Lu[1], M. Bundorf[1], M. Rahman[2, 1], C. Andrews[2], J. D. Stein[2].* [1]Stanford University; [2]University of Michigan

5447 — *B0338* **De-insured Routine Eye Exams Significantly Reduced the Use of Government-insured Optometrists but Increased the Use of Government-insured Primary Care Providers for Ocular Diagnoses.** *Yaping Jin[1, 2], W. Jeon[2], R. H. Glazier[3], M. Brent[1], Y. M. Buys[1], G. E. Trope[1].* [1]Ophthalmology & Vis Sci, University of Toronto; [2]Institute of Medical Science, University of Toronto; [3]University of Toronto

5448 — *B0339* **Publicly available datasets identify priority regions for ocular telehealth intervention.** *Samantha D'Amico[1, 2], N. Benner[2], B. Y. Kim[1, 2], C. J. Brady[1, 2].* [1]University of Vermont Medical Center; [2]Larner College of Medicine at the University of Vermont

5449 — *B0340* **Performing Ocular Procedures under Oral Sedation in Procedure Rooms: A Cost Analysis.** *Carrie Chen[2], D. Luther[1], T. Acciavatti[1], M. L. Subramanian[2, 1].* [1]Boston Medical Center; [2]Boston University School of Medicine

5450 — *B0341* **Testing a framework for eye care provision in special educational schools in the UK: are there measurable benefits?** *Emma McConnell[1], S. Black[1], J. Little[1], J. McClelland[1], L. McKerr[2], K. Dillenburger[2], P. Anketell[3], J. Jackson[3], K. Saunders[1].* [1]Ulster University; [2]Queens University Belfast; [3]Royal Victoria Hospital

5451 — *B0342* **Frequency and source of eyeglass insurance coverage in Ontario: Results from 2003 to 2013/14.** *Prem Nichani[1, 2], G. E. Trope[1, 3], Y. M. Buys[1, 3], S. N. Markowitz[1, 3], S. Y. Liu[2], G. Ngo[4], M. Markowitz[5], Y. Jin[1, 6].* [1]Department of Ophthalmology and Vision Sciences, University of Toronto; [2]Faculty of Medicine, University of Toronto; [3]Department of Ophthalmology, Toronto Western Hospital; [4]Faculty of Medicine, University of Western Ontario; [5]Private Practice; [6]Dalla Lana School of Public Health, University of Toronto **CR*

5452 — *B0343* **Budget impact analysis of trabecular bypass stenting versus trabeculectomy for the treatment of open-angle glaucoma (OAG) from a German payer perspective.** *Patricia M. Buchholz[1], A. P. Buchholz[2], S. Bluemle[3], H. Falvey[4], C. Steeds[5].* [1]PBC Consulting; [2]Ophthalmology, Städtisches Klinikum Karlsruhe; [3]Glaukos Germany GmbH; [4]Healthcare Economics and Outcomes Research, Glaukos; [5]Valid Insight **CR*

5453 — *B0344* **Epidemiology of patients evaluated at the Emergency Unit of Londrina Eye Hospital - Brazil.** *Eduardo M. Vidal[1], H. P. Sonomiya[2], L. I. Silva[2], B. Foresti[1], M. Silva[1], E. Hoyama[1], T. Matsuo[1], N. Hasegawa[1].* [1]Hoftalon - Londrina Eye Hospital; [2]PUC Londrina

5454 — *B0345* **Management outcomes from using ultra-widefield and OCT imaging for a virtual medical retina clinic.** *Devangna Bhatia, J. Lee, V. Manjunath, J. S. Talks.* Ophthalmology, Royal Victoria Infirmary **CR*

5455 — *B0346* **Implementing the Save Sight Keratoconus Registry in the hospital setting.** *Alex Ferdi[1], V. Nguyen[1], C. Samarawickrama[2], S. L. Watson[1].* [1]The University of Sydney, Save Sight Institute; [2]Westmead Hospital

5456 — *B0347* **Cost analysis of disposable versus non-disposable instruments for oculoplastics minor operations.** *Christine Anggun Putri, P. Rezai, Z. Currie.* Sheffield Teaching Hospitals NHS Trust

5457 — *B0348* **Early Experience with Canada's Care1 Tele-glaucoma Program: A Comprehensive, Shared-care Ocular Health Delivery Model.** *Sara Branson[1], A. Y. Maa[1], K. Gan[2].* [1]Ophthalmology, Emory University; [2]Victoria Eye **CR*

5458 — *B0349* **Cost-effectiveness Analysis of Endonasal Dacryocystorhinostomy using Markov Modeling.** *Jenny Q. Hu[1], C. J. Men[2], N. A. Afshari[2], B. S. Korn[3, 4], D. O. Kikkawa[3, 4].* [1]University of California, San Diego School of Medicine; [2]Ophthalmology, Shiley Eye Institute, University of California, San Diego; [3]Ophthalmology, Division of Oculofacial Plastic and Reconstructive Surgery, University of California, San Diego; [4]Surgery, Division of Plastic Surgery, University of California, San Diego **CR*

5459 — *B0350* **Practice patterns for intravitreal injections in Argentina. Results from a national survey of the Argentine Council of Ophthalmology.** *Julio A. Urrets-Zavalia[1], E. Esposito[1], N. Crim[1], M. Barros-Centeno[1], C. Guantay[1], A. Gonzalez-Castellanos[1], A. Miranda[1], M. Iros[2], P. Daponte[3].* [1]Ophthalmology, University Clinic Reina Fabiola, Universidad Catolica de Cordoba; [2]Instituto de Microcirugía Ocular Cordoba; [3]Argentine Council of Ophthalmology

5460 — *B0351* **Nonmydriatic Photographic Screening for Diabetic Retinopathy in Pregnant Patients with Pre-existing Diabetes in a County Population.** *Malini Veerappan[1], D. Myung[1], A. Jelks[2], C. K. Pan[1, 3].* [1]Byers Eye Institute, Stanford University; [2]Maternal Fetal Medicine, Santa Clara Valley Medical Center; [3]Ophthalmology, Santa Clara Valley Medical Center

5461 — *B0352* **Cost-effectiveness of Choroideremia Gene Therapy.** *Celine-Lea Halioua-Haubold, J. K. Jolly, D. A. Brindley, R. Pinedo-Villanueva, R. E. MacLaren.* The University of Oxford **CR*

5462 — *B0353* **Real-World Use of Artificial Intelligence to Screen for Diabetic Retinopathy at Diabetes Care Clinics.** *E Simon Barriga[1], J. Benson[1, 2], G. Zamora[1], J. Lozano[3], S. C. Nemeth[1], P. Soliz[1].* [1]VisionQuest Biomedical; [2]Computer Science, The University of New Mexico; [3]Clinicas del Azucar **CR*

5463 — *B0354* **Detecting Common Eye Diseases Using a Teleophthalmology GlobeChek Kiosk: A Pilot Study.** *Rahul Kapoor[1], V. Patel[1], J. Alcantara-Castillo[1], M. Ramachandran[1], K. Ali[1], R. Alshamah[1], E. Jamerson[1], J. Sparrow[1], W. J. Mallon[2], A. Katz[2], L. Al-Aswad[1].* [1]Ophthalmology, Columbia University Medical Center; [2]Globechek LLC **CR*

5464 — *B0355* **Ocular Triage: A Quality Improvement Study For Referral Patients in Ophthalmology Clinic.** *Abhiniti Mittal[1], J. Donaldson[2].* [1]New York Medical College; [2]Ophthalmology, Metropolitan Hospital

5465 — *B0356* **Trends in the prevalence of blindness and national income levels: findings from 157 countries from 1990 to 2015.** *Andrew F. Smith[1, 2], R. R. Bourne[3, 8], H. R. Taylor[4], J. B. Jonas[5], S. Resnikoff[6], M. Wormstone[7].* [1]Medmetrics Inc.; [2]Department of Ophthalmology, King's College London; [3]Vision & Eye Research Unit, School of Medicine, Anglia Ruskin University; [4]Melbourne School of Population and Global Health, University of Melbourne; [5]Department of Ophthalmology, Medical Faculty Mannheim, Heidelberg University; [6]Brien Holden Vision Institute; [7]School of Biological Sciences, University of East Anglia; [8]Cambridge Eye Research Centre, Cambridge University Hospitals

5466 — *B0357* **Predicting Costs and Disability from the Myopia Epidemic – A Worldwide Economic and Social Model.** *Chantal Holy[1], K. Kulkarni[2], N. A. Brennan[2].* [1]Medical Device Epidemiology, Johnson & Johnson; [2]R&D, Johnson & Johnson **CR*

5467 — *B0358* **Evaluating the Cost Effectiveness of a Telemedicine-based Diabetic Retinopathy Screening Program in the Bronx.** *Hasan Muqri[1], R. Muhtadi[1], J. Tang[1], C. Moskowitz[1], B. Zarrin[1], R. S. Chuck[1, 2], U. Mian[1, 2].* [1]Albert Einstein College of Medicine; [2]Department of Ophthalmology and Visual Sciences, Montefiore Medical Center

5468 — *B0359* **Innovative Eye Drop Applicator for Self-Instillation of Eye Drops.** *Mukesh Taneja[1], S. Ch[2], K. Ch[3], A. Richhariya[2].* [1]Cornea and Anterior Segment Services, L V Prasad Eye Institute; [2]Engineering Group, L V Prasad Eye Institute; [3]Optometry Department, L V Prasad Eye Institute

5469 — *B0360* **Reporting and enrollment of women and racial minorities in ophthalmic clinical trials.** *Mariam Hamid[1], S. Orlov[2], L. De Lott[3], J. J. Ling[3], M. A. Woodward[3].* [1]Henry Ford Hospital; [2]University of Michigan; [3]University of Michigan Kellogg Eye Center **CR*

5470 — *B0361* **Compliance with Two-Identifier Protocols for Patient Verification.** *erik sweet, C. Spak, J. Weizer.* Kellogg Eye Center

5471 — *B0362* **Cost-Effectiveness Analysis of an Artificial Intelligence-Assisted Deep Learning System Implemented in the National Tele-Medicine Diabetic Retinopathy Screening in Singapore.** *Yuchen Xie[1], Q. Nguyen[1], V. Bellemo[1], M. Y. Yip[2], X. Lee[1], H. Hamzah[3], G. Lim[4], W. Hsu[4], M. Lee[4], J. Wang[2], C. Cheng[1, 3], E. A. Finkelstein[2], E. L. Lamoureux[1, 3], G. S. Tan[1, 3], T. Y. Wong[1, 3], D. S. Ting[1, 3].* [1]Singapore Eye Research Institute; [2]Duke-NUS Medical School; [3]Singapore National Eye Centre; [4]National University of Singapore **CR*

5472 — *B0363* **Comparison Of The Cost Of Topical Therapy For Glaucoma Between Generic And Brand Medicines In Mexico.** *Ernesto V. Vidaurre Mora, U. Moreno, G. Lazcano, J. Jiménez Román.* Asociación para Evitar la Ceguera

5473 — *B0364* **Impact of iStent on Medicare Part B Glaucoma Procedure Expenditure, 2007-2017.** *Jun Hui Lee[1], A. K. Ma[1], J. L. Warren[2], C. C. Teng[3].* [1]Yale School of Medicine; [2]Department of Biostatistics, Yale School of Public Health; [3]Department of Ophthalmology and Visual Science, Yale School of Medicine

5474 — *B0365* **The accuracy of acute eye referrals in Glasgow, Scotland.** *Niall Strang[1], A. Khatoon[1], G. Loffler[1], D. Gilmour[2].* [1]Vision Sciences, Glasgow Caledonian University; [2]Glasgow Centre for Ophthalmic Research, Gartnavel general Hospital

5475 — *B0366* **A realist evaluation of collaborative care models.** *Belinda K. Ford[1, 2], A. J. White[2, 3], L. Keay[1, 4].* [1]Eye Health Program, The George Institute for Global Health; [2]Ophthalmology Department, Westmead Hospital; [3]Sydney Medical School, University of Sydney; [4]Optometry and Vision Science, UNSW

5476 — *B0367* **C-EYE-C: Collaborative Care Between Optometrists and Ophthalmologists at a Major Sydney Hospital.** *Andrew J. White[1, 2], B. K. Ford[2, 3], B. Angell[3], G. Liew[2, 1], L. Keay[3].* [1]University of Sydney; [2]Ophthalmology, Westmead Hospital; [3]The George Institute for Global Health

5477 — *B0368* **Assessing the Demand for Teleophthalmology in Florida Emergency Departments.** *Samantha Ayoub[1], J. Tauber[1], E. Tsui[2], P. Shah[4], S. Rathi[3].* [1]NYU School of Medicine; [2]Department of Ophthalmology, University of California San Francisco; [3]Department of Ophthalmology, NYU Langone Health; [4]Department of Ophthalmology, University at Buffalo

5478 — *B0369* **Characterizing Geographic Variation in Surgical Management of Rhegmatogenous Retinal Detachment.** *Daniel Vail, S. Pershing.* Stanford University School of Medicine

5479 — *B0370* **Intravitreal Injections Among Medicare Part B Beneficiaries, 2012-2016.** *Dallin Andersen[1], P. Ludwig[2], A. Janot[3].* [1]Ophthalmology, University of Nebraska Medical Center; [2]Creighton University School of Medicine; [3]Vitreoretinal Institute

5480 — *B0371* **Expanded teleglaucoma clinics. An opportunity to manage the increasing demand for glaucoma care with safety and efficiency.** *Eleni Nikita[1], K. Kortuem[2, 3], S. Fasolo[2], D. Tsoukanas[1], D. Sim[2].* [1]Glaucoma Service, Moorfields Eye Hospital NHS Foundation Trust; [2]Moorfields Eye Hospital NHS Foundation Trust; [3]University Eye Hospital Munich

5481 — *B0372* **The Bolivian Diabetic Retinopathy (BOLDR) Project for screening and management of patients with diabetic retinopathy (DR) in underserved areas.** *Anthony C C. M[1], R. Cortes Arce[5], M. Murillo Sasamoto[2], G. Kaidonis[3], R. N. Agrawal[4].* [1]Retina, Fundación Boliviana de Oftalmología; [2]Instituto Privado de Oftalmología; [3]Ophthalmology, University of California, San Francisco,; [4]Retina Global; [5]Fundacion Boliviana de Oftalmologia

5482 — *B0373* **Risk Factors for the Incidence of Uveitis in a National Medical Claims Database.** *Brian C. Toy[1], Y. Zhang[1], S. Amin[1], N. A. Rao[1], K. Ipapo[2], S. A. Seabury[1, 2].* [1]Ophthalmology, USC Roski Eye Institute; [2]Leonard D**.** Schaeffer Center for Health Policy and Economics, University of Southern California **CR*

5483 — *B0374* **Cost Analysis of a Novel Comprehensive Tele-ophthalmology Program in VA Primary Care Clinics.** *Arthur C. Guyton[1], A. Y. Maa[1], B. Wojciechowski[2], C. L. Dismuke[3], K. Hunt[3], A. Howell[3].* [1]Emory University; [2]Ralph H Johnson VAMC; [3]Medical University of South Carolina **CR*

West Exhibition Hall B0375-B0403

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Clinical/Epidemiologic Research

493 Medical education, training, and EHR implementation

Moderators: Elaine M. Tran and Thomas S. Hwang

5484 — *B0375* **Evaluation of Ophthalmology Residency Program Websites: Analysis of Contents of 111 Programs in the United States.** *Poyi Wu[1], E. C. Namoglu[2], J. L. Chien[3, 4], A. Gu[5], M. P. Ghassibi[6], D. Belyea[5], G. Sun[4].* [1]Cleveland Clinic Lerner College of Medicine; [2]College of Liberal and Professional Studies, University of Pennsylvania; [3]Department of Medicine, Medstar Harbor Hospital; [4]Department of Ophthalmology, Weill Cornell Medical College; [5]George Washington University School of Medicine and Health Sciences; [6]Department of Ophthalmology, Hofstra Northwell School of Medicine

5485 — *B0376* **Gender Trends in Presenters at Ophthalmology Conferences 2015-2017.** *Sejal Patel[1], T. Truong[1], I. Tsui[2], J. Rosenberg[1].* [1]Ophthalmology, Montefiore Medical Center; [2]UCLA

5486 — *B0377* **Private Equity Acquisitions in Ophthalmology in the United States.** *Eloise M. ODonnell[1], S. Bhidya[1], G. Lelli[2], L. P. Casalino[1].* [1]Healthcare Policy and Research, Weill Cornell Medicine; [2]Ophthalmology, Weill Cornell Medicine

5487 — *B0378* **Student Authorship Effects on Scholarly Impact in Ophthalmology.** *munizay paracha[2], M. L. Subramanian[1].* [1]Department of Ophthalmology, Boston Medical Center; [2]Boston University School of Medicine

5488 — *B0379* **Evaluation of American Society of Ophthalmic Plastic & Reconstructive Surgery (ASOPRS) Surgeons' Social Media Presence and Online Reviews.** *Kai-Hua Chang[1], L. Wang[2], R. Salehi[2], E. C. Namoglu[3], A. Gu[4], P. Kuo[5], M. P. Ghassibi[7], J. L. Chien[2, 6].* [1]Department of Surgery, Johns Hopkins University School of Medicine; [2]Department of Medicine, Medstar Harbor Hospital; [3]College of Liberal and Professional Studies, University of Pennsylvania; [4]School of Medicine and Health Sciences, George Washington University; [5]Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health; [6]Department of Ophthalmology, Weil Cornell Medical College; [7]Department of Ophthalmology, Hofstra Northwell School of Medicine

5489 — *B0380* **Benefit of AIDET® Training for Resident Physicians.** *Christina Scelfo, M. L. Subramanian, T. Pira, N. Siegel.* Ophthalmology, Boston Medical Center

5490 — *B0381* **Gender Representation on Ophthalmic Journal Editorial Boards.** *Mona L. Camacci[1], A. Lu[2], M. Langue[1], A. Answine[2], E. M. Bowie[1], E. Lehman[3], I. U. Scott[1, 3], S. Pantanelli[1].* [1]Ophthalmology, Penn State Hershey Medical Center; [2]Penn State Hershey Medical Center; [3]Public Health Sciences, Penn State Hershey Medical Center ***CR**

5491 — *B0382* **Gender Representation on Ophthalmic Society Leadership Boards.** *Amy Lu[1], M. L. Camacci[2], A. Answine[1], E. M. Bowie[2], E. Lehman[1], I. U. Scott[2], S. Pantanelli[2].* [1]Penn State College of Medicine; [2]Ophthalmology, Penn State Hershey Medical Center

5492 — *B0383* **Burnout, Professional Fulfillment and Intent-to-Leave Among Ophthalmologists: A National Study.** *Tova Kosowsky[1], M. C. Higgins[2], D. Marchalik[3], M. Trockel[4], S. Rowe[5].* [1]Boston University School of Medicine; [2]Radiology, Boston Medical Center; [3]Urology, MedStar Washington Hospital Center; [4]Psychiatry, Stanford University; [5]Ophthalmology, Boston Medical Center

5493 — *B0384* **Comparison of Patient Volumes between Academic and Private Practice Retinal Specialists.** *Harrison Sciulli[1, 2], A. G. Miller[1, 3], M. Obri[1, 3], C. X. Miller[1], J. H. Hornik[1], D. G. Miller[1].* [1]Retina Associates of Cleveland; [2]University of Cincinnati College of Medicine; [3]Northeast Ohio Medical University

5494 — *B0385* **Optometrists' knowledge and attitudes towards prescribing blue-light blocking ophthalmic devices.** *Sumeer Singh, A. J. Anderson, L. E. Downie.* Department of Optometry and Vision Sciences, The University of Melbourne

5495 — *B0386* **Follow Up Trends in a Resident Clinic: A Medicare/Medicaid Population Analysis.** *Tavish Nanda, J. Horowitz.* Harkness Eye Institute ***CR**

5496 — *B0387* **Improving Access to Healthcare by Implementing LEAN principles in an Ophthalmology Clinic.** *Wendy Ma[1], o. helmy[1], I. Beganski[1], D. Alexandrou[2], S. Leeman[2], S. Schaal[1].* [1]University of Massachusetts Medical School; [2]University of Rochester

5497 — *B0388* **Length and similarity of consecutive ophthalmology encounter notes in the electronic health record.** *Abigail E. Huang[1, 2], M. Hribar[2], H. L. Dusek[3, 4], I. Goldstein[4], B. Henriksen[4], W. Lin[2], A. Igelman[3, 4], M. F. Chiang[4, 2].* [1]Advanced Clinical; [2]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University; [3]School of Medicine, Oregon Health & Science University; [4]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University ***CR**

5498 — *B0389* **Comparing Intern Year Preparedness for an Integrated Ophthalmology Residency.** *Andrew Hou, S. MIKKILINENI, D. Goldman.* Henry Ford Hospital

5499 — *B0390* **Sleep, Activity, and Burnout in Ophthalmology Residents.** *Shu Feng, G. Deitz, R. N. Van Gelder, S. Menda.* Ophthalmology, University of Washington

5500 — *B0391* **Trends among top 100 researchers in ophthalmology during 1968-2018.** *Eric R. Smith, M. Singer, P. Yanev, J. M. Iltis.* UTHSCSA Long School of Medicine

5501 — *B0392* **Correlation of Medicare Patient Volume and Online Ratings for Retinal Physicians.** *Christian X. Miller[1], A. G. Miller[1, 2], M. Obri[1, 2], J. H. Hornik[1], D. Y. Rowland[3], D. G. Miller[1].* [1]Retina Associates of Cleveland; [2]Northeast Ohio Medical University; [3]D. Y. Rowland Associates

5502 — *B0393* **Applying Lean methodology in assessment and intervention to improve process flow in an academic glaucoma practice.** *James P. Winebrake, O. Drinkwater, S. Muylaert, G. Lelli.* Weill Cornell Medicine

5503 — *B0394* **Electronic health records in ophthalmology: impact of scribes on office visit length, documentation time, and note length.** *Haley L. Dusek[1], I. Goldstein[1], M. Hribar[2], M. F. Chiang[1, 2].* [1]Department of Ophthalmology, Casey Eye Institute, Oregon Health and Science University; [2]Department of Medical Informatics and Clinical Epidemiology, Oregon Health and Science University ***CR**

5504 — *B0395* **Impact of electronic health record implementation on clinical workflows for ophthalmology trainees.** *Helena E. Gali[1, 2], S. L. Baxter[1, 2], A. E. Huang[3], M. Millen[2], R. El-Kareh[2], E. Nudleman[1], S. L. Robbins[1], C. W. Heichel[1], A. S. Camp[1], B. S. Korn[1], J. E. Lee[1], D. O. Kikkawa[1], C. A. Longhurst[2], M. F. Chiang[3, 4], M. Hribar[3, 4], L. Ohno-Machado[2, 5].* [1]Shiley Eye Institute and Viterbi Family Department of Ophthalmology, University of California, San Diego; [2]Department of Biomedical Informatics, University of California, San Diego; [3]Department of Medical Informatics and Clinical Epidemiology, Oregon Health & Science University; [4]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University; [5]Division of Health Services Research and Development, Veterans Administration San Diego Healthcare System

Wednesday Posters 3:00 pm – 4:45 pm

5505 — *B0396* **Time-motion analysis of paper-based clinical workflows in a multi-specialty academic ophthalmology practice.** *Sally L. Baxter[1, 2], H. E. Gali[1, 2], A. E. Huang[3, 4], M. Millen[2], R. El-Kareh[2], E. Nudleman[1], S. L. Robbins[1], C. W. Heichel[1], A. S. Camp[1], B. S. Korn[1], J. E. Lee[1], D. O. Kikkawa[1], C. A. Longhurst[2], M. F. Chiang[3, 4], M. Hribar[3, 4], L. Ohno-Machado[2, 5].* [1]Shiley Eye Institute and Viterbi Family Department of Ophthalmology, University of California San Diego; [2]UCSD Health Department of Biomedical Informatics, University of California San Diego; [3]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University; [4]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University; [5]Division of Health Services Research and Development, Veterans Administration San Diego Healthcare System

5506 — *B0397* **Electronic health record documentation in ophthalmology: How many prior notes do clinicians review?** *Michelle Hribar[1, 3], I. Goldstein[3], J. Chen[2], M. F. Chiang[3, 1].* [1]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University; [2]School of Medicine, OHSU; [3]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University **CR*

5507 — *B0398* **Improvement in Ophthalmology Operating Room Turnover Times with Implementation of Workflow Efficiency Measures.** *KYLE J. GODFREY[1, 2], A. A. Tooley[1, 2], G. Lelli[1].* [1]Ophthalmology, Weill Cornell Medical College; [2]Ophthalmology, Manhattan Eye Ear and Throat Hospital

5508 — *B0399* **Analysis of a Scribe's Impact in an Academic Ophthalmology Clinic.** *Samuel Leeman, o. helmy, S. Schaal.* Ophthalmology, UMASS Medical School

5509 — *B0400* **Analysis and prediction of total visit length and provider interaction times using electronic health record (EHR) data and machine learning.** *David S. Sanders[1, 2], I. Goldstein[3], M. Hribar[3], A. Chen[2], W. Lin[3], S. L. Mansberger[1], M. F. Chiang[2, 3].* [1]Ophthalmology, Legacy Devers Eye Institute; [2]Ophthalmology, Casey Eye Institute, OHSU; [3]Dept of Med Informatics, OHSU **CR*

5510 — *B0401* **Data Analytics for Prediction of Patient-Provider Interaction Time in Pediatric Ophthalmology Clinics.** *Wei-Chun Lin[3], I. Goldstein[2], M. Hribar[3], A. E. Huang[1, 3], M. F. Chiang[2, 3].* [1]Advanced Clinical; [2]Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University; [3]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University **CR*

5511 — *B0402* **Electronic health record practices in ophthalmology: Are notes really accessed in follow-up visits after initial documentation?** *Jimmy Chen[1], M. Hribar[2], I. Goldstein[1], M. F. Chiang[1, 2].* [1]Department of Ophthalmology, Oregon Health & Science University; [2]Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University **CR*

5512 — *B0403* **Surgical Aptitude Testing Among Ophthalmology Residency Applicants: Perspectives of Residency Program Directors.** *Samuel Beckstead, M. Wilkinson, I. Scott.* Ophthalmology, Penn State Eye Center

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West Exhibition Hall B0404-B0453

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Glaucoma

494 Imaging I

Moderators: Felipe A. Medeiros and Yeni H. Yucel

5513 — *B0404* **Modeling Spatio-temporal Changes in Retinal Nerve Fiber Layer (RNFL) Thickness Maps in Glaucoma.** *Marco Yu[1, 2].* [1]Department of Mathematics and Statistics, The Hang Seng University of Hong Kong; [2]Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong

5514 — *B0405* **A Novel Outreach Program-Using a Portable Fundus Camera for Glaucoma Screening.** *Bela Parekh, R. Venkatesh.* Aravind Eye Care Systems

5515 — *B0406* **Displacement of retinal blood vessels within or at the edge of the optic disc following intraocular pressure reduction.** *Goji Tomita, T. Takumi, N. Enomoto, K. Ishida.* Ophthalmology, Toho Univ Ohashi Med Ctr **CR*

5516 — *B0407* **Optical Coherence Tomography (OCT) Anterior Scleral Canal Opening (ASCO) Tilt and Rotation relative to Bruch's Membrane Opening (BMO) and Peripapillary Scleral Bowing (PSB) in Healthy Eyes.** *Ya Xing Wang[2, 1], H. Yang[2, 3], H. Luo[2, 4], S. Hong[2, 5], S. K. Gardiner[3], J. Jeoung[2, 6], J. Caprioli[7], S. Demirel[3], C. A. Girkin[8], J. M. Liebmann[9], C. Y. Mardin[10], H. A. Quigley[11], A. F. Scheuerle[12], B. C. Chauhan[13], C. F. Burgoyne[2, 3].* [1]Beijing Institute of Ophthalmology, Beijing Tongren Hospital; [2]Optic Nerve Head Research Lab, Devers Eye Institute; [3]Discoveries in Sight Research Laboratories, Devers Eye Institute; [4]Department of Ophthalmology, Second Xiangya Hospital; [5]Department of Ophthalmology and Visual Sciences, Catholic University of Korea; [6]Department of Ophthalmology, Seoul National University College of Medicine; [7]Jules Stein Eye Institute, David Geffen School of Medicine at UCLA; [8]Department of Ophthalmology, University of Alabama at Birmingham; [9]Department of Ophthalmology, Columbia University Medical Center; [10]Department of Ophthalmology, University of Erlangen-Nuremberg; [11]Wilmer Eye Institute, Johns Hopkins University; [12]University Eye Hospital Mannheim, Medical Faculty Mannheim of the University of Heidelberg; [13]Department of Ophthalmology and Visual Sciences, Dalhousie University **CR*

5517 — *B0408* **Relationship between refractive error and peripapillary retinal nerve fiber layer thickness in pediatric glaucoma suspects.** *Inae Jang, L. Machen, D. Cao, C. Mocan.* University of Illinois at Chicago

5518 — *B0409* **Bleb morphology in anterior segment OCT after Xen-Implantation.** *Claudia Thieme, R. Burk.* Department of Ophthalmology Bielefeld

5519 — *B0410* **Longitudinal Analysis of the Bruch's Membrane Opening Morphometrics in Glaucoma.** *Mahadev Bhalla[1], M. Heisler[2], S. X. Han[2], M. V. Sarunic[2], M. F. Beg[2], P. Mackenzie[1], S. Lee[2].* [1]University of British Columbia; [2]Simon Fraser University

5520 — *B0411* **Anterior Segment Optical Coherence Tomography Angiography Imaging of Conjunctiva and Intrasclera in Treated Primary Open-Angle Glaucoma.** *Tadamichi Akagi, A. Uji, Y. Okamoto, K. Suda, T. Kameda, H. Nakanishi, H. O. Ikeda, M. Miyake, E. Nakano, N. Motozawa, A. Tsujikawa.* Department of Ophthalmology and Visual Sciences, Kyoto Univ Graduate Sch of Med **CR*, ↗

5521 — *B0412* **Non-Enhanced vs Software Enhanced Images of the Optic Nerve Head and Nerve Fiber Layer in tele-glaucoma screening.** *Subhashini Chandrasekaran[1], S. Kommana[2], B. Szirth[1], A. S. Khouri[1].* [1]Rutgers New Jersey Medical School; [2]Temple University ↗

5522 — *B0413* **OCTA-measured vessel density and RNFL thickness in glaucomatous eyes with and without optic disc hemorrhage.** *Haksu Kyung[1, 2], E. Ghahari[1], S. Moghimi[1], H. Hou[1], R. Penteado[1], P. Manalastas[3], C. Bowd[1], L. M. Zangwill[1], R. N. Weinreb[1], J. Proudfoot[1].* [1]Dept of Ophthalmology, UCSD Shiley Eye Institute; [2]Ophthalmology, National Medical Center; [3]Heidelberg Enginnering **CR*

5523 — *B0414* **Lamina cribrosa shift is associated with preferential location of glaucomatous damage in myopic open-angle glaucoma.** *SeokHwan Kim[1], K. Lee[1], M. Kim[2].* [1]Ophthalmology, Boramae Medical Center; [2]Dongguk University Ilsan Hospital

5524 — *B0415* **The agreement between Bruch's membrane opening minimum rim width and peripapillary retinal nerve fiber layer thickness in different stages of primary open angle glaucoma.** *Ping Huang, N. Crawford, W. Li.* Ophthalmology, Drexel University College of Medicine

5525 — *B0416* **Whole-image, peripapillary total and peripapillary capillary vessel densities in glaucoma: pilot study of an automated software.** *Ana I. MIGUEL[1, 2], B. Silva[1], J. Legeai[1], M. Haddad[1].* [1]Ophthalmology, Polyclinique de la Baie; [2]CINTESIS: Center for Health Technology and Services Research, Faculty of Medicine of Oporto University

5526 — *B0417* **Annual rates of change of mRNFL, mGCIPL, and cpRNFL in various stages of glaucoma.** *Masayuki Inuzuka, A. Sawada, H. Inuzuka, T. Yamamoto.* Ophthalmology, Gifu University Graduate School of Medicine, Gifu, Japan

5527 — *B0418* **Characterizing morphological changes of RGCs with longitudinal *in vivo* imaging in a model of experimental glaucoma.** *Delaney Henderson[2, 1], J. R. Vianna[1], M. Hooper[1], S. Farrell[1], B. C. Chauhan[1, 2].* [1]Ophthalmology and Visual Sciences, Dalhousie University; [2]Medical Neuroscience, Dalhousie University **CR*

5528 — *B0419* **Number of Anterior Segment OCT Images Required to Capture Anatomical Variations in Angle Closure Eyes: The Chinese American Eye Study.** *Charles DeBoer[1], J. Shan[1], A. Pardeshi[2], R. Varma[2], B. Xu[1].* [1]Ophthalmology, University of Southern California; [2]Southern California Eyecare & Vision Research Institute **CR*

5529 — *B0420* **Retinal perfusion 6 months after trabeculectomy as measured by optical coherence tomography angiography.** *Claudia Lommatzsch[1], K. Rothaus[1], J. Koch[1], C. Heinz[1, 2], S. Grisanti[3].* [1]Department of Ophthalmology, St**.** Franziskus Hospital; [2]Department of Ophthalmology, University of Essen; [3]Department of Ophthalmology, University of Luebeck **CR*, ↗

5530 — *B0421* **The association between demographic parameters and Bruch's membrane opening diameter in pediatric glaucoma suspects.** *Cem Mocan[1], I. Jang[2], L. Machen[1].* [1]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]University of Illinois at Chicago, College of Medicine

5531 — *B0422* **Differences in Anterior Chamber Angle Assessments Between Gonioscopy, EyeCam, and Anterior Segment OCT: The Chinese American Eye Study.** *Benjamin Xu[1], A. Pardeshi[1], B. Burkemper[1], G. M. Richter[1], S. C. Lin[2], R. McKean-Cowdin[1], R. Varma[1].* [1]University of Southern California; [2]Glaucoma Center of San Francisco

5532 — *B0423* **The Lamina Cribrosa Global Shape Index and Its Application in Glaucoma.** *Nicholas Tan[1, 2], Y. Tham[1], S. Thakku[1], B. Mani[1], T. Aung[1, 2], M. J. Girard[1], C. Cheng[1, 2].* [1]Singapore Eye Research Institute; [2]Singapore National Eye Centre

5533 — *B0424* **Identification of Schlemm's Canal by Anterior Segment Optical Coherence Tomography in patients with High Myopia.** *Takuhei Nomura[1, 2], T. Yoshida[1], M. Aihara[3], K. Ohno-Matsui[1].* [1]Tokyo medical and dental university; [2]Ookubo hospital; [3]Unversity of Tokyo **CR*

5534 — *B0425* **Lamina cribrosa configuration in healthy, ocular hypertensive, and naïve normal-tension glaucomatous eyes.** *Ji-Ah Kim, T. Kim, E. Lee, G. Lee, J. Choi, M. Kim.* Ophthalmology, Bundang Seoul National Univ Hospital

5535 — *B0426* **Glaucoma at a glance? Novel data visualisation for glaucoma progression analysis.** *Timothy E. Yap[1], B. M. Davis[1, 2], M. Cordeiro[1, 2], E. M. Normando[1].* [1]Ophthalmology, Imperial College London; [2]UCL Institute of Ophthalmology **CR*

5536 — *B0427* **Determination of ocular blood-flow velocity by plane-wave ultrasound and correlation with ocular perfusion pressure.** *Raksha Urs[1], J. A. Ketterling[2], B. Y. Yiu[3], A. Yu[3], I. Michalopoulos[1], L. Al-Aswad[1], D. Blumberg[1], C. De Moraes[1], J. M. Liebmann[1], G. Cioffi[1], R. H. Silverman[1].* [1]Ophthalmology, Columbia University Medical Center; [2]2**.** F.L**.** Lizzi Center for Biomedical Engineering, Riverside Research; [3]Electrical and Computer Engineering, University of Waterloo

5537 — *B0428* **Localized Retinal Nerve Fiber Layer Defect Location Among Red-Free Fundus Photographs, En Face Structural Images, and Cirrus HD-OCT Maps.** *Ji-Hye Park, Y. Kim, C. Yoo.* Korea University Medical Center

5538 — *B0429* **Diagnostic sensitivity of macular ganglion cell layer thickness, peripapillary retinal nerve fibre layer thickness, and minimum rim width in detecting glaucoma in a large clinical population.** *Jennifer Gao, J. Quach, M. Nicolela, L. M. Shuba, B. C. Chauhan, J. R. Vianna.* Dalhousie University **CR*

5539 — *B0430* **Detecting glaucomatous change with magnetic resonance imaging of the brain primary visual cortex.** *Akio Yamada[1], K. Omodaka[1], Y. Tatewaki[2], N. Himori[1], I. Matsudaira[2], T. Yasuyuki[2], T. Nakazawa[1].* [1]Ophthalmology, Tohoku University; [2]Department of Nuclear Medicine and Radiology, Tohoku University **CR*

5540 — *B0431* **Border Tissue Morphology is Spatially Associated with Focal Lamina Cribrosa Defect and Deep-Layer Microvasculature Dropout in Open-Angle Glaucoma.** *Jong Chul Han, D. Park, E. Lee, C. Kee.* Samsung Medical Center, Sungkyunkwan University

5541 — *B0432* **Glaucoma detection with OCT and nerve photographs in a population-based telemedicine program: findings, diagnostic accuracy and influencing factors.** *Alfonso Anton-Lopez[1], g. fatti[2, 3], k. Nolivos[2], a. herranz[2], Z. Vega-Lopez[2], E. Ayala[4], A. Martinez-Palmer[2], I. Alarcon[2], V. Popovski[2, 4], M. Pazos-Lopez[5], S. Khaouli[2], K. Sotelo[4], N. Zmuc[6], V. Garcia[4], M. Comas[2], X. Castells[2].* [1]Universitat Internacional de Catalunya, Institut Catalá de Retina and Parc Salut Mar; [2]Parc de Salut Mar; [3]Hospital Valle Hebron; [4]Institut Catala de Retina; [5]Hospital Clínico de Barcelona; [6]Zmuc Pharma Consulting **CR*

5542 — *B0433* **Evaluation of iridocorneal angle quality using the NGS-1 automated gonioscope.** *María Concepción Guirao Navarro, I. Gutierrez, L. Álvarez, V. Antón, A. Marizkurrena, J. Moreno-Montanes.* Ophthalmology, Clinica Universidad de Navarra

5543 — *B0434* **Confocal analysis of corneal nerves reflecting a primary peripheral neural change in normal tension glaucoma.** *Ziyuan Liu, W. Wang.* ophthalmology, peking university third hospital

5544 — *B0435* **Asymmetry analysis of optical coherence tomography angiography images of the macula in glaucoma patients and healthy controls.** *Corey A. Smith[1, 2], M. E. West[2], G. Sharpe[1], L. M. Shuba[1, 2], P. E. Rafuse[1, 2], M. T. Nicolela[1, 2], B. C. Chauhan[1, 2].* [1]Ophthalmology and Visual Sciences, Dalhousie University; [2]Nova Scotia Health Authority **CR*

5545 — *B0436* **Detecting progression of early glaucoma using alternative methods with optical coherence tomography.** *Ashley Sun, E. Tsamis, X. Li, K. Tsang, L. Al-Aswad, D. Blumberg, G. Cioffi, J. M. Liebmann, C. G. de Moraes, D. C. Hood.* Columbia University **CR*

5546 — *B0437* **Reduced Temporal Change of Retinal Nerve Fiber Layer Reflectance Speckle in Retinas with Ocular Hypertensive Damage.** *Xiang-Run Huang, Y. Z. Spector, J. Qiao.* University of Miami, Bascom Palmer Eye Institute

5547 — *B0438* **Detecting progression of preserved areas of retinal nerve fiber layer in advanced glaucoma using optical coherence tomography.** *Devon Joiner[1], X. Li[1], M. Eguia[2], E. Tsamis[1], A. Sun[1], C. De Moraes[1], R. Ritch[2], D. C. Hood[1].* [1]Columbia University; [2]Ophthalmology, New York Eye and Ear Infirmary **CR*

5548 — *B0439* **Novel Macular Bayesian Deviation Map for Differentiation Between Healthy and Glaucoma eyes.** *Linda M. Zangwill[1], F. A. Medeiros[2], R. N. Weinreb[1], A. Belghith[1].* [1]Viterbi Family Department of Ophthalmology, UC San Diego Shiley Eye Institute; [2]Ophthalmology, Duke University **CR*, ↗

5549 — *B0440* **Correlation between Anterior Segment OCT and Novel 360º Angle Imaging.** *Xin Yang[2, 1], Y. Shi[2], K. Marion[2], B. Francis[2], S. R. Sadda[2], V. Chopra[2].* [1]First Affiliated Hospital of Zhengzhou University; [2]Doheny Eye Institute **CR*

5550 — *B0441* **Beta and Gamma Parapapillary Atrophy (PPA) Zone Areas in Myopic Eyes With and Without Glaucoma.** *Rohith Voora[1], M. Moghadam[1], J. H. Lee[1], C. Bowd[1], J. Proudfoot[1], S. Moghimi[1], P. C. Manalastas[1], M. Christopher[1], J. M. Liebmann[2], C. A. Girkin[3], R. N. Weinreb[1], A. Belghith[1], L. M. Zangwill[1].* [1]Viterbi Family Department of Ophthalmology, University of California, San Diego; [2]Harkness Eye Institute, Columbia University; [3]Ophthalmology, University of Alabama, Birmingham **CR*, ↗

5551 — *B0442* **Choroidal Microvasculature Dropout: Indication for Overall Parapapillary Choroidal Microvasculature Loss Within ß-Peripapillary Atrophy Zone.** *Youn hye Jo, J. Shin, D. Jeong, K. Shon, M. S. Kook.* Ophthalmology, Asan Medical Center

5552 — *B0443* **Optical Coherence Tomography (OCT) Optic Nerve Head (ONH) Neural Canal Direction, Obliqueness and Minimum Cross-sectional Area in Highly Myopic versus Age-Matched Healthy Eyes.** *Jin Wook Jeoung[1, 3], H. Yang[1, 2], S. K. Gardiner[2], Y. Wang[1, 4], S. Hong[5], M. J. Girard[6], C. A. Hardin[1, 2], P. Wei[1, 2], J. Vianna[7], B. C. Chauhan[7], C. F. Burgoyne[1, 2].* [1]Devers Eye Institute Optic Nerve Head Research Laboratory, Legacy Research Institute; [2]Devers Eye Institute Discoveries in Sight Research Laboratories, Legacy Research Institute; [3]Ophthalmology, Seoul National University Hospital; [4]Ophthalmology, Beijing Tongren Hospital; [5]Department of Ophthalmology, the Catholic University of Korea; [6]Department of Biomedical Engineering, National University of Singapore; [7]Department of Ophthalmology and Visual Sciences, Dalhousie University **CR*

5553 — *B0444* **Augmented-focus representation of automatically acquired gonioscopic image sequences.** *Silvia Rossi, A. Peroni, A. De Giusti, M. Minozzi, M. Pascolini, L. Cappellari, A. Giaretta.* NIDEK Technologies Srl **CR*

5554 — *B0445* **Angular location of retinal nerve fiber layer defect in myopic open-angle glaucoma: a comparison between the Bruch's membrane opening and the disc as a reference point.** *Eunoo Bak[1, 2], K. Lee[1, 2], M. Kim[3], S. Kim[1, 2].* [1]Seoul National University Hospital; [2]Seoul National University Boramae Medical Center; [3]Dongguk University Ilsan Hospital

5555 — *B0446* **Improvement on 360° view of Irido-Corneal Angle in Automated Gonioscopy.** *Mauro Campigotto, S. Rossi, L. Cappellari, A. De Giusti, A. Paviotti, N. Scattolin, A. Giaretta.* NIDEK Technologies Srl **CR*

5556 — *B0447* **Dynamics of structural reversal in Bruch's membrane opening based parameters to assess neuroretinal rim after glaucoma drainage device implantation.** *Caroline Gietzelt, C. von Goscinski, J. Lemke, F. Schaub, M. M. Hermann, T. S. Dietlein, C. Cursiefen, L. M. Heindl, P. Enders.* Department of Opthalmogy, University of Cologne

5557 — *B0448* **Lymphatic Drainage of Subconjunctival Blebs in Porcine Eyes.** *Sindhu Saraswathy[1], G. Akiyama[1, 2], E. Barron[2], A. Huang[1, 2].* [1]Ophthalmology, Doheny Eye Institute; [2]Department of Ophthalmology, University of California, Los Angeles, CA **CR*

5558 — *B0449* **Novel deep learning based algorithm for Macula and Optic Nerve Head segmentation versus Cirrus Optical Coherence Tomography in identifying glaucoma.** *Suria Sudhakaran Mannil[2], J. D. Oakley[1], D. B. Russakoff[1], R. Chang[2].* [1]Voxeleron LLC; [2]Byers Eye Institute, Stanford University **CR*

5559 — *B0450* **Colour Doppler Velocimetry of Central Retinal Artery in Glaucomatous and Normal Subjects.** *Harmeet S. Waraich[1, 2].* [1]Scottsdale Optometry; [2]Ophthalmology, Indira Gandhi Medical College

5560 — *B0451* **Retinal Metabolic Analysis of Peripapillary Capillary Perfusion Before and After Glaucoma Drainage Device Implantation.** *Eleni M. Drivas[1, 2], S. Dangda[1], M. Mavrommatis[1, 2], J. Andrade[1], R. B. Rosen[1, 2], J. F. Panarelli[1, 2].* [1]New York Eye and Ear Infirmary of Mount Sinai; [2]Icahn School of Medicine at Mount Sinai

5561 — *B0452* **Prediction of Corneal Thickness and Corneal Hysteresis from Deep Learning Analysis of Optic Nerve Head OCT Scans.** *Swarup S. Swaminathan, F. A. Medeiros.* Ophthalmology, Duke University **CR*

5562 — *B0453* **Effects of Dry Eye on Ocular Coherence Tomography in Glaucoma.** *Scott Schwartz[1], M. M. Hom[2].* [1]Dr. Schwartz Optometrist and Associates; [2]Private Practice **CR*

West Exhibition Hall B0454-B0504

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Glaucoma

495 Imaging II

Moderators: Ki Ho Park and Alon Harris

5563 — *B0454* **The accuracy of spontaneous venous pulsation assessment in discriminating glaucoma from glaucoma suspects.** *Sahar Shariflou[1], A. Agar[2, 3], K. A. Rose[1], M. Golzan[1].* [1]University of Technology Sydney; [2]Ophthalmology, Prince of Wales Hospital; [3]Ophthalmology, University of New South Wales

5564 — *B0455* **Choosing the appropriate ocular imaging technique confers an accurate and complete diagnosis of iris lesions, possible risk factor for ocular hypertension.** *ROXANA URSEA.* Eye Section, Phoenix Veteran Administration HCS

5565 — *B0456* **Central and paracentral anterior chamber depth for diagnosis of angle closure spectrum disease.** *Jack Phu[1], J. Tong[1], B. Zangerl[1], M. Hennessy[1, 2], J. L. Le[1], M. Kalloniatis[1].* [1]Optometry and Vision Science, Centre for Eye Health; [2]Ophthalmology, Prince of Wales Hospital

5566 — *B0457* **Glaucoma in Myopia, its Features and Corelations: Findings From Central India.** *Deepti Jain[2], H. Rathi[2], G. Ambekar[1], V. Nangia[2].* [1]Ophthalmology, Suraj Eye Institute; [2]Glaucoma, Suraj Eye Institute

5567 — *B0458* **The Use of Anterior Segment OCT AOD and TISA Parameters as an Objective Way to Evaluate the Angle (Pilot Study).** *Poonam Misra, L. Al-Aswad, S. Daly, D. Blumberg, R. H. Silverman.* Ophthalmology, Columbia University Medical Center

5568 — *B0459* **The effects of estrogen deficiency on the peripapillary retinal nerve fiber layer thickness.** *Thasarat S. Vajaranant[1], J. Hallak[1], J. Baker[1], L. Pasquale[2], P. M. Maki[3].* [1]Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]Department of Ophthalmology, Icahn School of Medicine at Mount Sinai; [3]Department of Psychiatry, University of Illinois at Chicago

5569 — *B0460* **Ungradable non mydriatic fundus photography in community eye screening.** *Prateek Gajwani[2], D. Zhao[1], E. Guallar[1], M. Wahl[2], J. David[2], N. Dosto[1], D. S. Friedman[2].* [1]Johns Hopkins University; [2]Wilmer Eye Institute, Johns Hopkins University

5570 — *B0461* **Segmented layer analysis by macular spectral-domain optical coherence tomography (SD-OCT) for early detection of exfoliation glaucoma.** *Gozde Hondur[1], S. Bayraktar[1], D. Ozkoyuncu[1], E. Sen[1], U. Elgin[1], G. Tezel[2].* [1]Ulucanlar Eye Research & Training Hospital; [2]Ophthalmology, Columbia University

5571 — *B0462* **A 3D Deep Learning System for Detecting Glaucomatous Optic Neuropathy from Volumetric and En Face Optical Coherence Tomography Scans.** *anran ran[1], X. Wang[2], L. Luo[2], P. Chan[1], R. Chang[3], S. Sudhakaran Mannil[3], H. Chen[2], P. Heng[2], C. C. Tham[1], C. Y. Cheung[1].* [1]Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong; [2]Department of Computer Science and Enginerring, The Chinese University of Hong Kong; [3]Ophthalmology, Byers Eye Institute, Stanford University **CR*

5572 — *B0463* **Accommodative Ciliary Muscle Contraction: Choroid And Lens Thickness Measurements.** *Mary Ann Croft[1], T. Nork[1], J. P. McDonald[1], P. L. Kaufman[1, 2].* [1]Ophthalmology, Univ of Wisconsin-Madison; [2]Wisconson National Primate Research Center, University of Wisconsin - Madison **CR*

5573 — *B0464* **Machine Learning for Prediction of Visual Field Progression.** *Kouros Nouri-Mahdavi[1], V. Mohammadzadeh[1], A. Rabiolo[1], J. Caprioli[1], S. Yousefi[2].* [1]Ophthalmology, Stein Eye Institute; [2]Ophthalmology, University of Tennessee Health Science Center **CR*

5574 — *B0465* **Differential cross-sectional neuroretinal rim configuration characteristics between optic disc pallor and glaucomatous excavation.** *Eun Jung Lee, J. Han, D. Park, C. Kee.* Ophthalmology, Samsung Medical Center

5575 — *B0466* **Morphometric detection of angular loss of nerve fiber bundles in glaucoma patients.** *Per G. Soderberg[1], Z. Yu[1], C. Sandberg Melin[1, 2].* [1]Neuroscience, Uppsala university; [2]Ophthalmology, Gävle regional hospital

5576 — *B0467* **Regional Sectoral Thinning of Macular OCT in Glaucoma.** *Krishi Peddada, S. Paulose, R. Sangani, T. Ben Ami, W. Li.* Drexel University

5577 — *B0468* **A Deep Learning Algorithm to Quantify Neuroretinal Rim Loss from Optic Disc Photographs.** *Atalie C. Thompson, A. A. Jammal, F. A. Medeiros.* Duke Eye Center **CR*

5578 — *B0469* **Variation of Optic Disc Ovality Index by Horizontal Duction.** *Tae-eun Lee, I. You, Y. Park.* Chonbuk National University

5579 — *B0470* **Association between serum lipid parameters and retinal nerve fiber layer characteristics.** *Qingying Jin[1, 2], T. Ebert[3, 4], A. Tönjes[3, 4], K. Wirkner[5], M. Wang[2], D. Li[2], N. Baniasadi[2], C. Enzenbach[5, 6], M. Blueher[3, 4], M. Stumvoll[3, 4], J. Thiery[5, 7], M. Loeffler[5, 6], C. Engel[5, 6], F. Rauscher[5, 6], T. Elze[2].* [1]Department of Psychology, Jilin University; [2]Schepens Eye Research Institute, Harvard Medical School; [3]Department of Endocrinology, Nephrology and Rheumatology, Leipzig University; [4]IFB Adiposity Diseases, Leipzig University Medical Center; [5]Leipzig Research Centre for Civilization Diseases (LIFE), Leipzig University; [6]Institute for Medical Informatics, Statistics and Epidemiology, Leipzig University; [7]Institute of Laboratory Medicine, Clinical Chemistry and Molecular Diagnostics, Leipzig University **CR*

5580 — *B0471* **Anatomical Variations of the Anterior Chamber Angle in Angle Closure Eyes Assessed by Anterior Segment OCT: The Chinese American Eye Study.** *Jing Shan, C. DeBoer, A. Pardeshi, R. Varma, B. Xu.* USC LAC medical center **CR*

5581 — *B0472* **Wide-field Trend-based Progression Analysis (TPA) of progressive retinal nerve fiber layer (RNFL) and ganglion cell inner plexiform layer (GCIPL) thinning for detection of glaucoma progression.** *Christopher K. Leung, Z. Wu, C. Lin.* 3/F, University Eye Center, The Chinese University of Hong Kong **CR*

5582 — *B0473* **Impact of Cataract on Repeatability of Measurements of Macular Inner Retinal Thickness with Spectral-domain Optical Coherence Tomography in Glaucoma eye.** *Daisuke Shiba, S. Adachi, E. Hirano, Y. Ota, T. Ono, K. Yuki, K. Tsubota.* Ophthalmology, Keio University School of Medicine

5583 — *B0474* **Tracking of disease progression over time with optic nerve diffusion tensor imaging and retinal nerve fiber layer thickness in macaques with experimental glaucoma.** *Aldric Hama[1], N. Takahashi[1], T. Natsume[1], C. Kitazawa[1], Y. Itani[1], I. Hayashi[1], M. Shimazawa[2], H. Hara[2], H. Takamatsu[1].* [1]Hamamatsu Pharma Reseach, Inc.; [2]Gifu Pharmaceutical University **CR*

5584 — *B0475* **Progressive optic disc change as documented with confocal scanning laser tomography in glaucoma suspects and their influence on OCT measured retinal nerve fiber layer thickness values compensated with a multivariate model.** *Hemma Resch[1], A. B. Hommer[2], F. Schwarzhans[3], P. Fuchs[1], F. Frommlet[3], C. Vass[1].* [1]Ophthalmology and Optometry, Medical University of Vienna; [2]Albertgasse 39, Vienna; [3]CEMSIS, Medical universitiy of Vienna **CR*

5585 — *B0476* **Flicker Analysis of Infrared Reflectance Optic Nerve Head Images in Patients with Open-Angle Glaucoma.** *Won Hyuk Oh[1], J. Park[2], K. Kim[3].* [1]Ophthalmology, Sanggye Paik Hospital; [2]Ophthalmology, Seoul Paik Hospital; [3]Ophthalmology, Eulji General Hospital

5586 — *B0477* **Color-Code classification versus continuous data by Spectral Domain-Optical Coherence Tomography for detecting glaucoma: Multicenter Italian Glaucoma Imaging Study (MIGIS).** *Manuele Michelessi[1], I. Riva[1], E. Martini[2], M. Figus[3], P. Frezzotti[4], L. Agnifili[5], G. Manni[6, 1], L. Quaranta[7], S. Miglior[8], C. Posarelli[3], S. Fazio[4], F. Oddone[1].* [1]IRCCS - Fondazione GB Bietti; [2]U.O**.** Ophthalmology, Sassuolo Hospital; [3]Ophthalmology, Department of Neurosciences, University of Pisa; [4]Department of Medicine, Surgery and Neuroscience, University of Siena; [5]Ophthalmology Clinic, Department of Medicine and Aging Science, University G**.** d'Annunzio of Chieti-Pescara; [6]DSCMT, University of Rome, Tor Vergata; [7]Department of Medical and Surgical Specialties, Radiological Sciences and Public Health, University of Brescia; [8]Department of Ophthalmology, University Bicocca of Milan

5587 — *B0478* **Reliability study of manual and automated trabecular-iris angle measurements and 360° angle map.** *Duriye D. Sevgi[1], H. Wu[3], A. Tas[2], G. Ayas[2], M. Comert[2], S. Yilmaz[2], S. Torun[2], O. Esengur[2], Y. Demirlenk[2], R. Helms[3], F. H. Orge[1].* [1]Ophthalmology, University Hospitals Cleveland Medical Center; [2]Koc University School of Medicine; [3]Case Western Reserve University

5588 — *B0479* **Objective Assessment of Progressive Macular Changes in Glaucoma.** *Eduardo M. Normando[1, 2], B. M. Davis[1], T. E. Yap[1], M. Cordeiro[1, 3].* [1]ICORG, Imperial College London; [2]Ophthalmology, Western Eye Hospital; [3]Visual Neuroscience, UCL Institute of Ophthalmology

5589 — *B0480* **Withdrawal_Deep Machine Learning Employing a Convoluted Neural Network Distinguishes Glaucomatous Optic Nerves Using Fundus Images and Biological Parameters.** *Shahin Yazdani[2, 1], M. Nasri[3], H. Talebi[3], M. Khosravi[3].* [1]Department of Ophthalmology, SBUMS, Ophthalmic Research Center; [2]Ocular Tissue Engineering Research Center, SBUMS; [3]Department of Electrical Engineering, Amirkabir University of Technology

5590 — *B0481* **Longitudinal comparison of macular retinal vessel density under the structural or functional abnormal conditions in POAG patients.** *Kojiro Imai, K. Mori, Y. Ikeda, M. Ueno, S. Kinoshita, C. Sotozono.* Ophthalmology, Kyoto Prefectural Univ of Med

5591 — *B0482* **Analysis of wide-field macular OCT angiography with Euclidian distance measurement helps visualize vascular deficits in glaucoma eyes.** *Diogo F. Muller[1], M. Chaves-Samaniego[2], A. Acosta[2], Y. Shi[2], G. Gregori[2], P. J. Rosenfeld[2], L. E. Vazquez[2].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]Bascom Palmer Eye Institute

5592 — *B0483* **Inter-grader and Intra-grader Reliabilities of Graders and an Automated Algorithm for Cup-Disc Ratio Grading in Fundus Photographs.** *Weihan Tong[1], M. Romero[1], V. Lim[1], S. Loon[1], S. Yu[2], D. Xiao[2], Y. Kanagasingam[2], V. T. Koh[1].* [1]Ophthalmology, National University Hospital Singapore; [2]Commonwealth Scientific and Industrial Research Organisation, Australia

5593 — *B0484* **Clinical diagnosis system of glaucoma based on deep learning algorithm.** *Ruiqi Pang[1, 2], h. liu[1, 3], l. li[4], C. Qiao[1], h. wang[1], s. Li[1], M. Xu[4], N. Wang[1, 3].* [1] Beijing Tongren Hospital; [2]Capital Medical University; [3]Bejing Institute of Ophthalmology; [4]Beihang University

5594 — *B0485* **Detecting progression on local areas of retinal nerve fiber layer in glaucoma suspects and early glaucoma using optical coherence tomography.** *Melvi Eguia[1], X. Li[2], D. Joiner[2], E. Tsamis[2], C. De Moraes[3], R. Ritch[1], D. C. Hood[3, 2].* [1]Ophthalmology, New York Eye and Ear Infirmary; [2]Psychology, Columbia University; [3]Ophthalmology, Columbia University **CR*

5595 — *B0486* **Can healthy eyes with global cpRNFL thickness in the bottom 5th percentile be distinguished from glaucomatous eyes?** *Zane Z. Zemborain[1], E. Tsamis[2], C. De Moraes[3], R. Ritch[4], D. C. Hood[3, 2].* [1]Biomedical Engineering, Columbia University; [2]Psychology, Columbia University; [3]Ophthalmology, Columbia University; [4]Ophthalmology, New York Eye and Ear Infirmary **CR*

5596 — *B0487* **Optic nerve head prelaminar tissue schisis: a sign of glaucomatous deformation?** *Eugene Lowry, S. L. Mansberger, S. K. Gardiner, H. Yang, F. G. Sanchez, D. S. Sanders, S. Demirel, C. F. Burgoyne, B. Fortune.* Ophthalmology, Devers Eye Institute **CR*

5597 — *B0488* **Effect of Triplicate *En Face* Image Averaging on Radial Peripapillary Capillary Assessment in Glaucoma and Glaucoma Suspects using Optical Coherence Tomography Angiography.** *Andrew J. Nelson[1], Z. Chu[2], R. Chang[3], A. Reznik[3], B. Xu[3], R. K. Wang[2], G. M. Richter[3].* [1]Keck School of Medicine of USC; [2]Bioengineering, University of Washington; [3]Ophthalmology, USC Roski Eye Institute **CR*

5598 — *B0489* **Long-term follow-up of peripapillary atrophy in a cohort of patients with progressive normal tension glaucoma.** *Clemente Maria Iodice[1, 2], J. Mohamed-Noriega[1, 3], B. Ning[1], H. Jayaram[1], D. Kamal[1], N. Strouthidis[1], D. F. Garway-Heath[1].* [1]NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]Medical School, Sapienza, University of Rome; [3]Departamento de Oftalmología, Hospital Universitario, UANL **CR*

5599 — *B0490* **Diagnostic Assessment of RNFL Segmentation using a Hybrid Deep Learning Approach.** *Jonathan D. Oakley[1], S. S. Mannil[2], D. B. Russakoff[1], R. Chang[2].* [1]Voxeleron LLC; [2]Byers Eye Institute, Stanford University **CR*

5600 — *B0491* **Deep Learning Models Predict Visual Function from Macula Thickness Map.** *Mark Christopher[1], A. Belghith[1], C. Bowd[1], M. A. Fazio[2], M. H. Goldbaum[1], R. N. Weinreb[1], C. A. Girkin[2], J. M. Liebmann[3], L. M. Zangwill[1].* [1]Ophthalmology, University of California, San Diego; [2]Ophthalmology, University of Alabama, Birmingham; [3]Ophthamology, Columbia University Medical Center **CR*

5601 — *B0492* **Longitudinal changes in choroidal thickness and neuroretinal parameters in glaucoma.** *Lucas A. Torres[1, 2], V. R. Lanoe[1], J. Quach[1], G. Sharpe[1], D. Hutchison[1], L. M. Shuba[1], M. Nicolela[1], B. C. Chauhan[1], J. R. Vianna[1].* [1]Ophthalmology, Dalhousie University; [2]Ophthalmology, University of Sao Paulo **CR*

5602 — *B0493* **Comparison of Macular and RNFL Rates of Progression in Eyes with Advanced Glaucoma.** *Anne L. Coleman, A. Rabiolo, V. Mohammadzadeh, S. K. Law, J. Caprioli, K. Nouri-Mahdavi.* Jules Stein Eye Institute, UCLA

5603 — *B0494* **Assessing optic nerve microstructural integrity in asymmetric glaucoma using diffusion MRI.** *Junqian Xu[1], J. Kim[1], S. Thomas[2], S. Song[3], J. B. Serle[2].* [1]Radiology, Icahn School of Medicine at Mount Sinai; [2]Ophthalmology, Icahn School of Medicine at Mount Sinai; [3]Radiology, Washington University School of Medicine

5604 — *B0495* **Correlation of retinal ganglion cell metrics made in vivo using SD-OCT versus ex vivo using quantitative histology in Diversity Outbred mice.** *Michael G. Anderson[1, 2], A. Hedberg-Buenz[1, 2], C. van der Heide[1], K. Meyer[1], K. Lee[3, 4], M. D. Abramoff[1, 3].* [1]Molecular Physiology and Biophysics, University of Iowa; [2]Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health Care System; [3]Electrical and Computer Engineering, University of Iowa; [4]Ophthalmology and Visual Sciences, University of Iowa

5605 — *B0496* **Longitudinal Changes in Optical Coherence Tomography Angiography (OCTA) Vessel Density and Thickness in Glaucoma Eyes with Focal Lamina Cribrosa Defects.** *James A. Proudfoot[2], M. Suh[1], R. N. Weinreb[2], C. Bowd[2], P. Manalastas[2], E. Ghahari[2], S. Moghimi[2], R. Penteado[2], H. Hou[2], L. M. Zangwill[2].* [1]Ophthalmology, Inje University College of Medicine; [2]Viterbi Family Department of Ophthalmology, University of California San Diego **CR*

5606 — *B0497* **Non-invasive *in vivo* imaging and quantification of human aqueous outflow.** *Tasneem Khatib[1, 2], P. A. Meyer[2], J. Lusthaus[3, 4], I. Manyakin[1], Y. Mushtaq[1], K. R. Martin[1, 2].* [1]University of Cambridge; [2]Ophthalmology, Cambridge University Hospitals NHS Foundation Trust; [3]Glaucoma Unit, Sydney Eye Hospital; [4]Discipline of Ophthalmology, University of Sydney

5607 — *B0498* **Optic Nerve Blood Oxygenation Mapping Under Caffeine Effect.** *Vasile Diaconu, M. Macgregor, L. Michaud.* Ecole D'optometrie, University of Montreal ↗

5608 — *B0499* **Identifying retinal nerve fiber layer defects using attenuation coefficients.** *Hin Cheung, W. H. Swanson.* Optometry, Indiana University **CR*

5609 — *B0500* **Comparing anterior segment optical coherence tomography with gonioscopy performed by glaucoma experts and general ophthalmologists in angle closure suspects.** *Bruno Esporcatte, G. H. Bufarah, N. S Yamagimori, R. Vessani, L. Melo Jr, N. Allemann, I. M. Tavares.* Ophthalmology, Federal University of São Paulo

5610 — *B0501* **Facilitating Glaucoma Diagnosis With Inter-eye Neuroretinal Rim Asymmetry Analysis Using Spectral-Domain Optical Coherence Tomography.** *mahmoud A. fayed.* Harvard Medical School

5611 — *B0502* **Diagnostic Performance of Optic Nerve Head Hemoglobin Levels Measurement in Eyes With Early Primary Open Angle Glaucoma.** *Carolina de Carvalho[2, 1], A. SCORALICK[3, 1], D. T. Dias[3, 1], C. Gracitelli[3], S. Dorairaj[4], A. Paranhos[3], F. Kanadani[2, 4], T. Prata[1, 3].* [1]Glaucoma, Hospital Medicina dos Olhos; [2]Glaucoma, Instituto dos Olhos Ciencias Medicas; [3]Glaucoma, Universidade Federal de Sao Paulo; [4]Glaucoma, Mayo Clinic

5612 — *B0503* **Lamina cribrosa depth and mean cup depth changes in the setting of trabeculectomy in patients with open angle glaucoma.** *Facundo G. Sanchez, D. S. Sanders, B. Fortune, S. K. Gardiner, J. Reynaud, E. Lowry, S. L. Mansberger.* Devers Eye Institute, Legacy Health, Discoveries in Sight Research Laboratories

5613 — *B0504* **Glaucomatous maculopathy: thickness differences on intraretinal macular layers between ocular hypertension and early primary-open angle glaucoma using 8x8 posterior pole program of SD-OCT.** *Jose Javier Garcia-Medina[5, 1], M. Del-Rio-Vellosillo[2], M. D. Pinazo-Duran[3, 6], V. Zanón-Moreno[4, 6], M. P. Villegas-Perez[1, 7].* [1]University of Murcia; [2]University Hospital La Arrixaca; [3]Surgery, University of Valencia; [4]Area of Health Sciences, Valencian International University; [5]University Hospital Morales Meseguer; [6]Oftalmología Celular y Molecular, University of Valencia; [7]University Hospital Reina Sofia

West Exhibition Hall B0505-B0521

Wednesday, May 01, 2019 3:00 PM-4:45 PM

Glaucoma

496 Ocular Blood Flow

Moderator: Ali Tafreshi

5614 — *B0505* ***Retinal Vessel Diameters and Optic Disk Morphology: a population-based study.*** *Qing Zhang[1], C. Xin[1], Y. ZHANG[1], C. GUO[2], N. Wang[1].* [1]Ophthalmology, Beijing Eye Institute of Ophthalmology, Beijing Tongren Eye Center, Beijing Tongren Hospital, Capital Medical University, Beijing Ophthalmology and Visual Science Key Lab, Beijing, China; [2]Department of Epidemiology, School of Public Health, University of Michigan, 1415 Washington Heights, Ann Arbor, MI 48109-2029

5615 — *B0506* **Ocular Determinants of Peripapillary Vessel Density in the African American Eye Disease Study.** *Grace M. Richter[2], A. J. Nelson[2], B. Burkemper[1], R. Chang[2], V. LeTran[2], B. Vu[2], Z. Chu[3], A. Fard[4], A. H. Kashani[2], B. Xu[2], R. K. Wang[3], R. Varma[1].* [1]Southern California Eyecare and Vision Research Institute; [2]Ophthalmology, USC Roski Eye Institute, Keck School of Medicine of USC; [3]Bioengineering, University of Washington; [4]Carl Zeiss Meditec, Inc**.** **CR*

5616 — *B0507* **Non-Invasive Blood-Flow Measurement in the Glaucomatous Optic Nerve Head using the XyCAM RI Retinal Imaging System.** *Sachin Kalarn[1], K. Cho[2], G. Thompson[1], A. Guruprasad[2], Y. Jing[2], A. Rege[2], O. Saeedi[1].* [1]Ophthalmology, University of Maryland; [2]Vasoptic Inc **CR*

5617 — *B0508* **Novel morphometric analysis of higher order structure of human radial peri-papillary capillaries.** *Ted Maddess[1], M. Barbosa[1], S. Ahn[2], T. Chan-Ling[2].* [1]John Curtin School, Neuroscience, Australian National University; [2]Anatomy and Histology, University of Sydney **CR*

5618 — *B0509* **Retinal capillary blood flow, blood pressure, and ocular perfusion pressure in healthy and glaucomatous females.** *Rana Torabi[1], A. Harris[1], A. Verticchio Vercellin[2], B. Wirostko[3], G. Eckert[1], J. Eikenberry[1], C. Yung[1], A. Ng[1], C. Jonescu-Cuypers[4], B. A. Siesky[1].* [1]Indiana University School of Medicine; [2]Ophthalmology, University of Pavia; [3]Moran Eye Center; [4]Ophthalmology, University Hospitals of Geneva **CR*

5619 — *B0510* **Lowering of intraocular pressure does not affect volumetric flow rate of ipsilateral ophthalmic artery in ocular hypertension.** *Gauti Johannesson[1], S. Qvarlander[2], A. Wåhlin[2], K. Ambarki[2], P. Hallberg[2], A. Eklund[2], C. Linden[1].* [1]Dept**.** of Clinical Sciences, Ophthalmology, Umea University; [2]Dept**.** of Radiation Sciences, Biomedical Engineering, Umea University ↗

5620 — *B0511* **Relationship between Visual Field Sensitivity and Retinal Blood Flow Measurements by Doppler Optical Coherence Tomography Flowmeter in Primary Open Angle Glaucoma.** *takafumi yoshioka[1], Y. Song[1], K. Takahashi[1], T. Tani[1], M. Akiba[2], J. Sakai[2], S. Nakamura[2], K. MINAMIDE[2], S. Ishiko[1], Y. Yanagi[1, 3], A. Yoshida[1].* [1]Department of ophthalmology, Asahikawa Medical University; [2]R&D Division, Topcon Corporation; [3]Singapore National Eye Center **CR*

5621 — *B0512* **Retinal oxygen extraction is altered in patients with primary open angle glaucoma.** *Anton B. Hommer[1, 2], D. Schmidl[1], K. Fondi[1], A. Bata[1], R. M. Werkmeister[3], G. Garhofer[1], L. Schmetterer[1, 4].* [1]Medical University, Department of Clinical Pharmacology; [2]Private office; [3]Medical University, Center for Medical Physics and Biomedical Engineering; [4]Singapore Eye Research Institute, Singapore Eye Research Institute ↗

5622 — *B0513* **Effect of cold provocation on vessel density in eyes with primary open angle glaucoma: an optical coherence tomography angiography study.** *Yu-Chieh Ko, W. Chou, M. Chen, C. J. Liu.* Taipei Veterans General Hospital

5623 — *B0514* **Differences in optic nerve head capillary blood flow in glaucoma.** *Cindy Albert, G. Cull, L. Wang, B. Fortune, S. K. Gardiner.* Legacy Research Institute, Devers Eye Institute

5624 — *B0515* **Effects of Timolol and Latanoprost on Ocular Perfusion Pressure in Eyes of Healthy Volunteers.** *Ajay Kolli[1], D. Reed[1], J. Gilbert[1], C. B. Toris[2], A. J. Sit[3], V. Gulati[4], A. Kazemi[3], D. C. Musch[1], S. E. Moroi[1].* [1]University of Michigan; [2]Case Western Reserve; [3]Mayo Clinic; [4]University of Nebraska ↗

5625 — *B0516* **Choroidal Blood Flow Baroregulation in Primary Open Angle Glaucoma (POAG).** *Wulff-Dieter Ulrich[1], K. Wernecke[2], A. Moeller[1], C. Ulrich[1], K. E. Kotliar[3], C. Erb[4].* [1]clinical office Borna; [2]Sostana GmbH; [3]Aachen University of Applied Sciences; [4]Augenklinik am Wittenbergplatz **CR*

5626 — *B0517* **The Impact of Trans-lamina Cribrosa Pressure Difference on Choroidal Thickness and Optic Disc Structure.** *Xiangxiang Liu[1], Y. Sun[1], Y. Wang[2], N. Wang[1].* [1]Beijing Tongren Hospital, Capital Medical University; [2]Beijing Institution of Ophthalmology, Beijing China

5627 — *B0518* **Differences in translaminar pressure difference and ocular hemodynamic parameters between normal-tension glaucoma, high-tension glaucoma, ocular hypertension patients and healthy subjects.** *Lina Siaudvytyte[1], I. Januleviciene[1], A. Daveckaite[1], A. Harris[2], A. Ragauskas[3].* [1]Eye Clinic of Kaunas Medical Academy, Lithuanian University of Health Sciences; [2]Eugene and Marilyn Glick Eye Institute, Indiana University School of Medicine; [3]Health Telematics Science Institute Centre, Kaunas University of Technology ↗

5628 — *B0519* **Acute experimental ocular hypertension induced by circumlimbal suture is associated with increased retinal blood vessel permeability.** *Rachel S. Chong[1, 2], J. Busoy[1], B. Tan[1], L. Schmetterer[1].* [1]Singapore Eye Research Institute; [2]Genome Institute of Singapore, Agency for Science Technology and Research

5629 — *B0520* **Correlation between decreased optic nerve head blood flow and retinal ganglion cell loss caused by systemically administrated aldosterone in rats.** *Yasushi Wada[2, 1], T. Higashide[2], K. Sakaguchi[2], A. Nagata[1], K. Hirooka[3], K. Sugiyama[2].* [1]Kanazawa Medical Center; [2]Kanazawa Univ Sch of Med Sci; [3]Hiroshima University

5630 — *B0521* **Tafluprost, a prostaglandin $F_{2\alpha}$-type agonist, elicits the endothelium-dependent dilation of isolated porcine retinal arterioles.** *Takayuki Kamiya, T. Omae, S. Nakabayashi, T. Yoshioka, S. Ono, K. Takahashi, A. Tanner, Y. Yanagi, A. Yoshida.* Asahikawa Medical University **CR*

Wednesday Posters
3:00 pm – 4:45 pm

West Exhibition Hall

Wednesday, May 01, 2019 5:00 PM-6:00 PM

497 All Posters and Networking

East 1

Wednesday, May 01, 2019 6:15 PM-7:45 PM

Cornea / Biochemistry/Molecular Biology / Genetics / Multidisciplinary Ophthalmic Imaging

498 Focal vs global: Is Keratoconus pathology driven by focal corneal tissue changes or is it a global corneal defect influenced by systemic factors? - SIG

In Keratoconus(KC), focal corneal thinning and protrusion occurs which worsens in severity over time and is diagnosed by corneal topography**.** The presence of local inflammatory changes (high MMP9) in KC and factors involved in remodelling of the collagen matrix (low LOX and Collagen expression) are associated with severity**.** However, it is not understood why KC is localised to a focal decenterd zone**.** This focal ectasia may be driven by changes in the corneal structure mediated by differential gene expression regulated at the cone, although underlying genetic changes and systemic factors may play a role**.** This question of a focal defect versus a generalised corneal weakness or systemic predisposition is a topic of debate in order to guide future treatment.

Collagen cross linking (CXL) treatment of KC is applied to whole cornea and not just the ectatic zone**.** Customised CXL procedures are emerging that target more energy at the ectatic zone**.** However, how effective will customised treatment be? How will the systemic risk factors influence the outcomes of such treatments or should global corneal and adjunct systemic treatment such as anti-inflammatory, anti-allergic, etc be considered?

Moderators: Arkasubhra Ghosh and Vishal Jhanji

Organizer. *Arkasubhra Ghosh.* Molecular Signalling and Gene Therapy, Narayana Nethralaya Foundation, Bangalore, India

Organizer. *Vishal Jhanji.* University of Pittsburgh, PA

Non Linear Optical (NLO) and Acoustic Radiation Force Elastic Microscopy (ARFEM) of Keratoconus Corneas. *James V. Jester.* University of California Irvine, CA

Focal or global: clinical and biomechanical features in Keratoconus to be considered for collagen crosslinking. *James B. Randleman.* USC Roski Eye Institute, CA

Panelist. *Rajiv R. Mohan.* University of Missouri-Columbia, MO

Panelist. *Yutao Liu.* Augusta University, GA

Local molecular changes driving focal ectasia in Keratoconus. *Sharon D'Souza.* Narayana Nethralaya, India

East 2/3

Wednesday, May 01, 2019 6:15 PM-7:45 PM

Immunology/Microbiology / Retina

499 Fluorescence lifetime imaging ophthalmoscopy from bench to bedside - SIG

Fluorescence lifetime imaging ophthalmoscopy (FLIO) is an imaging technology measuring fluorescence lifetimes of endogenous retinal fluorophores**.** In contrast to fundus autofluorescence which measures the intensity of endogenous fluorophores, FLIO measures the time a fluorophore spends in an excited state before returning to the ground state**.** In the last years considerable progress has been made to identify disease specific fluorescence lifetime patterns and to identify fluorescence lifetime dominating fluorophores**.** Several groups have investigated fluorescence lifetimes from basic research to clinical application.

In this special interest group we aim to gather the current knowledge and discuss recent findings from the lab and from the clinics**.** Furthermore, common standards will be discussed from in vitro measurements to clinical research, in order to further advance FLIO research from bench to bedside.

Moderator: Martin S. Zinkernagel

Fluorescence lifetimes in the healthy eye. *Martin S. Zinkernagel.* Dept of Ophthalmology, University Hospital Bern, Bern, Switzerland **CR*

Fluorescence lifetime imaging ophthalmoscopy in hereditary retinal diseases. *Chantal Dysli.* Dept of Ophthalmology, University Hospital Bern, Bern, Switzerland **CR*

Principles of fluorescence lifetime imaging ophthalmoscopy. *Martin Hammer.* University Hospital Jena, and Center for Biomedical Optics and Photonics, University of Jena, Jena, Germany, Germany **CR*

Panelist. *Lydia Sauer.* University of Utah, John A**.** Moran Eye Center, Salt Lake City, Utah, United States, UT **CR*

Panelist. *Srinivas R. Sadda.* Doheny Eye Institute; Department of Ophthalmology, University of California-Los Angeles, CA **CR*

Panelist. *Sebastian Wolf.* Dept of Ophthalmology, University Hospital Bern, Bern, Switzerland **CR*

FLIO. *Martin S. Zinkernagel.* Dept of Ophthalmology, University Hospital Bern, Bern, Switzerland **CR*

East 8&15

Wednesday, May 01, 2019 6:15 PM-7:45 PM

Glaucoma

499a New perspectives on MIGS - SIG

With the arrival of a plethora of new and evolving MIGS procedures, glaucoma specialists currently are fortunate to have various surgical options that aim to recovery of the function of the aqueous outflow system in different ways**.** MIGS presents good IOP control and few complications**.** With the development of MIGS, there recently is a stirring of interest in aqueous outflow system, because all the choices beg for the accurate diagnostics to identify the specific site of resistance rising within the drainage system**.** Thus, we propose the SIG on MIGS in ARVO**.** In this session, we invited surgeons, clinical professors and experimental scientists to report their latest studies

Moderator: Ningli Wang

The mystery behind MIGS. *Ningli Wang.* Ophthalmology, Beijing Tongren Eye Center, Beijing, China

Exploring mechanisms of action of the micropulse laser through use of a novel imaging platfrom and correlation of multiple imaging modalities including high-resolution OCT. *Murray A. Johnstone.* University of Washington, WA

The potential mechanism of distal pathway of aqueous outflow system. *Sayoko Moroi.* University of Michigan, MI

The lymphatic characteristics of Schlemm's canal. *Lu Chen.* Univ of California, Berkeley, CA

Mechanism for the Increase in Aqueous Humor Outflow Facility by Placing Glaucoma Devices in Schlemm's Canal. *Haiyan Gong.* Boston Univ School of Medicine, MA

East 11/12

Wednesday, May 01, 2019 6:15 PM-7:45 PM

Cornea / Anatomy and Pathology/Oncology / Genetics / Glaucoma / Immunology/Microbiology / Retina / Retinal Cell Biology

499b Using, fluid biopsies, for decision-making in personalized medicine in ophthalmology - SIG

Aim: Personalized medicine in ophthalmological therapy depends on availability of "response markers" in the eye**.** Aqueous humor and vitreous samples are potential and easily accessible sites for "fluid biopsies" prior to and during therapy**.** Aim of this SIG is to discuss risks and benefits of "fluid biopsy-based decision trees" for guiding personalized therapies in AMD, glaucoma and corneal graft rejection.

Moderators: Sascha Fauser and Claus Cursiefen

Aqueous humor samples for decision making in glaucoma therapy: pilot data. *Claus Cursiefen.* Dept of Ophthalmology, University of Cologne, Koln, Germany

Aqueous humor samples for decision making in glaucoma therapy: pilot data. *Claus Cursiefen.* Dept of Ophthalmology, University of Cologne, Koln, Germany

Novel concepts for personalized medicine in ophthalmology: the role of fluid biopsies. *Sascha Fauser.* Roche, Basel, Switzerland **CR*

Analysis of complement components in AMD. *Anneke I. Den Hollander.* Redboude Institute, Netherlands

Cytokine changes after laser treatment in patients with Diabetic macular edema. *Edoardo Midena.* University of Padova, Italy

Proteomics of fluids in patients in retinal disease to guide therapeutic decisions. *Marius Ueffing.* University of Tuebingen, Germany

East Ballroom B

Wednesday, May 01, 2019 6:15 PM-7:45 PM

Immunology/Microbiology / Anatomy and Pathology/Oncology / Physiology/Pharmacology / Retina

499d Pathogenesis of TB-associated uveitis: current status and future directions - SIG

Pathogenic mechanisms of TB-associated uveitis remain ill-defined due to insufficient evidence from clinical samples and animal models**.** This SIG will list out key questions in this area, recent developments and future directions for research.

The discussion will start with a global overview of TB-associated uveitis (TBU) and current evidence on the direct role of *Mycobacterium tuberculosis* in the eye**.** The next two talks will highlight the systemic (peripheral blood) and intraocular(vitreous) immune signatures that have recently been reported in TBU**.** Following the presentations, the strengths and weaknesses of each hypothesis(direct and indirect role of the organism) will be discussed with members of the audience**.** The discussion will try to draw a separation between mycobacterial and inflammatory manifestations of TBU, and the differences in approach to their diagnosis and management**.** Attendees who have pre-submitted questions/ brief points, will be included in this discussion**.** At the end of the meeting, members of the audience should be able to appreciate existing gaps in our understanding of pathogenesis of ocular tuberculosis and identify focus areas for future research.

Moderator: Soumyava Basu

Intraocular immune response in TBU. *Soumyava Basu.* LV Prasad Eye Institute, Bhubaneswar, OrissA, India

TB-associated uveitis: global prevalence, clinical signs and histopathology. *Narsing A. Rao.* University of Southern California, USC Roski Eye Institute, Keck School of Medicine, Los Angeles, CA

Systemic immune response in TBU: does it represent the eye. *Rina La Distia Nora.* Department of Ophthalmology, University of Indonesia & Cipto Mangunkusumo Hospital Kirana, Jakarta, Indonesia

East Ballroom C

Wednesday, May 01, 2019 6:15 PM-7:45 PM

Retina

499e Wnt Signalling and regenerative medicine for retinal vascular disease - SIG

Organizer Michael Trese MD, FARVO, RE section, Oakland University William Beaumont School of Medicine

Purpose: To familiarize the participants with Wnt signaling and how it affects the retinal development and possible regeneration of retina vascular and neuronal elements destroyed by retinal vascular disease.

Committed Presenters:

Moderator: Michael Trese MD

Panelists:
Eric Nudelman MD PhD University of California San Diego

Topic: Wnt signaling Norrin and Wnt driven

David Antonetti PhD University of Michigan

Topic: Norrin driven Wnt signaling and retinal endothelial barrier proteins

Kimberly Drenser MD PhD Oakland University

Topic: Repair and Regeneration of retinal endothelial cells

Lois Smith MD PhD Harvard University

Topic: Repair and regeneration of retinal neuronal tissue

Commercial interests:

Michael Trese MD Retinal Solutions co founder equity

Kimberly Drenser MD PhD Retinal Solutions co founder equity

Moderator: Michael T. Trese

Repair and regeneration of retinal neuronal tissue. *Lois E. Smith.* Ophthalmology, Harvard University, Boston, MA

Repair and regeneration of retinal endothelial cells. *Kimberly A. Drenser.* [1]Associated Retinal Consultants, P.C., Royal Oak, MI; [2]Ophthalmology, Oakland University, Rochester, MI **CR*

Norrin driven and Wnt driven Wnt signalling. *Eric Nudleman.* Ophthalmology, University of California San Deigo, San Diego, CA

Norrin driven Wnt signalling and Barrier proteins. *David Antonettii.* Ophthalmology, University of Michigan, Ann Arbor, MI

West 211

Wednesday, May 01, 2019 6:15 PM-8:00 PM

499f Military Relevant Priorities and Strategies for Injury Diagnostics and Treatments

The military recognizes that the diagnosis and treatment of combat ocular trauma injuries is a critical medical capability shortfall**.** Engagement with academic, industry, interagency, and other partners is vital to obtain the necessary diagnostics and treatments for this capability gap**.** Ocular injuries sustained during combat are often in austere environments, presenting a unique challenge regarding both the severity of the injury and the timely access to definitive care**.** These vision-related gaps are considered a critical problem area for the Army that requires discussion surrounding clinical guidelines and strategies, ocular injury diagnostics, and treatments**.** Exploring these operational constraints will facilitate a better understanding of what solutions could be applied by the military to address these injuries as close to the point of injury as possible.

Moderator: Heuy-Ching H. Wang

— 6:15 **The Vision Center of Excellence (VCoE) - Mark Reynolds, Vision Center of Excellence (VCoE)/Defense Health Agency, J-9**

— 6:35 **Understanding Military Capability-Gap Based Research - David Zamora, US Army Institute of Surgical Research (USAISR)**

— 6:50 **Developing Return to Duty Solutions for the Warfighter to Preserve and Treat Visual Dysfunction after Combat Injuries - Arthi Amin, U.S. Medical Research and Materiel Command / Clinical and Rehabilitative Medicine Research Program (CRMRP)**

— 7:05 **Product Development Considerations for Ocular Injury Solutions - Leigh Alexander, US Army Medical Materiel Agency (USAMMA)**

— 7:20 **How to Seek DoD Vision Research Funding - Quntian Wang, Congressionally Directed Medical Research Programs (CDMRP)**

West 109/110

Wednesday, May 01, 2019 6:15 PM-8:00 PM

499g The Role of the Tie2 Pathway in Ocular Disease

The Tie2 pathway is a key regulator of endothelial cell function**.** Under normal conditions Tie2, a transmembrane receptor found in endothelial cells in the retinal vasculature and in Schlemm's canal, is maintained in an active state by the angiopoietin-1 ligand**.** In pathologic states Tie2 activity is decreased by angiopoietin-2 and vascular endothelial protein tyrosine phosphatase (VE-PTP), resulting in increased vascular permeability, neovascularization, and increased IOP**.** Integrin α5β1, which is upregulated in activated endothelial cells, binds Tie2 maintaining an extra-junctional location; inhibition of α5β1 allows Tie2 to relocate to cell junctions facilitating its phosphorylation, even by the weak agonist angiopoietin-2**.** Recently genetic studies have implicated Tie2 suppression in glaucoma and preclinical data have shown that Tie2 activation modulates intraocular pressure (IOP)**.** Multiple therapeutic approaches to maintaining Tie2 activation are under investigation to treat retinal vascular diseases and glaucoma**.** In this symposium the biology of the Tie2 pathway, results of preclinical and clinical studies demonstrating the beneficial effects of Tie2 activation will be reviewed, and innovative new approaches targeting Tie2 in retinal vascular diseases and glaucoma will be discussed.

Moderators: Janey L. Wiggs and Peter A. Campochiaro

— 6:15 **The biology of the Tie2 pathway and its role in retinal vascular disease - Peter A. Campochiaro, Wilmer Eye Institute, Johns Hopkins University**

— 6:33 **Results of clinical trials testing the effects of Tie2 activation in neovascular AMD - Arshad M. Khanani, Sierra Eye Associates**

— 6:51 **Genetic studies implicating Tie2 suppression in glaucoma - Janey Wiggs, Mass Eye & Ear Infirmary**

— 7:09 **The role of Tie2 signaling in aqueous outflow and control of IOP; implications for new glaucoma treatments - Kevin Peters, Aerpio Pharmaceuticals**

Thursday

May 2, 2019

ARVO Annual Meeting
Registration
Main Lobby
7am – 1pm

ARVO 2020 —Baltimore
Kickoff Reception/
All Posters
2 – 3pm

Beckman-Argyros Award
Lecture
3:15 –4:15pm

ARVO/Alcon
Closing Keynote
ARVO Ballroom
4:30 – 6pm

ARVO 2019
APRIL 28 – MAY 2
VANCOUVER, B.C.

Thursday, May 2 – Symposia, papers, workshops/SIGs and lectures

Time	Session	Title	Location
8 – 10am	501	**The gut-eye axis: Emerging roles of the microbiome in ocular immunity and diseases** [RC, IM, RE, CL, CO, BI]	West 212-214
	502	**The single cell revolution: Novel insights and applications for single cell RNA sequencing in eye research** [IM, AP, BI, CO, PH, RC, VN, GEN]	West 217-219
10:15am – 12 noon	528	Mechanistic analysis of ocular morphogenesis, growth and disease [AP]	East 1
	529	AMD and Antiangiogenic agents [PH]	East 2/3
	530	Advances in Retinal Gene Therapy and Stem Cells [RE]	East 8&15
	531	Biology of Retinal Neurons [RC]	East 11/12
	532	Ocular microbiology and vaccines [IM]	East Ballroom A
	533	Retinal Surgery and PVR [RE]	East Ballroom B
	534	Biochemistry and molecular biology of diabetic retinopathy [BI]	East Ballroom C
	535	Corneal surgery- refractive [CO]	West 211
	536	Visual Diseases and Protection [VN]	West 212-214
	537	Posterior Capsular Opacification [LE]	West 217-219
	538	Myopia prevalence and progression [CL]	West 220
	539	Brain and the Eye [EY]	West 221/222
	540	Intraocular Lenses and Presbyopia Correction [VI]	West 223/224
	541	Pharmacological Interventions and Cellular Interventions [GL]	ARVO Ballroom
12:15 – 1:45pm	552	The implications of immune response in ocular gene therapy — SIG [RE, CL, IM, PH]	East 1
	553	Re-Engineering Clinical Perimetry — SIG [GL, RE, VI, VN, LV]	East 8&15
	554	Exploring Controversial Issues in BEST1-related Retinal Disease — SIG [RC, RE]	East Ballroom A
	555	Optical Coherence Tomographic Angiography of the Eye — SIG [MOI, GL, RE]	East Ballroom B
	556	EVER/ARVO workshop: The breadcrumb trail in glaucoma: From biology to the patient	West 211
	557	Lipids and Eye Diseases- where should we focus? — SIG [BI, RC]	West 212-214
	558	Emerging Biological Functions of Non-canonical Photodetection — SIG [VN, AP, BI, RE, RC, GEN]	West 217-219
	559	Are there alternatives to in vivo models in eye research? — SIG [GL, BI, IM, PH, RE, GEN]	West 220
	560	Addressing global blindness through international research collaborations — Next frontier for 2020	West 221/222
	561	Chinese Ophthalmology Society (COS) workshop: Cell biology and stem cells	West 223/224
	562	NEI grants Workshop: New NIH regulations concerning human subject and animal research	Harbour Ballroom
3:15 – 4:15pm	564	Beckman-Argyros Award in Vision Research	ARVO Ballroom
4:30 – 6pm	565	ARVO/Alcon Closing Keynote: Models of translational science to span innovation gaps in academia	ARVO Ballroom

Symposia highlighted in **boldface**

Time	Session	Title	Board No.
8 – 9:45am	503	Glaucoma: biochemistry and molecular biology, genomics and proteomics [BI]	A0001 - A0030
	504	Proteomics, lipidomics, metabolomics and systems biology [BI]	A0031 - A0043
	505	Lens Biochemistry and Cell Biology [LE]	A0044 - A0062
	506	Retina/RPE new drugs, mechanism of action, and toxicity [PH]	A0099 - A0119
	507	Blood flow, Ischemia/reperfusion, hypoxia and oxidative stress [PH]	A0120 - A0140
	508	Vitreoretinal Surgery, Novel Techniques and Clinical Applications [RE]	A0191 - A0250
	509	Proliferative Vitreoretinopathy- Translational Studies [RE]	A0251 - A0261
	510	Myopia and Refractive Error [CL]	A0314 - A0358
	511	Molecular mechanisms and anatomical changes in experimental myopia [AP, CL]	A0359 - A0395
	512	Vision Assessment & Performance. Aging. Driving [VI, CL, LV, PH]	A0396 - A0442
	513	Visual Disease Models and Restoration: Humans [VN]	A0443 - A0461
	514	Animal Electrophysiology [VN]	A0462 - A0475
	515	Retinal Cell Biology [RC]	A0476 - A0503
	516	Retinal Development [RC]	A0504 - A0529
	517	Photoreceptor Cell & Developmental Biology [RC]	A0530 - A0549
	518	Functional Genomics Characterization and animal models [GEN, LE, LV, RE]	A0550 - A0573
	519	Functional and Molecular Imaging [MOI]	A0574 - A0584a
	520	Multidisciplinary Imaging Technologies and Applications [MOI, GEN, RC]	A0585 - A0631
	521	Structure/Function Relationships [GL, RE]	B0001 - B0033
	522	Biomechanics [GL]	B0034 - B0069
	523	Orbit and Thyroid eye Disease [EY]	B0184 - B0203
	524	Eyelid and Lacrimal System [EY]	B0204 - B0225
	525	Conjunctival Cell Biology, Disease and Surgery [CO, AP]	B0227 - B0252
	526	Corneal surgery-non refractive [CO]	B0323 - B0376
	527	Contact lens [CO]	B0414 - B0469
10:15am – 12 noon	542	Cataract, Cornea, and Ocular Surface Disease [CL]	A0063 - A0098
	543	Retinopathy of Prematurity, Detection and Clinical [RE]	A0141 - A0167
	544	Diabetic Retinopathy and Surgery [RE]	A0168 - A0190
	545	Retinal Detachment, Trauma and Repair [RE, BI, CO, RC]	A0262 - A0313
	546	Surgery and Wound Healing II [GL]	B0070 - B0111
	547	Uveitis / ocular inflammatory disease: Epidemiology, clinical characteristics and QoL [IM]	B0112 - B0158
	548	Non-infectious anterior segment / orbital inflammation and allergy [IM]	B0159 - B0183
	549	Cornea Dry Eye Clinical Treatment [CO]	B0253 - B0284
	550	Cornea Dry Eye Clinical I Diagnostics [CO, MOI]	B0285 - B0322
	551	Corneal biomechanics [CO]	B0377 - B0413

Poster board numbers correspond to poster location in Exhibit Hall; A = Poster Area A , B = Poster Area B

NOTES

West 212-214

Thursday, May 02, 2019 8:00 AM-10:00 AM

Biochemistry/Molecular Biology / Clinical/ Epidemiologic Research / Cornea / Immunology/ Microbiology / Retina / Retinal Cell Biology

501 The gut-eye axis: Emerging roles of the microbiome in ocular immunity and diseases

The gut serves as host to a diverse population of microorganisms, and research linking the significance of the gut microbiome to health and disease has exploded in the last decade. The composition of the intestinal microbiota has been found to be crucial for host metabolic efficiency, regulation of the immune system, tumor growth in cancer, and neurological and developmental health. Recent ophthalmology research has uncovered a critical role for the gut microbiome in ocular health and responses to diseases. This symposium will bring together leading scientists who will share their latest cutting edge research on the impact of the gut microbiome on the nervous system, ocular immunity, and ocular diseases such as diabetic retinopathy and macular degeneration.

Moderators: Przemyslaw Mike Sapieha, Cecilia Lee and Ashok Kumar

— *8:00* **Introduction**

5631 — *8:03* **Lessons from the microbiota-gut-brain axis; implications for the eye.** *John Bienenstock.* McMaster University

— *8:28* **Q&A**

5632 — *8:32* **Commensals in ocular immunity and autoimmunity.** *Rachel R. Caspi.* Laboratory of Immunology, National Eye Inst/NIH

— *8:52* **Q&A**

5633 — *8:54* **Microbiota regulated neutrophil function during infection.** *Mihaela G. Gadjeva.* Medicine, Brigham and Womens Hospital

— *9:14* **Q&A**

5634 — *9:16* **A dietary carbohydrate- gut microbiome-metabolome eye axis: roles in retinal degeneration and cataract.** *Allen Taylor.* Nutrition &Vision Res-USDA-HNRCA, Tufts University

— *9:36* **Q&A**

5635 — *9:38* **Reconstructing the microbiome for treatment of diabetic retinopathy.** *Maria B. Grant.* Ophthalmology, University of Alabama

— *9:58* **Q&A**

West 217-219

Thursday, May 02, 2019 8:00 AM-10:00 AM

Anatomy and Pathology/Oncology / Biochemistry/Molecular Biology / Cornea / Genetics / Immunology/Microbiology / Physiology/Pharmacology / Retinal Cell Biology / Visual Neuroscience

502 The single cell revolution: Novel insights and applications for single cell RNA sequencing in eye research

Single-cell mRNA-sequencing (scRNA-seq) is rapidly revolutionizing biomedical research and accelerating the development of personalized medicine. This unbiased, high-throughput, and high-resolution analysis of individual cell transcriptomes is revealing previously unappreciated detail about the heterogeneity of cell populations, their origins, and functions in development and disease. This Symposium will enable participants to discuss new research approaches using scRNA-seq technologies and cutting edge bioinformatic pipelines. Presentations will cover glial cell biology, retinal cell development and degeneration, vascular endothelial cells and immunology, opening the door for exciting discussions on novel opportunities and challenges for translational eye research.

Moderators: Daniel R. Saban, John D. Ash and Zi-Bing Jin

— *8:00* **Introduction**

5636 — *8:02* **"Cellular heterogeneity of human stem cell-derived RGCs".** *Donald J. Zack.* Ophthalmology, Wilmer Eye Inst, Johns Hopkins Univ

5637 — *8:19* **Building and rebuilding the retina one cell at a time.** *Seth Blackshaw.* Neuroscience, Johns Hopkins Univ Sch of Med

5638 — *8:36* **Single cell transcriptomics identifies hedgehog-mediated immunomodulatory signaling circuit between endothelial and perivascular stromal cells in the choroid.** *Enrique J. Rodriguez-Boulan.* Ophthalmology-Dyson Vision Research Inst, Weill Medical College of Cornell University

5639 — *8:53* **Monocyte infiltration and differentiation during photoreceptor degeneration.** *Marie E. Burns.* Center for Neuroscience, Univ of California-Davis

5640 — *9:10* **Elucidatiing niche-associated function of retinal microglia at the single cell level.** *Daniel R. Saban.* Ophthalmology, Immunology, Duke University School of Medicine

5641 — *9:27* **The power of ONE: Immunology in the age of single cell genomics.** *Ido Amit.* Weizmann Institute

— *9:52* **Discussion**

West Exhibition Hall A0001-A0030

Thursday, May 02, 2019 8:00 AM-9:45 AM

Biochemistry/Molecular Biology

503 Glaucoma: biochemistry and molecular biology, genomics and proteomics

Moderators: Ordan J. Lehmann and John G. Flanagan

5642 — *A0001* **Measurements of hydroxylinoleate and hydroxyarachidonate isomers in serum from patients with primary open-angle glaucoma.** *Masaki Tanito[1], A. Umeno[2], S. Kaidzu[1], Y. TAKAI[1], M. Horie[2], Y. Yoshida[2].* [1]Ophthalmology, Shimane University Faculty of Medicine; [2]National Institute of Advanced Industrial Science and Technology

5643 — *A0002* **Pseudoexfoliating glaucoma and microRNAs in anterior lens capsule.** *Alka Khera[1], S. Pandav[1], J. Ram[1], M. Khullar[2].* [1]Advanced Eye Center, Postgraduate Institute of Medical Education and Research; [2]Department of Experimental medicine and research, PGIMER

5644 — *A0003* **.valuation of oxidative stress profiles of the serum and aqueous humor in patients with open-angle glaucoma.** *YASUYUKI TAKAI, K. SUGIHARA, S. Kaidzu, M. Tanito.* Ophthalmology, Shimane University Faculty of Medicine

5645 — *A0004* **Rapid immunoprecipitation mass spectrometry of endogenous protein (RIME) method identifies calreticulin as a myocilin binding partner.** *Jeff Lynch[1], P. Katoli[1], H. Zhai[2], T. Rejtar[2], Y. K. Wang[2], A. Chen[1].* [1]Ophthalmology, Novartis Institutes for Biomedical Research; [2]Analytical Sciences and Imaging, Novartis Institutes for BioMedical Research ***CR**

5646 — *A0005* **The role of periostin in the conjunctival bleb after filtration surgery in mice.** *KEISUKE ADACHI.* Juntendo University of Graduate School of Medicine

5647 — *A0006* **Are agonistic β2-adrenergic receptor autoantibodies present in normal tension glaucoma and secondary open-angle glaucoma?** *Bettina Hohberger[1], C. Y. Mardin[1], S. Hosari[1], R. Lämmer[1], R. Kunze[3], A. Jünemann[2], U. Schlotzer-Schrehardt[1], G. Wallukat[5], M. Herrmann[4].* [1]Ophthalmology, University Erlangen-Nuremberg; [2]University of Rostock; [3]Science office, Berlin-Buch, Campus Max Delbrück Center for Molecular Medicine; [4]Institute of Clinical Immunology and Rheumatology, Department of Internal Medicine III, University of Erlangen-Nürnberg; [5]Max Delbrück Center for Molecular Medicine

5648 — *A0007* **The association between oxidative stress and corneal hysteresis in patients with glaucoma.** *Keiko Uchida[1], N. Himori[1], H. Kazuki[1], M. Inoue-Yanagimachi[1], N. Kiyota[1], M. Sato[1], S. Maekawa[1], Y. Shiga[1, 2], S. Tsuda[1], K. Omodaka[1], T. Nakazawa[1, 2].* [1]ophthalmology, Tohoku university; [2]Ophthalmic Imaging and Information Analytics, Tohoku university ***CR**

5649 — *A0008* **Ephrin Receptor Activation in the Neuropathic Progression of the DBA/2J Glaucoma Model.** *Thomas Strong[1, 2], D. Pelaez[2, 3].* [1]Molecular, Cellular & Developmental Biology, University of Miami Miller School of Medicine; [2]Dr**.** Nasser Al-Rashid Orbital Vision Research Center, Bascom Palmer Eye Institute; [3]Ophthalmology, Bascom Palmer Eye Institute

5650 — *A0009* **Evidence of Increased Glycolysis and Glutaminolysis in Glaucoma Lamina Cribrosa Cells.** *Mustapha Irnaten[1], D. Hickey[1], D. Brennan[4], W. Stamer[2], A. F. Clark[3], C. J. O'Brien[1].* [1]Ophthalmology, Mater Misericordiae University Hospital,; [2]Ophthalmology, Duke Eye Center; [3]Health Science Center, University of North Texas; [4]Anatomy, University College Dublin

5651 — *A0010* **MIRNA-18A Is A Key Regulator Of Human Trabecular Meshwork Cell Response To TGFB; Implications For Glaucoma.** *John Knox[1], K. Lester[1, 2], K. Hamill[1], C. Willoughby[1, 2].* [1]Department of Eye and Vision Science, Institute of Ageing and Chronic Disease, University of Liverpool; [2]Genomic Medicine Group, Biomedical Sciences Research Institute, Ulster University

5652 — *A0011* **Identification of the Aqueous Humor Proteins correlated with Intraocular Pressure in Primary Open Angle Glaucoma Patients.** *Sai Karthik Kodeboyina[1], T. Lee[1], S. Sharma[1, 2], W. Zhi[1], K. E. Bollinger[2, 3], L. Ulrich[2], A. Sharma[1, 4].* [1]Center for Biotechnology and Genomic Medicine, Augusta University; [2]Department of Ophthalmology, Augusta University; [3]Department of Cellular Biology and Anatomy, Augusta University; [4]Department of Population Health Sciences, Augusta University

5653 — *A0012* **Angiotensin II-Induced Oxidative Stress Inactivates Neuroprotective Mechanisms in Retina and Heightens Acute Vascular Adaptive Responses in Ophthalmic Artery: A Proteomic Perspective.** *Caroline Manicam[1], L. Straßburger[1], D. Herzog[2], N. Pfeiffer[1], F. H. Grus[1], N. Perumal[1].* [1]Department of Ophthalmology, University Medical Centre Mainz; [2]Department of Psychiatry and Psychotherapy & Focus Program Translational Neurosciences, University Medical Centre of the Johannes Gutenberg University Mainz

5654 — *A0013* **Reduced Oxidative Phosphorylation and Increased Glycolysis (The Warburg Effect) in Glaucoma Lamina Cribrosa Cells.** *Khalid Kamel[1], M. Irnaten[1], A. Zhdanov[2], D. Papkovsky[2], C. J. O'Brien[1].* [1]Department of Ophthalmology, Mater Misericordiae University Hospital and University College Dublin; [2]Biochemistry and Cell Biology, University College Cork

5655 — *A0014* **Quantitative proteomic analysis of retina in primary and secondary retinal ganglion cell (RGC) degeneration using SWATH-mass spectrometry (MS).** *Jacky Man Kwong Kwong[1], T. Lam[2], F. Yu[2], A. Sze[2], K. Li[2], C. To[2], J. Caprioli[1].* [1]Ophthalmology, Jules Stein Eye Institute, UCLA; [2]Optometry, Hong Kong Polytechnic University

5656 — *A0015* **Aqueous Humor β42-Amyloid And Total Proteins Concentration In Glaucomatous Patients.** *Francesca Cappelli[1], M. Marenco[1], V. Testa[1], A. Masala[1], F. Caudano[2], D. Sindaco[1], A. Macri[1], C. E. Traverso[1], R. Ricciarelli[2], M. M. Iester[1].* [1]Eye Clinic of Genoa, Policlinico San Martino, Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DiNOGMI), University of Genova, 16132 Genova, Italy.; [2]Department of Experimental Medicine, Section of General Pathology, School of Medical and Pharmaceutical Sciences, University of Genova, 16132 Genova, Italy

5657 — *A0016* **Effect of Cytochrome P450 1B1 (CYP1B1) on β catenin Expression and Downstream Pathways in Trabecular Meshwork Cells.** *Rachida Bouhenni, T. Rowe.* Ophthalmology, Akron Children's Hospital

5658 — *A0017* **Serial Block-Face Scanning EM (SBEM) Provides Evidence for Retrolaminar Demyelination of Structurally Intact Axons in Non-Human Primate (NHP) Early Experimental Glaucoma (EG).** *Cheri Stowell[1, 3], E. Bushong[2], H. Lockwood[1, 3], I. Williams[1, 3], J. Reynaud[1, 3], S. K. Gardiner[1, 3], N. Marsh-Armstrong[4], M. Ellisman[2], C. F. Burgoyne[1, 3].* [1]Discoveries in Sight, Devers Eye Institute; [2]National Center for Microscopy & Imaging Research; [3]Legacy Research Institute; [4]Department of Ophthalmology, University of California

5659 — *A0018* **Tear micro RNA expression signature in primary open-angle glaucoma versus ocular hypertension.** *Maria D. Pinazo-Duran[1, 2], J. Raga-Cervera[1, 4], S. Sanz-Gonzalez[1, 2], J. Garcia-Medina[1, 3], M. López-Gálvez[5], V. Zanón-Moreno[1, 2].* [1]Ophthal Research Unit "S Grisolia", Health Counseling of Valencia; [2]Surgery (ophthalmology), University of Valencia; [3]Ophthalmology, University Hospital Morales Meseguer; [4]Ophthalmology, Hospit; [5]Diabetic Retinopathy, Institute ophthalmobiology IOBA

Thursday Posters 8:00 am – 9:45 am

5660 — *A0019* **Myocilin expression in the eye and blood of zebrafish.** *Raquel Atienzar Aroca[1], J. Aroca Aguilar[1, 2], S. Alexandre[1], J. Ferre Fernández[1, 2], J. Bonet Fernández[1, 2], L. Fernández Sánchez[2, 3], N. Cuenca[2, 3], J. Escribano Martínez[1, 2].* [1]Área de genética, IDINE, Universidad de Castilla-La Mancha; [2]RED de patología del envejecimiento, calidad visual y calidad de vida**.** OftaRed, Instituto de Salud Carlos III; [3]Physiology, Genetics and Microbiology, Universidad de Alicante

5661 — *A0020* **Profile of inflammatory cytokines in aqueous humour of patients across primary angle closure disease spectrum.** *Monisha E. Nongpiur, E. N. Vithana, T. Aung, T. T. Wong.* Glaucoma, SNEC Building, #05-00, Singapore Eye Research Institute

5662 — *A0021* **The proteins of mitochondrial dysfunction and integrin signaling change in the rat retina following cerebrospinal fluid pressure reduction.** *Fancheng Yan[1], F. Yu[2], Y. Gong[2], X. Jiang[1], l. Zhang[3], H. Deng[4], N. Wang[1].* [1]Beijing Institute of Ophthalmology, Beijing Tongren Eye Center, Beijing Tongren Hospital, Capital Medical University; Beijing Ophthalmology & Visual Sciences Key Laboratory; [2]Key Laboratory of Reproduction Regulation of NPFPC (SIPPR, IRD, Fudan University); [3]Department of Ophthalmology, Affiliated Hospital of Guilin Medical University; [4]MOE Key Laboratory of Bioinformatics, School of Life Sciences, Tsinghua University

5663 — *A0022* **Use of next-generation sequencing to identify microRNAs in aqueous humor and blood of primary open-angle glaucoma and cataract patients.** *Wouter H. Hubens[1, 2], J. Krauskopf[3], F. Caiment[3], H. J. Beckers[1], J. C. Kleinjans[3], C. A. Webers[1], T. G. Gorgels[1, 2].* [1]University Eye Clinic Maastricht; [2]Mental Health and Neuroscience, Maastricht University; [3]Department of Toxicogenomics, Maastricht University **CR*

5664 — *A0023* **Characterization of gene expression profiles of cultured human primary trabecular meshwork cells, transformed cell lines and human skin fibroblasts.** *Ankur Jain[2, 1], T. P. Sharma[3], S. S. whitmore[2, 1], T. E. Scheetz[2, 1], A. F. Clark[3], B. Tucker[1], J. H. Fingert[2, 1].* [1]Institute for Vision Research, University of Iowa; [2]Department of Ophthalmology and Visual Sciences, University of Iowa; [3]North Texas Eye Research Institute, University of North Texas Health Science Center

5665 — *A0024* **Characterization of cholesterol metabolism in an experimental model of glaucoma in rats.** *Elodie A. Masson[1], E. Léger-Charnay[1], S. Gambert[1], L. Martine[1], B. Buteau[1], M. Maire[1], V. Gigot[1], A. M. Bron[1, 2], C. Creuzot-Garcher[1, 2], N. Acar[1], L. Bretillon[1].* [1]UMR CSGA – Eye and Nutrition Research Group, INRA; [2]University Hospital **CR*

5666 — *A0025* **A potential role for impaired retinoic acid signaling in the pathophysiology of pseudoexfoliation syndrome/glaucoma.** *Matthias Zenkel[1], D. Berner[1], U. Hoja[1], F. Pasutto[2], F. E. Kruse[1], U. Schlotzer-Schrehardt[1].* [1]Department of Ophthalmology, University Erlangen Nuernberg; [2]Institute of Human Genetics, University Erlangen Nuernberg

5667 — *A0026* **TGFβ2 Regulation of DNMTs in Optic Nerve Head Astrocytes.** *Tara Tovar-Vidales, N. Lopez, A. F. Clark.* North Texas Eye Research Institute, Pharmacology & Neuroscience, University of North Texas Health Science Center

5668 — *A0027* **Epigenetic regulation of optic nerve head fibrosis in glaucoma.** *Navita Lopez, A. F. Clark, T. Tovar-Vidales.* UNTHSC

5669 — *A0028* **Genome-wide Transcriptome Profiling of Human Trabecular Meshwork Cells treated with Dexamethasone.** *Srinivasan Senthilkumari[1], K. Lester[2], B. Lane[3], K. Whysall[3], C. Sheridon[3], D. A. Simpson[4], K. S. R[5], M. VR[6], C. Willoughby[2].* [1]Department of Ocular Pharmacology, Aravind Medical Research Foundation; [2]Genomic Medicine Group, Biomedical Sciences Research Institute, Ulster University, Northern Ireland; [3]Institute of Ageing and Chronic Disease, University of Liverpool; [4]Centre for Experimental Medicine, Queen's University Belfast; [5]Glaucoma Clinic, Aravind Eye Hospital; [6]Aravind Medical Research Foundation

5670 — *A0029* **Elevated Levels of GDF-15 in Aqueous Humor Are Positively Correlated with Increased Intraocular Pressure in Primary Open Angle Glaucoma Patients..** *Leona Ho[1], P. Challa[1], R. Vann[1], C. Ullmer[2], V. Rao[1].* [1]Ophthalmology, Duke University; [2]Roche Pharma Research & Early Development (pRED), F**.** Hoffmann-La Roche **CR*

5671 — *A0030* **Canonical Wnt signaling in optic nerve head astrocytes.** *Declan I. Hesson[1, 2], Y. Liu[1, 2], A. F. Clark[2, 1].* [1]Pharmacology and Neroscience, University of North Texas Health Science Center; [2]North Texas Eye Research Institute, University of North Texas Health Science Center

West Exhibition Hall A0031-A0043

Thursday, May 02, 2019 8:00 AM-9:45 AM

Biochemistry/Molecular Biology

504 Proteomics, lipidomics, metabolomics and systems biology

Moderator: Muna I. Naash

5672 — *A0031* **Changes of eicosanoids after eyelid warming or thermopulsation treatment for Meibomian gland dysfunction (MGD).** *Yohannes A. Ambaw[6, 1], D. Fuchs[3], F. Torta[2, 1], C. Wheelock[3], M. Wenk[2, 1], L. Tong[4, 5].* [1]Singapore Lipidomics Incubator, National University of Sigapore,Life Sciences Institute; [2]Biochemistry, National University of Sigapore; [3]Department of Medical Biochemistry and Biophysics, Karolinska Institutet; [4]Department of Cornea and External Eye Disease, Singapore National Eye Center; [5]Department of Ophthalmology, National University of Singapore; [6]Biochemistry, National University of Singapore, Department of Biochemistry

5673 — *A0032* **Eye Metabolomics in Vigabatrin (VGB)-treated Mice: New Clues to VGB Ocular Toxicity.** *Dana Walters[4], E. Arning[1], T. Bottiglieri[1], E. Jansen[2], G. Salomons[2], M. Brown[4], M. Schmidt[4], G. Ainslie[3], J. Roullet[4], K. Gibson[4].* [1]Metabolic Disease, Baylor Scott & White Research Institute; [2]Clinical Chemistry, Metabolic Laboratory, Amsterdam University Medical Center; [3]Theravance Biopharma US; [4]Pharmacotherapy, Washington State University College of Pharmacy and Pharmaceutical Sciences

5674 — *A0033* **Identification and Analysis of Bovine and Mouse Retina-Specific Tau Isoforms.** *Vladimir A. Bondarenko.* Basic Sciences, Touro University Nevada

5675 — *A0034* **Ophthalmic specimens from bedside to bench: An integrated biorepository platform to bridge the gap between the operating room and laboratory.** *Sai Parveen T. Chemudupati, V. B. Mahajan, P. Mruthyunjaya.* Ophthalmology, Stanford University School of Medicine

5676 — *A0035* **Establishing the baselines for genomic and lipidomic analyses of human meibomian glands.** *Igor A. Butovich[1], N. Bhat[1], T. Suzuki[2], S. Kinoshita[3], J. Wojtowicz[4].* [1]Ophthalmology, University of Texas Southwestern Medical Center; [2]Ophthalmology, Kyoto Prefectural University of Medicine; [3]Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine; [4]Centro Oftalmologico de Valencia

Thursday Posters 8:00 am – 9:45 am

5677 — *A0036* **Proteomic Fingerprinting of Aqueous Humor in Rat Model of Ocular Inflammation.** *Moksha Laxmi[1], N. Halder[1], A. Kumar[3], B. S. Singh[2], R. Chawla[3], T. Velpandian[1].* [1]Ocular Pharmacology and Pharmacy Division, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences; [2]Department of Biophysics, All India Institute of Medical Sciences; [3]Department of Ophthalmology, Dr. Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences

5678 — *A0037* **A novel resolvin D6 (RvD6) isomer released in tears stimulates corneal innervation and wound healing.** *Azucena H. Kakazu, T. L. PHAM, J. He, B. Jun, N. G. Bazan, H. E. Bazan.* Ophthalmology/Neuroscience Center, LSU Health Sciences Center

5679 — *A0038* **Syntaxin3B ablation in rods and cones leads to mistrafficking a small pool of Prph2 and ROM1.** *Mashal Kakakhel, M. S. Makia, M. R. Al-Ubaidi, M. I. Naash.* Biomedical Engineering, University of Houston

5680 — *A0039* **Lacrimal proteomic analysis in patients with lacrimal gland patholology.** *Adriana Palomino Bernal[1], G. Graue Moreno[1], A. Robles-Contreras[2].* [1]Órbita y Oculoplástica, Fundación Hospital Nuestra Señora de la Luz; [2]Fundación Hospital Nuestra Señora de la Luz

5681 — *A0040* **Age effects on tear film proteomics.** *Janika Nättinen[1], A. Jylhä[1], U. Aapola[1], P. Mäkinen[2], R. W. Beuerman[3, 4], J. Pietilä[2], A. Vaajanen[5], H. Uusitalo[1, 5].* [1]Department of Ophthalmology, Faculty of Medicine and Health Technology, Tampere University; [2]Silmäasema Eye Hospital; [3]Singapore Eye Research Institute; [4]Duke-NUS Medical School Ophthalmology and Visual Sciences Academic Clinical Program; [5]Tays Eye Centre, Tampere University Hospital

5682 — *A0041* **Novel small-molecule chaperones to overcome opsin misfolding, mistrafficking and aggregation in retinal blinding diseases.** *Gaia Pasqualetto[2, 1], E. Pileggi[2], M. Schepelmann[3], C. Heard[2], M. T. Young[4], M. B. Rozanowska[1], A. Brancale[2], M. Bassetto[2].* [1]School of Optometry & Vision Sciences, Cardiff University; [2]Welsh School of Pharmacy and Pharmaceutical Sciences, Cardiff University; [3]Medical University of Vienna; [4]School of Biosciences, Cardiff University

5683 — *A0042* **Species Differences in Visual Arrestin Multimerization.** *Cassandra Barnes[1, 2], K. Namitz[1], M. Cosgrove[1], P. D. Calvert[2, 1].* [1]Biochemistry and Molecular Biology, SUNY Upstate Medical University; [2]Ophthalmology, SUNY Upstate Medical University

5684 — *A0043* **Title: Human Tyrosinase: Temperature-dependent Estimation of Gibbs Energies of Oxidase Activity.** *Kenneth L. Young II[1], C. Kassouf[1], M. Dolinska[1], D. Anderson[2], Y. V. Sergeev[1].* [1]National Eye Institute, National Institutes of Health; [2]National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health

West Exhibition Hall A0044-A0062

Thursday, May 02, 2019 8:00 AM-9:45 AM

Lens

505 Lens Biochemistry and Cell Biology

Moderator: Kulandaiappan Varadaraj

5685 — *A0044* **Characterization of aquaporin-5 protein-protein interactions, subcellular localization, and phosphorylation in the ocular lens.** *Romell Gletten[1], R. Petrova[2], P. J. Donaldson[2], K. L. Schey[1].* [1]Biochemistry, Vanderbilt University; [2]Medical Sciences, University of Auckland

5686 — *A0045* **DCTN5 mutant mice reveal a role for dynactin in lens biogenesis.** *Ting-Yu Yeh[1], E. Zion[1], A. Caverts[1], M. Ayushman[1, 2], F. Dong[1], H. Zhao[1], T. Schroer[1].* [1]Biology, Johns Hopkins University; [2]Chemical Engineering, Indian Institute of Technology Kharagpur

5687 — *A0046* **The Role of Dystrophin (Dp71) in Membrane Organization and Mechanics of the Ocular Lens.** *Shruthi Karnam[1], V. Ponugoti[1, 2].* [1]Ophthalmology, Duke University Medical Center; [2]Pharmacology and Cancer Biology, Duke University Medical Center

5688 — *A0047* **Effects of North American Ginseng Extracts on Lens Health and Plasma in Streptozotocin Diabetic Rats Using Early and Late Treatment.** *Tomasz M. Dzialoszynski[1], V. Jaremek[4], E. Noble[1], K. P. Mitton[3], M. Karmazyn[2], J. R. Trevithick[1].* [1]Faculty of Health Sciences, Western University; [2]Physiology & Pharmacology, Western University; [3]Eye Research Institute, Pediatric Retinal Research Lab, Oakland University; [4]Anatomy & Cell Biology, Western University

5689 — *A0048* **Effect of surface deamidations on structure and stability of γS crystallins.** *Calvin Vetter, K. Halverson, I. Almog, L. L. David, K. J. Lampi.* Oregon Health & Science University

5690 — *A0049* **Age-related changes in lenses of healthy centenarian humans and old wild-type mice.** *Juliet A. Moncaster[1], O. Minaeva[1], J. Drury[2], S. Sidlowski[2], S. Andersen-Toomey[2], T. Perls[2], L. E. Goldstein[1].* [1]Radiology, Boston University; [2]Medicine, Boston University

5691 — *A0050* **Discovery of non-sterol αB-crystallin ligands as potential cataract therapeutics.** *Bryan Dunyak[1], B. Su[1], K. Molnar[1], P. Hamilton[2], S. Bozeman[2], S. Li[1], L. Liu[1], U. P. Andley[2], L. Makley[1].* [1]ViewPoint Therapeutics; [2]Washington University in St. Louis **CR*

5692 — *A0051* **IPV-containing peptides stabilize mutant αB-crystallin oligomers through conformational rearrangement.** *Bonnie Su, B. Dunyak, K. Molnar, L. Makley.* ViewPoint Therapeutics **CR*

5693 — *A0052* **Determination and localization of Lanosterol Synthase in human cataractous lenses and their relationship with αA crystallin proteins.** *Laura P. Reyes Vivas[1], T. C. Reyes Vivas[2], Z. J. Dueñas[3], M. Y. Avila[1].* [1]Ophthalmology, Universidad Nacional de Colombia; [2]Universidad Nacional de Colombia; [3]School of Medicine - Physiological Sciences Department, Universidad Nacional de Colombia

5694 — *A0053* **Low Fluorescence Ratios seem to indicate Early-life Sport Activities.** *Cetin K. Koc[1], N. Koyluoglu[1], Y. Z. Arslan[2].* [1]Center for Artificial Intelligence in Medicine, Istinye University; [2]Istanbul University

5695 — *A0054* **A fibril-like oligomeric form of zebrafish αB1 crystallin is modulated by phosphorylation.** *Smriti Mishra, S. Mishra, H. S. Mchaourab.* Molecular Physiology and Biophysics, Vanderbilt University

5696 — *A0055* **Minichaperones inhibit the hemolytic activity of Mellitin.** *K Krishna Sharma, P. Santhoshkumar.* Ophthalmology, University of Missouri **CR*

5697 — *A0056* **Age-related changes of the lens in *Tropomyosin 1* conditional knockout mice.** *Teppei Shibata[1], S. Shibata[1], D. P. Singh[2], E. Kiyokawa[1], M. Ikawa[3], H. Sasaki[2], E. Kubo[1].* [1]Kanazawa Medical University; [2]University of Nebraska Medical Center; [3]Osaka University **CR*

5698 — *A0057* **Expression of nicotinamide N-methyltransferase (NNMT) in atopic cataract.** *Satoshi Iwamoto[1], K. Kobayashi[2], T. Funaki[2], K. Hori[1], S. Nakatani[1], A. Matsuda[1].* [1]Juntendo Univ School of Med; [2]Japanese Red Cross Medical Center

5699 — *A0058* **In vivo dose-response effect of UVR-300nm on density of lens epithelial cells.** *Zhaohua Yu, P. Söderberg.* Neuroscience/ Ophthalmology, Uppsala university

5700 — *A0059* **The effect of Conbercept on the proliferation of lens epithelial cells.** *YANHUA QI.* Ophthalmology, The Second Affilliated Hospital Of Harbin Medical University ♂

5701 — *A0060* **ROS-dependent Exosomes Secreted by Injured Lens Epithelial Cells Induced Posterior Capsule Opacification via TGFβ transmitting.** *Ruixin Wang, X. Zhang, X. Wu, H. Lin.* State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

5702 — *A0061* **YAP Inhibition Halts Mechanotransductive Regulation of Lens Growth.** *Bharat Kumar[1], M. A. Reilly[1, 2].* [1]Biomedical Engineering, The Ohio State University; [2]Ophthalmology & Visual Science, The Ohio State University

Thursday Posters 8:00 am – 9:45 am

5703 — *A0062* **ATF4 Modulates CREB Functions in Regulating Stress-Induced Apoptosis.** *Ling Wang, L. Yang, D. W. Li.* Zhongshan Ophthalmic Center, Sun Yat-sen University

West Exhibition Hall A0099-A0119

Thursday, May 02, 2019 8:00 AM-9:45 AM

Physiology/Pharmacology

506 Retina/RPE new drugs, mechanism of action, and toxicity

Moderator: Sankarathi Balaiya

5704 — *A0099* **Designing a clinical trial to evaluate the safety and efficacy of oral soraprazan in Stargardt Disease.** *Carel C. Hoyng[1], A. Lotery[6], K. Stingl[2], C. Boon[3], M. Parodi[4], P. Dhooge[1, 5], T. Peters[2], W. Klein[7], M. G. Fsadni[7], H. Müller[8], O. Jungmann[8].* [1]Ophthalmology, Nijmegen Univ Medical Center; [2]Eberhard Karls Universität Tübingen; [3]Academisch Ziekenhuis Leiden; [4]Ospedale San Raffaele SRL; [5]The Donders Institute for Brain, Cognition and Behaviour; [6]University of Southampton; [7]Katairo GmbH; [8]Smerud Medical Research **CR*

5705 — *A0100* **Effects of standard pulmonary tuberculosis treatment on macular pigment optical density and central macular thickness.** *Mahta Doustkhahvajari[2, 1], T. Iqbal[1], V. Subrayan[1], R. Ritch[2].* [1]University of Malaya- Faculty of Medicine- Department of Ophthalmology; [2]Einhorn Clinical Research Institue, New York Eye and Ear Infirmary of Mount Sinai

5706 — *A0101* **Puerarin protects retinal pigment epithelium (ARPE19) against hypoxia-induced apoptosis through activation of the PI3/Akt pathway.** *Minh-Anh Nguyen Ngo Le[1, 2], Y. Wen[2], R. Tsai[1, 2].* [1]Institute of Medical Science, Tzu Chi University; [2]Institute of Eye Researh, Tzu Chi Medical Center

5707 — *A0102* **Sustainable protection of retinal degeneration in a rodent model for RP by stable and biocompatible nanoparticle-neurotrophic factor complexes.** *Shi-Jiang Lu[1, 4], B. Lu[2], Q. Feng[1, 4], A. Mercado[2], Y. Zhang[3], J. Loscalzo[3], S. Wang[2].* [1]NanoNeuron Therapeutics; [2]Reg**.** Med**.** Institute, Cedars-Sinai Medical Center; [3]Medicine, Brigham and Women's Hospital, Harvard Medical School; [4]Hebecell Corporation **CR*

5708 — *A0103* ***Potential therapy of neurodegenerative retinopathies via activation of the BDNF-TrkB signaling pathway by a specific aptamer.*** *Marina Löscher, E. Lilou, K. Bartz-Schmidt, S. Schnichels, J. Hurst.* Centre of Ophthalmology Tübingen, University Eye Hospital Tübingen

5709 — *A0104* **A Bioactive Small Molecule Derivative of Fluoro-catechol Ester of 3-Hydroxy-Benzoic Acid Inhibits High Glucose/Hypoxia-Induced Endothelial Switch to Angiogenic Phenotype in Diabetes Induced Retinal Microvasculopathy.** *Ahmed S. Ibrahim[1, 2], S. Eltanani[3], H. Saleh[1], I. Eldeeb[5], F. Badria[4], M. A. Al-Shabrawey[1].* [1]Oral Biology and Diagnostic Science, Augusta University; [2]Biochemistry, Faculty of Pharmacy, Mansoura University; [3]Clinical Pathology, Faculty of Medicine, Mansoura University; [4]Pharmacognosy, Faculty of Pharmacy, Mansoura University; [5]Institute for Glycomics, Griffith University

5710 — *A0105* **Endothelin-1-Induced Phosphorylation of p38 MAP Kinase in Rat Retinal Ganglion Cells.** *Shaoqing He, R. Chaphalkar, B. Kodati, R. R. Krishnamoorthy.* Pharmacology and Neuroscience/ North Texas Eye Research Institute, University of North Texas Health Science Center

5711 — *A0106* **The FDA-approved Drug Carvedilol Improves Vision and Retinal Morphology in a Zebrafish Model of Retinitis Pigmentosa.** *Logan Ganzen[1, 2], R. M. James[1], C. C. Pang[3], M. Zhang[4], M. Tsujikawa[5], Y. Leung[1, 6].* [1]Department of Biological Sciences, Purdue University; [2]Interdisciplinary Life Sciences Program, Purdue University; [3]Department of Ophthalmology and Visual Sciences, Chinese University of Hong Kong; [4]Joint Shantou International Eye Center, Shantou University & the Chinese University of Hong Kong; [5]Department of Opthalmology, Osaka University Graduate School of Medicine; [6]Institute for Integrative Neuroscience, Purdue University

5712 — *A0107* **Chemical and metabolic optimization to generate long-acting intravitreal aptamers.** *Renta M. Hutabarat[2], A. Bhowmick[5], R. Quick[4], J. V. McArdle[6], S. Kossodo[1], M. Levy[3], C. Rusconi[7], C. Erickson[8].* [1]Nonclinical, Vitrisa Theraperutics; [2]Nonclinical, Vitrisa Therapeutics; [3]Discovery, Vitrisa Therapeutics; [4]Chemistry, Vitrisa Therapeutics; [5]Discovery, Vitrisa Therapeutics; [6]CMC, Vitrisa Therapeutics; [7]Research, Vitrisa Therapeutics; [8]Vitrisa Therapeutics **CR*

5713 — *A0108* **A patient-specific database facilitates the assessment of feasibility and supports the planning of a clinical trial with soraprazan for the treatment of Stargardt Disease.** *Patty Dhooge[1, 4], C. C. Hoyng[1], C. Oomen[1], W. Klein[2], M. G. Fsadni[2], H. Müller[3], O. Jungmann[3].* [1]Ophthalmology, Radboudumc; [2]Katairo GmbH; [3]Smerud Medical Research; [4]The Donders Institute for Brain, Cognition and Behaviour **CR*

5714 — *A0109* **Hydroxychloroquine Toxicity Screening Using Semi-Automated Ellipsoid Zone Mapping Program.** *Stephanie M. Kaiser, A. Uchida, K. E. Talcott, M. Hu, N. Figueiredo, S. K. Srivastava, O. Ugwuegbu, A. Rogozinski, T. Le, L. Lunasco, J. L. Reese, J. P. Ehlers.* Cole Eye Institute **CR*

5715 — *A0110* **Comparison of Choroidal and Retinal Thicknesses in Patients With and Without Hydroxychloroquine Toxicity.** *Munir Iqbal[3], W. T. Wong[1], E. Y. Chew[2], C. A. Cukras[4].* [1]Chief, Section on Neuron-Glia Interactions in Retinal Disease, National Eye Institute, NIH; [2]Director, Division of Epidemiology and Clinical Applications, National Eye Institute, NIH; [3]Clinical Fellow, Medical Retina and Uveitis, National Eye Institute, NIH; [4]Clinical Investigator, Medical Retina and Ophthalmic Genetics, National Eye Institute, NIH

5716 — *A0111* **Effect of Indocyanine Green Concentration on Subfoveal Hyporeflective Space after Internal Limiting Membrane Peel for Macular Hole Surgery.** *sagar patel, A. Moshfeghi, R. Lee, B. K. Do.* Ophthalmology, USC

5717 — *A0112* **ELX-03, a translational nonsense mutation read-through agent demonstrates tolerability and activity for use in inherited retinal disorders.** *Neal Sharpe, S. Landskroner, I. Eshkar-Oren, M. Goddeeris.* Eloxx Pharmaceuticals **CR*

5718 — *A0113* **Melanin binding as drug delivery strategy to the posterior eye segment – establishment of *in vitro-in vivo* correlations.** *Ruben Alvarez Sanchez.* F**.** Hoffmann-La Roche

5719 — *A0114* **Allele specific knock-down of human P23H rhodopsin mRNA and prevention of retinal degeneration in humanized P23H rhodopsin knock-in mouse, following treatment with an intravitreal GAPmer antisense oligonucleotide (QR-1123).** *Patricia Biasutto[1], P. S. Adamson[1], K. Dulla[1], S. Murray[2], B. Monia[2], M. McCaleb[2].* [1]ProQR Therapeutics; [2]Ionis Pharmaceuticals **CR*

5720 — *A0115* **Retina transcriptome underlie the neuroprotective actions of transferrin.** *Picard Emilie[1, 2], A. Daruich[3, 1], q. lerouzic[1, 2], M. Naud[1, 2], L. Jonet[1, 2], L. Kowalczuk[4, 5], J. Pournaras[4, 5], J. Boatright[6, 7], A. Thomas[8, 9], N. Turck[10, 9], A. Moulin[4, 5], F. F. Behar-Cohen[1, 11].* [1]UMRS1138 team 17, INSERM ; [2]UMRS1138 team 17, Université Sorbonne Paris Cité; [3]Ophthalmology Department,, Necker-Enfants Malades University Hospital; [4]Fondation Asile des Aveugles, Jules-Gonin Eye Hospital; [5]Department of ophthalmology,, University of Lausanne; [6]Department of Ophthalmology, School of Medicine,, Emory University; [7]Center of Excellence, Atlanta Veterans Administration Medical Center; [8]Unit of Toxicology, CURML, Geneva University Hospitals; [9]Faculty of Biology and Medicine,, University of Lausanne; [10]Department of Human Protein Science, Geneva University; [11]Ophtalmopole, Cochin Hospital

5721 — *A0116* **Neuroprotective effects via hypothermia on hydrogen peroxide damaged porcine retinae.** *Stephanie C. Joachim[1], A. Maliha[1], S. Grauthoff[1], S. Kuehn[1], J. Hurst[2], H. Doepper[1], S. Schnichels[2].* [1]Experimental Eye Research Institute, Ruhr-University Bochum; [2]Centre for Ophthalmology Tuebingen, University Eye Hospital Tuebingen

5722 — *A0117* **New nature-inspired hybrids targeting the Nrf2-HO1 pathway protect retinal pigment epithelial cells under stress conditions.** *Marialaura Amadio[1], M. Catanzaro[1], I. D'Angelo[1], M. Rosini[2], S. Govoni[1], C. Lanni[1].* [1]Department of Drug Sciences, University of Pavia; [2]Dept. of Pharmacy and Biotechnology, University of Bologna

5723 — *A0118* **Lipophilic simvastatin/ atorvastatin prevent pro-inflammatory IL-6 and -8 cytokine response in RPE cells.** *Sirpa Loukovaara[1], Y. Mysore[2], A. Kauppinen[2].* [1]Ophthalmology, Helsinki University Central Hospital; [2]School of Pharmacy, School of Pharmacy, Faculty of Health Science, University of Eastern Finland, P.O.B. 1627, FI-70211, Kuopio,

5724 — *A0119* **Histopathology of radiation-related ocular toxicity following intravitreal placement of ^{124}Iodine-labeled anti-VEGF therapeutic agents in a non-human primate model.** *John B. Christoforidis[1], D. Coble[2], K. Briley[3], K. Kumar[4], M. Knopp[3], K. La Perle[5].* [1]Retina Specialists of Southern Arizona; [2]Veterinary Preventive Medicine, The Ohio State University ; [3]Radiololgy, The Ohio State University; [4]Radiology, The Ohio State University; [5]Department of Veterinary Biosciences, The Ohio State University

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West Exhibition Hall A0120-A0140

Thursday, May 02, 2019 8:00 AM-9:45 AM

Physiology/Pharmacology

507 Blood flow, Ischemia/reperfusion, hypoxia and oxidative stress

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Moderator: Leopold Schmetterer

5725 — *A0120* **The effect of dietary nitrate supplementation on retinal vessel responses in young healthy subjects.** *Naim Terai, F. Helbig, L. Ramm, R. P. Stodtmeister, L. E. Pillunat.* Ophthalmology, University of Dresden

5726 — *A0121* **Retinal venous pressure at fixed airway pressure levels.** *Richard P. Stodtmeister, S. Heimann, N. Terai, L. E. Pillunat.* Ophthalmology, TU Dresden

5727 — *A0122* **Characteristics of Retinal Blood Flow, Velocity and Vessel Diameter of eyes with Branch Retinal Vein Occlusion as revealed by Doppler Optical Coherence Tomography Flowmeter.** *Kengo Takahashi[1], Y. Song[1], K. Sogawa[1], T. Yoshioka[1], T. Tani[1], T. Wada[1], M. Akiba[2], J. Sakai[2], S. Nakamura[2], K. MINAMIDE[2], S. Ishiko[1], Y. Yanagi[1, 3], A. Yoshida[1].* [1]Asahikawa Medical University; [2]R&D division, Topcon Corporation; [3]Singapore National Eye Centre **CR*

5728 — *A0123* **Theoretical predictions of oxygenation in a heterogeneous vascular network of the retina.** *Lucas Rowe[1], A. Harris[1], B. C. Fry[3], A. Verticchio Vercellin[4, 5], B. A. Siesky[1], J. Arciero[2].* [1]Ophthalmology, Indiana University School of Medicine; [2]Mathematical Sciences, IUPUI; [3]Mathematical and Computer Sciences, Metropolitan State University of Denver; [4]Ophthalmology, University of Pavia; [5]IRCCS - Fondazione Bietti **CR*

5729 — *A0124* **Measurement of flicker induced hyperemia in the retina and optic nerve head by Laser Speckle Flowgraphy.** *Doreen Schmidl[1], K. Fondi[1], A. Bata[1], N. Luft[2, 3], K. Witkowska[1], R. M. Werkmeister[4], L. Schmetterer[1, 5], G. Garhofer[1].* [1]Department of Clinical Pharmacology, Medical University of Vienna; [2]Department of Ophthalmology, Kepler University Hospital; [3]University Eye Hospital, Ludwig-Maximilians-University ; [4]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [5]Singapore Eye Research Institute ↗

5730 — *A0125* **Real-time evaluation of systemic-ocular microcirculation using laser speckle flowgraphy in white rabbits.** *Tetsuya Komatsu[1], T. Shiba[1], Y. Nagasawa[2], M. Aimoto[2], K. Sakuma[2], T. Chiba[2], X. Cao[2], A. Takahara[2], T. Matsumoto[1], Y. Hori[1].* [1]Opthalmology, Toho university; [2]Pharmacology, Toho university **CR*

5731 — *A0126* **Longitudinal Measurements of Changes in Retinal Blood Flow in Feline Retinal Vein Occlusion Model Measured by Doppler Optical Coherence Tomography and Optical Coherence Tomography Angiography.** *Takanari Wada[1], Y. Song[1], T. Omae[1], K. Sogawa[1], T. Yoshioka[1], S. Nakabayashi[1], K. Takahashi[1], T. Tani[1], A. Ishibazawa[1], S. Ishiko[1], Y. Yanagi[1, 2], A. Yoshida[1].* [1]Asahikawa Medical University; [2]Singapore National Eye Centre

5732 — *A0127* **Regulation of retinal blood flow in response to an experimental increase in intraocular pressure.** *Kornelia Schutzenberger[1], S. Puchner[1], L. Ginner[1], D. Schmidl[2], G. C. Aschinger[1], G. Garhofer[2], R. A. Leitgeb[1], L. Schmetterer[1, 3], R. M. Werkmeister[1].* [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]Department of Clinical Pharmacology, Medical University of Vienna; [3]Singapore Eye Research Institute, Singapore National Eye Centre

5733 — *A0128* **Raspberry Pi controlled flicker stimulation in dynamic retinal vessel analysis.** *Dietmar Link, S. Klee.* Biomedical Engineering & Informatics, Technische Universitaet Ilmenau

5734 — *A0129* **Comparison of Retinal Blood Velocity Measurements using Non-invasive Retinal Imagers.** *Kyoung-A Cho[1], E. Arthur[2], Y. Jing[1], A. Guruprasad[1], S. H. Haghshenas[1], A. Rege[1], D. Cabrera DeBuc[2].* [1]Vasoptic Medical Inc.; [2]Ophthalmology, Bascom Palmer Eye Institute, University of Miami **CR*

5735 — *A0130* **Noninvasive High-resolution Measurement of Retinal Blood Velocity and Flow.** *Cherilyn Mae A. Palochak[1, 2], H. Lee[1], S. A. Burns[3], A. A. Fawzi[1].* [1]Ophthalmology, Feinberg School of Medicine, Northwestern University; [2]Chicago Medical School, Rosalind Franklin University of Medicine and Science; [3]School of Optometry, Indiana University

5736 — *A0131* **Dilatation of the retinal capillary plexuses in branch retinal vein occlusion.** *Christopher P. Long[1], M. Bakhoum[1], C. B. Toomey[1], D. G. Bartsch[1], E. Nudleman[1], M. H. Goldbaum[1], K. Freund[3], D. Sarraf[3], W. R. Freeman[1].* [1]University of California, San Diego; [2]University of California Los Angeles; [3]Vitreous Retina Macula Consultants NY

5737 — *A0132* **Characterization of Vascular Cell Receptors that Regulate Blood Perfusion of the Mouse Retina.** *Alejandro L. Acosta[2, 1], A. L. Garcia[2, 1], D. F. Muller[2, 1], M. J. Chaves[2, 1], M. N. Tapia[2, 1], D. Pelaez[2, 1], S. K. Bhattacharya[2, 1], L. E. Vazquez[2, 1].* [1]Ophthalmology, University of Miami, Miller School of Medicine; [2]Ophthalmology, Bascom Palmer Eye Institute

5738 — *A0133* **Determination of absolute diastolic erythrocyte velocities in peripapillary arterioles and venuoles of human subjects using erythrocyte mediated angiography.** *Victoria Chen, B. Tracey, C. Le, C. Renner, J. Li, L. Mayo, J. Tsai, M. Ou, S. Kalarn, L. Im, M. Kaleem, O. Saeedi.* Department of Ophthalmology and Visual Sciences, University of Maryland School of Medicine **CR*

5739 — *A0134* **The role of Acid-sensing ion channel 1a in a mouse model of ischemic retinopathy.** *Ayumi Ouchi[1, 4], E. Aguilar[1], K. V. Marra[1], M. Qiang[2], Y. Guang[2], R. Lerner[3, 2], M. Friedlander[1].* [1]Molecular Medicine, The Scripps Research Institute; [2]Shanghai Institute for Advanced Immunochemical Studies, ShanghaiTech University; [3]Chemistry, The Scripps Research Institute; [4]Ophthalmology, Juntendo University School of Medicine

5740 — *A0135* **A rapid technique to quantify retinal oxidative stress and the protection provided by novel nitroxide-based antioxidant / anti-inflammatory compounds.** *Nigel L. Barnett[2, 3], S. E. Bottle[1], J. Tong[3], K. Thomas[1], C. L. Rayner[3].* [1]Queensland University of Technology; [2]Faculty of Health Sciences & Medicine, Bond University; [3]Queensland Eye Institute

Thursday Posters 8:00 am – 9:45 am

5741 — *A0136* **Delayed trans-scleral electrical stimulation preserved the survival of retinal ganglion cells after ischemia-reperfusion injury in mice model.** *LIN Youhong[1], V. Lee[1], K. Chiu[1, 2].* [1]Ophthalmology, HKU; [2]State Key Laboratory of Brain and Cognitive Sciences, The University of Hong Kong

5742 — *A0137* **The effect of hyperoxia and hypercapnia on retinal vascular blood flow in healthy adults.** *Keiko Yamada[1, 2], B. Seto[1], C. Llerena[1], C. Hsu[1], C. Sotozono[2], T. Maeno[3], J. G. Arroyo[1].* [1]Beth Israel Deaconess Medical Center; [2]Ophthalmology, Kyoto Prefectural University of Medicine; [3]Ophthalmology, Toho University Sakura Medical Center

5743 — *A0138* **Xanthohumol protects corneal epithelial cells against oxidative stress *in vitro*.** *Samatha Ankireddy[1], H. N. Hariani[2], K. A. Orloff[1], A. Kolli[3], J. J. Hakkarainen[4], A. K. Ghosh[2, 5], S. Kaja[3, 5].* [1]Department of Molecular Pharmacology and Therapeutics, Loyola University Medical Center; [2]Graduate Program in Neuroscience, Loyola University Medical Center; [3]Department of Ophthalmology, Loyola University Medical Center; [4]Research and Development, Experimentica Ltd.; [5]Research and Development, eyeNOS Inc**.** **CR*

5744 — *A0139* **Cellular response of human meningothelial cells to oxidative stress.** *Xiaorong Xin.* Qinghai Red Cross Hospital

5745 — *A0140* **The effects of Nrf2 activator in a rodent model of anterior ischemic optic neuropathy (rAION).** *Shun-Ping Huang[1, 2], J. Chien[3], Y. Chou[1].* [1]Molecular Biology and Human Genetics, Tzu Chi University; [2]Opthalmology, Taichung Tzu Chi Hospital; [3]Institute of Medical Sciences, Tzu Chi University

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West Exhibition Hall A0191-A0250

Thursday, May 02, 2019 8:00 AM-9:45 AM

Retina

508 Vitreoretinal Surgery, Novel Techniques and Clinical Applications

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Moderators: John T. Thompson and Jayanth Sridhar

5746 — *A0191* **The Use of Laryngeal Mask Airway in Vitreoretinal Surgery.** *Daniel Brill, D. Albert, A. Kuley, N. Kumar, U. Desai.* Henry Ford Health System

5747 — *A0192* **Inner Retinal Fenestration for Pediatric Optic Disc Pit Maculopathy.** *Sui Chien Wong[1, 2], N. K. Scripsema[2].* [1]Great Ormond Street Hospital for Children; [2]Moorfields Eye Hospital

5748 — *A0193* **Comparison of refractive outcome between wholly attached macula and wholly detached macula after vitrectomy combined with cataract operation for rhegmatogenous retinal detachment.** *Sung Who Park[1], E. Kim[2], J. E. Lee[1], I. Byon[1].* [1]Ophthalomology, Pusan national university hospital; [2]Ophthalmology, Veterans Hospital

5749 — *A0194* **Comparison of Predicted Versus Actual Refractive Outcomes for Four Point Scleral Fixation of an Acrylic Closed-Loop Haptic Lens Placed at the 3 mm Position.** *Matthew Ohr.* Ophthalmology, The Ohio State University

5750 — *A0195* **Outcomes for Re-Operation in Macular Hole Surgery Using Inner Retinal Brushing.** *Akash Gupta, A. A. Nair, J. J. Tseng, K. Wald.* New York University School of Medicine

5751 — *A0196* **Cost-effectiveness of a triple procedure - phacovitrectomy with posterior capsulotomy.** *Goran Petrovski[1], S. N. Walekhwa[1], N. Veiby[1], R. Bragadottir[1], K. Eriksen[1], M. C. Moe[1], B. É. Petrovski[2].* [1]Department of Ophthalmology, University of Oslo; [2]Faculty of Dentistry, University of Oslo

5752 — *A0197* **Submacular hemorrhage: functional and anatomical results after vitreoretinal surgery. Multicentral case series in La Rochelle and Poitiers hospital.** *Melissa Lii[1], F. Gobert[2], N. Leveziel[1].* [1]CHU Poitiers; [2]CH La Rochelle

5753 — *A0198* **New needle for intravitreal drug delivery: Comparative Study of Penetration Forces and Needle Tip Aspirates.** *Lyubomyr Lytvynchuk.* Department of Ophthalmology, Justus-Liebig-University Giessen

5754 — *A0199* **Pneumatic Displacement with Recombinant Intravitreal Tissue Plasminogen Activator (rTPA) versus Vitrectomy with subretinal rTPA for Submacular Haemorrhage secondary to Neovascular Age Related Macular Degeneration: A Dual Centre Comparative Case Series.** *Jared Ching[1, 2], J. Cardoso[3], R. Cabrera[3], A. Grabowska[3], N. Karia[3], S. Saidkasimova[4], A. Chandra[3].* [1]Ophthalmology, Addenbrooke's Hospital; [2]John van Geest Centre for Brain Repair; [3]Southend Hospital; [4]Norfolk and Norwich University Hospita

5755 — *A0200* **Sub-retinal tPA injection with pars plana vitrectomy and air-fluid displacement of dense sub-macular hemorrhage.** *Carl S. Wilkins[1], N. S. Mehta[2], C. Wu[2], A. Barash[1, 2], A. Deobhakta[1, 2], R. B. Rosen[1, 2].* [1]Ophthalmology, Icahn School of Medicine at Mount Sinai; [2]Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai

5756 — *A0201* **Visual field changes within the central 10 degrees after vitrectomy for epiretinal membranes with or without glaucoma.** *Shunsuke Tsuchiya[1, 2], T. Higashide[1], S. Udagawa[1], K. Sugiyama[1].* [1]Ophthalmology, Kanazawa University; [2]Ishikawa Prefectural Central Hospital

5757 — *A0202* **Occurrence of surgical epithelial debridement with use of hydroxypropyl methylcellulose vs. sodium hyaluronate-chondroitin sulfate for corneal coating during vitrectomy.** *Chelsey Krambeer[1], K. Beck[2], J. Sohn[2], A. Kheirkhah[2], M. Singer[2].* [1]TTUHSC Paul L**.** Foster SOM; [2]Long School of Medicine at UT Health San Antonio **CR*

5758 — *A0203* **Functional and morphological outcomes in patients with idiopathic full-thickness macular holes using the inverted internal limiting membrane flap technique – a subgroup analysis.** *Nathalie Bleidißel, S. Bohnacker, N. Feucht, C. Lohmann, M. Maier.* Technical University of Munich

5759 — *A0204* **Regional densities of retinal capillaries and retinal sensitivities after macular hole surgery with internal limiting membrane peeling.** *Takayuki Baba, M. Kakisu, T. Nizawa, S. Yamamoto.* Ophthalmology & Visual Science, Chiba Univ Grad School of Med

5760 — *A0205* **Thickness Segmentation Measurements and Disorganization of the Inner Retinal Layers on Optical Coherence Tomography as Pre-Operative Indicators of Visual Outcome following Vitrectomy with Epiretinal Membrane Peeling.** *Paul R. Parker[1], J. C. Zeyer[1, 2], M. W. MacCumber[1, 2].* [1]Ophthalmology, Rush University Medical Center; [2]Illinois Retina Associates, S.C.

5761 — *A0206* **Comparison of the retinal microstructure and visual function after macular hole surgery with and without brilliant Blue G.** *yuko komiya, A. Takeyama, M. Shibata, Y. Imamura, M. Ishida.* Teikyo University School of Medicine, University Hospital Mizonokuchi

5762 — *A0207* **Analysis of retinal nerve fiber layer and radial peripapillary capillaries after internal membrane peeling for full thickness macular hole using optical coherence tomography (OCT) angiography and adaptive optics OCT..** *Nathan Schuck[1], M. Heisler[2], M. V. Sarunic[2], E. V. Navajas[1].* [1]University of British Columbia; [2]Simon Fraser University

5763 — *A0208* **Influence of Vitrectomy and Maculapeeling on Abnormalities of the Central Foveal Bouquet in eyes with Epiretinal Membranes.** *Max Brinkmann[1], C. Saljé[2], M. Becker[1, 3], S. Michels[4, 5].* [1]Department of Ophthalmology, Stadtspital Triemli Zurich; [2]Laboratory for Angiogenesis & Ocular Cell Transplantation, University of Lübeck; [3]University of Heidelberg; [4]Augenklinik Zürich West; [5]University of Zurich

5764 — *A0209* **Internal limiting membrane peeling to prevent epiretinal membrane growth after retinal detachment repair: retinal surface wrinkling as a sign of proliferation.** *Kunihiko Akiyama[1, 2], K. Watanabe[1, 2], M. Fukui[1, 2], K. Fujinami[2, 1], K. Tsunoda[2, 1], T. Noda[1, 2].* [1]Ophthalmology, National Hospital Organization, Tokyo Medical Center; [2]Division of Vision Research, National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center *CR, ↗

5765 — *A0210* **The impact of extent of internal limiting membrane peeling on anatomical outcomes of macular hole surgery: a randomized clinical trial.** *Yuou Yao, M. Zhao.* Ophthalmology, Peking University People's Hospital ↗

5766 — *A0211* **Clinical Outcomes of a Phone Call in Lieu of Day One Exam Following Uncomplicated 25-Gauge Vitrectomy Surgery.** *Jeffrey L. Tapley, J. Mason.* Ophthalmology, University of Alabama at Birmingham

5767 — *A0212* **Withdraw-Image-guided Macular Hole Repair in the DISCOVER Study: Clinical Outcomes and Impact of Intraoperative OCT on Surgical-Decision-Making.** *Philina Yee[1], S. K. Srivastava[1], T. Le[1], A. Uchida[1], A. Rogozinski[1], S. Biehl[1], S. Srinivasan[2], A. Rachitskaya[1], S. Sharma[1], J. L. Reese[1], J. P. Ehlers[1].* [1]Cole Eye Institute; [2]University of Waterloo *CR

5768 — *A0213* **Vitrectomy with perfluorocarbon liquid-assisted inverted limiting membrane flap technique for macular hole retinal detachment in highly myopic eyes.** *Ping Xie, Z. Hu, S. Yuan, Q. Liu.* Department of Ophthalmology, Nanjing Medical University ↗

5769 — *A0214* **Inverted Internal Limiting Membrane flap peeling technique for large macular holes: 1-year results.** *Giulia Airaghi[1], A. Sanna[1], E. Medda[1], E. Giancipoli[1], F. Boscia[1], M. M. Rossi[2], M. Al Oum[2], G. D'Amico Ricci[1, 3].* [1]Department of Surgical, Microsurgical, and Medical Sciences, Section of Ophthalmology, University of Sassari; [2]Department of Ophthalmology, ASST Valle Olona; [3]Ospedale Oftalmico, Asl Città di Torino

5770 — *A0215* **Subthreshold laser treatment following full thickness macular hole surgery.** *Boris V. Stanzel[1], L. M. Ramirez Paez[1], S. Al-Nawaiseh[1], P. Szurman[2].* [1]Macula Center Saar, Knappschaft Eye Hospital Sulzbach; [2]Eye Clinic Sulzbach *CR

5771 — *A0216* **Cost Savings and Results from Reducing Vitrectomy Surgical Tray Size at a Major US Academic Hospital.** *Christos Theophanous[1], J. Grodsky[2], S. Schechet[1], P. Veldman[1], S. Hariprasad[1].* [1]Ophthalmology and Visual Sciences, University of Chicago; [2]Louisiana State University School of Medicine

5772 — *A0217* **Stereopsis and retinal microstructure following macular hole surgery.** *Fumiki Okamoto, Y. Sugiura, T. Hiraoka, T. Oshika.* Dept of Ophthalmology, University of Tsukuba *CR

5773 — *A0218* **Photoreceptor atrophy independent of retinal hemorrhages in Terson syndrome.** *Kanmin Xue[1, 2], D. Fu[1], N. F. Ledo[1], C. K. Patel[1], P. Charbel Issa[1].* [1]Nuffield Laboratory of Ophthalmology, University of Oxford; [2]Royal Victorian Eye & Ear Hospital

5774 — *A0219* **Internal Limiting Membrane "Flower Technique" improves foveal anatomy compared to standard surgical management for large macular holes.** *Tahsin Khundkar, J. P. Shulman, J. Feistmann.* Department of Ophthalmology, New York Medical College

5775 — *A0220* **Post-Operative Day 1 and Week 1 Complications and Their Potential Risk Factors Following Pars Plana Vitrectomy.** *Jorge A. Jimenez[1], T. Coleman[1], S. Dawoud[2], H. Miller[2], J. Lippincott[1], J. McKenzie[2], A. Lin[1], B. Tieu[1].* [1]Ophthalmology, University of Mississippi Medical Center; [2]University of Mississippi Medical Center

5776 — *A0221* **Impact of intraoperative ocular lubricants on corneal debridement rate during vitreoretinal surgery.** *Michael Mathison, A. Li, Y. Bao, A. J. Huang, R. Rajagopal.* Washington University in St. Louis

5777 — *A0222* **Efficacy of Macular Hole Surgery in Patients with Idiopathic Macular Telangiectasia Type 2.** *Rohit Chandra[1], C. Pophal[1], A. G. Miller[1], J. H. Hornik[2], J. P. Schartman[2], J. M. Coney[2], L. J. Singerman[2], D. G. Miller[2].* [1]Northeastern Ohio Medical University; [2]Retina Associates of Cleveland

5778 — *A0223* **Sutureless Intrascleral Posterior Chamber Intraocular Lens Fixation under 27-Gauge Pars Plana Vitrectomy: Analysis of Clinical Outcomes and Postoperative Complications.** *Shaomin Peng[1, 2], J. Liu[1].* [1]Aier School of Ophthalmology, Central South University; [2]Harbin Aier Eye Hospiatal

5779 — *A0224* **Correlation between retinal thickness change and visual improvement in patients undergoing idiopathic epiretinal membrane surgery.** *Andrea Cacciamani[1], P. Cosimi[1], F. Scarinci[1], G. Ripandelli[1], R. Gattegna[1], M. Di Nicola[2].* [1]Ophthalmology, IRCCS Fondazione G.B. Bietti; [2]†Department of Medical, Oral and Biotechnological Sciences, University Chieti-Pescara

5780 — *A0225* **Internal limiting membrane peeling may cause post-operative visual field defects in epiretinal membrane patients.** *Tomoki Kurihara, K. Watanabe, H. Sonobe, T. Kurihara, N. Nagai, H. Shinoda, K. Tsubota, Y. Ozawa.* Department of Ophthalmology, Keio University School of Medicine

5781 — *A0226* **Outcomes of radial retinotomy for persistent full thickness macular hole after primary vitrectomy and internal limiting membrane peel.** *Jennifer Hind, D. Yorston.* Tennent Institute of Ophthalmology

5782 — *A0227* **Acute decreased vision in asteroid hyalosis due to posterior vitreous separation.** *Elizabeth Marlow, M. Mikhail, L. Faia, B. Garretson.* Ophthalmology, Associated Retinal Consultants, P.C.

5783 — *A0228* **Surgical Outcomes and Patient Satisfaction in Vitrectomy for Vitreous Floaters.** *Charles Pophal[1, 2], R. Chandra[1, 2], J. H. Hornik[1], D. G. Miller[1], L. J. Singerman[1], H. Zegarra[1], M. A. Novak[1], S. D. Pendergast[1], J. M. Coney[1], L. J. Rao[1], Z. Zakov[1], J. P. Schartman[1].* [1]Retina Associates Of Cleveland; [2]Northeast Ohio Medical University

5784 — *A0229* **Pars plana vitrectomy for symptomatic vitreous floaters: Another look.** *Tayab Waseem[1, 2], E. DaBreo[3], D. Jiang[3], R. Clawson[3], A. Wagner[2], K. Kapoor[2].* [1]Microbiology, Eastern Virginia Medical School; [2]Wagner Macula & Retina Center; [3]Eastern Virginia Medical School

5785 — *A0230* **Post-operative Endophthalmitis in a UK Region in the last 15 years.** *Ahmed Shalaby[1, 2], A. Sepetis[5], S. Di Simplicio[4], A. Lockwood[3].* [1]Ophthalmology Department, Oxford University Hospitals; [2]Nuffield Department of Clinical Neurosciences, University of Oxford; [3]Ophthalmology, Portsmouth Hospitals NHS Trust; [4]Newcastle upon Tyne Hospitals NHS Foundation Trust; [5]Southampton University Hospitals NHS Foundation Trust

5786 — *A0231* **Early pars plana vitrectomy and intravitreal moxifloxacin / dexamethasone for endophthalmitis secondary to corneal ulcer.** *Raul Velez-Montoya[1], L. Garcia Arzate[1], J. Baca-Moreno[1], G. Salcedo- Villanueva[1], G. García-Aguirre[1], A. Ramirez Estudillo[3], F. Graue-Wiechers[2], V. Morales-Canton[1].* [1]Ophthalmology, Asociacion para Evitar la Ceguera en Mexico; [2]Conde de Valenciana, I.A.P.; [3]Hospital de Nuestra Señora de la Luz

5787 — *A0232* **Relationship between changes in foveal avascular zone area, metamorphopsia and aniseikonia in patients undergoing epiretinal membrane peeling.** *Jackson Abou Chehade, D. A. Leske, S. R. Hatt, J. M. Holmes, R. Iezzi.* Ophthalmology, Mayo Clinic

5788 — *A0233* **Endoscopy-assisted vitreoretinal surgery with an integrated or separate endolaser probe.** *Joey Luvisi[1], A. Desai[2], M. A. Mainster[1], R. Ajlan[1].* [1]Department of Ophthalmology, University of Kansas School of Medicine; [2]School of Medicine, Univeristy of Missouri Kansas City

5789 — *A0234* **Radial foveal incisions as a surgical technique for persistent macula holes.** *Christian Pruente.* University Eye Clinic Basle *CR

5790 — *A0235* **Influence of retinal oxygen saturation and choroidal thickness on functional and morphological outcomes in patients with epiretinal membrane after successful surgery.** *Guenther Weigert, L. Aliyeva, K. Maccora, A. Schmalek, C. Abela-Formanek, M. Georgopoulos, U. Schmidt-Erfurth, S. Sacu.* Department of Ophthalmology, Medical University of Vienna **CR*, ↗

5791 — *A0236* **Ocular Oncology Exposure among Vitreoretinal Fellowship Trained Surgeons.** *Tamer Hadi[1], P. Vu[1], J. Toledo-Corral[1], H. K. Pandya[2], M. C. Mehta[1].* [1]Ophthalmology, University of California, Irvine; [2]Retina Specialists

5792 — *A0237* **Outcomes of subretinal high-dose tissue plasminogen activator injection in massive submacular hemorrhage.** *Peter Kally[1], M. Chua[2], D. Lo[1], S. E. Brodie[1], K. Wald[1].* [1]Ophthalmology, New York University Langone Medical Center; [2]Ophthalmology, New York Eye and Ear Infirmary

5793 — *A0238* **A study of degradation controlling of the oligo-Tetra-PEG hydrogels applied for an artificial vitreous body.** *Tomohiko Fujii[1], Y. Shinohara[1], M. Nakatani[1], S. Hoshi[2], F. Okamoto[2], T. Sakai[3, 4], T. Oshika[2].* [1]Bioengineering Institute, R&D Div., NIDEK CO., LTD.; [2]Department of Ophthalmology, Faculty of Medicine, University of Tsukuba; [3]Department of Bioengineering, Graduate School of Engineering, The University of Tokyo; [4]Department of Materials Engineering, Graduate School of Engineering, The University of Tokyo **CR*

5794 — *A0239* **Ex vivo analyzing the handling of a thermosensitive íntraocular tamponade in pig eyes after pars plana vitrectomy.** *Norbert Kociok[1], C. Brockmann[1], A. Dundua[2], M. Behl[2], A. T. Neffe[3], T. Häring[4], K. Wilfried[4], R. Salzbrunn[5], A. M. Joussen[1].* [1]Ophthalmology, Charite Universitaetsmedizin Berlin; [2]Centre for Material and Coastal Research, Helmholz-Zentrum Geesthacht; [3]Institut für Technische und Makromolekulare Chemie, Universität Hamburg; [4]Fluoron GmbH; [5]DMB Apparatebau GmbH **CR*

5795 — *A0240* **Comparative study of chemical composition, molecular and rheological properties of Silicone Oil medical devices.** *Mariantonia Ferrara[1], R. Mendichi[2], A. Giacometti Schieroni[2], D. Piovani[2], D. Allegrini[3], M. R. Romano[3].* [1]Humanitas Gavazzeni; [2]Istituto per lo Studio delle Macromolecole (CNR); [3]Humanitas University

5796 — *A0241* **In vitro assessment of the ability of non-swelling polyethylene glycol based artificial vitreous hydrogel to maintain transparency in the presence of vitreous hemorrhage.** *Sujin Hoshi[3], F. Okamoto[3], T. Murakami[3], T. Sakai[1], M. Nakatani[2], Y. Shinohara[2], T. Fujii[2], T. Oshika[3].* [1]Department of Bioengineering, Graduate School of Engineering, The University of Tokyo; [2]Nidek Co., Ltd.; [3]Department of Ophthalmology, Faculty of Medicine, University of Tsukuba **CR*

5797 — *A0242* **Patient Satisfaction in Oral versus Intravenous Sedation for Vitrectomies: A Randomized Clinical Trial.** *Manju L. Subramanian[1], M. Fiorello[2], J. Kim[2], V. Vig[2], S. D. Ness[1], N. Siegel[1].* [1]Ophthalmology, Boston University School of Medicine; [2]Ophthalmology, Boston Medical Center ↗

5798 — *A0243* **Robotic assistance affects manipulation skills in bimanual retinal surgery simulation: a tool-to-sclera force study.** *Changyan He[1, 3], M. Roizenblatt[2, 4], N. Patel[1], A. Ebrahimi[1], P. L. Gehlbach[2], I. Iordachita[1].* [1]The Johns Hopkins University; [2]Johns Hopkins Hospital; [3]Beihang Univeristy; [4]Federal University of Sao Paulo

5799 — *A0244* **Performance assessment of ultrasound vs guillotine vitrectomy probes.** *Mario R. Romano[1], A. Stocchino[2], M. Ferrara[3], I. Nepita[2], R. Repetto[2].* [1]Humanitas University; [2]University of Genoa DICCA; [3]Humanitas Gavazzeni

5800 — *A0245* **Optical coherence tomography distal-sensor guided manual injection device for transscleral subretinal access.** *Mandeep S. Singh[1], S. Guo[2], S. Wei[2], S. Lee[2], J. Kang[2].* [1]Wilmer Eye Institute, Johns Hopkins Hospital; [2]Electrical and Computer Engineering, Johns Hopkins University **CR*

5801 — *A0246* **Subretinal Bleb Retention in a Porcine Model Using a Novel Subretinal Delivery Cannula; An Alternative to Vitreoretinal Approach.** *Thomas Meyer, K. Lott, N. Choti, S. Camacho Gonzalez.* Orbit Biomedical **CR*

5802 — *A0247* **Evaluating Ophthalmic Surgical Efficiency through the Stellaris® Platform: The Impact of Surgeon Volume and Gauge Size on Pars Plana Vitrectomy.** *Naveen Karthik[1], V. Kolesnitchenko[2], R. Cummings-Kralik[2], B. McCary[2], S. K. Srivastava[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Bausch + Lomb **CR*

5803 — *A0248* **Modified posterior scleral reinforcement as a treatment for high myopia in children and its therapeutic effect.** *Zequn Miao, L. Wang.* Peking University People's Hospital

5804 — *A0249* **Three dimensional analysis of OCT macular pseudo-holes images with ReV Analyzer.** *Roberta Farci[1], B. Lay[2], M. Fossarello[1].* [1]University of Cagliari; [2]ADCIS

5805 — *A0250* **Digital Filters Enhance Contrast and Visualization During 3DHD Retinal Surgery.** *Alan J. Franklin.* Ophthalmology, Diagnostic And Medical Clinic **CR*

West Exhibition Hall A0251-A0261

Thursday, May 02, 2019 8:00 AM-9:45 AM

Retina

509 Proliferative Vitreoretinopathy-Translational Studies

Moderator: Leo A. Kim

5806 — *A0251* **Nicotinamide reverses RPE contractility in a model of PVR.** *Timothy A. Blenkinsop[1], M. Fernandes[1], N. Boles[2], L. Schiff[1], B. Nachmani[1].* [1]Cell Development Regenerative Biology, MSSM; [2]Eye Group, Neural Stem Cell Institute

5807 — *A0252* **Lidocaine blocks the proliferation, migration, and Epithelial-Mesenchymal Transition of Human Retinal Epithelial cells.** *Yoon Hyung Kwon[1], M. Woo[2], Y. Kim[3].* [1]Department of ophthalmology, Dong-A University Hospital; [2]Department of Convergence Medical Science, Gyeongsang National University; [3]Department of Anesthesiology and Pain Medicine, Gyeongsang National University Changwon Hospital

5808 — *A0253* **Salinomycin Inhibits TGFβ-induced RPE cell migration and contraction, key events in the pathogenesis of proliferative vitreoretinopathy.** *Jacob Proaño[2, 1], A. Heffer[2], C. Woeller[2], S. E. Feldon[2], R. P. Phipps[2], A. E. Kuriyan[2].* [1]Lake Erie College of Osteopathic Medine; [2]Flaum Eye Institute, University of Rochester Medical Center

5809 — *A0254* **Salinomycin inhibits epithelial-mesenchymal transition in retinal pigment epithelial cells.** *Alison Heffer[3], J. Proano[3, 2], E. Roztocil[1], C. Woeller[1], R. P. Phipps[1], S. E. Feldon[1], A. E. Kuriyan[3].* [1]Ophthalmology, University of Rochester; [2]Lake Erie college of Osteopathic Medicine; [3]Flaum Eye Institute, University of Rochester Medical Center

5810 — *A0255* **Withdrawal_Changed Sub-cellular Localization of NOX4, a NADPH Oxidase is Associated with EMT in RPE Cells.** *Karla Y. Barbosa[1], J. Chang[1], G. Liang[1], M. Coene[1], M. Lal[2], K. Bharti[1].* [1]NEI, National Institutes of Health; [2]National Center for Advancing Translational Sciences

5811 — *A0256* **RUNX1 Regulation of Epithelial-Mesenchymal Transition in Proliferative Vitreoretinopathy.** *Dhanesh Amarnani[1], L. Ramos[1], S. Delgado-Tirado[1], W. Greene[2], H. H. Wang[2], L. A. Kim[1], J. Arboleda-Velasquez[1].* [1]Ophthalmology, Schepens Eye Research Institute/ Mass Eye and Ear Infirmary; [2]US Army of Surgical Institute

Thursday Posters 8:00 am – 9:45 am

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

5812 — *A0257* **Effects of Intravitreal Connective Tissue Growth Factor Neutralizing Antibody on the Epiretinal Membrane Formation; an Experimental Study.** *Narsis Daftarian[1, 2], O. Bayeghi[2, 1], M. Rezaei Kanavi[1, 2], H. Ahmadieh[2, 1].* [1]Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences; [2]Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences

5813 — *A0258* **Effects of chicken ovalbumin upstream promoter transcriptional factor 1 silencing on preventing proliferative vitreoretinopathy.** *Huizi Jin.* Department of Ophthalmology, Shanghai Tenth People's Hospital, Tongji University School of Medicine, Shanghai

5814 — *A0259* **Prevention of post-traumatic proliferative vitreoretinopathy using sustained release system of dasatinib.** *Shigeo Tamiya[1], S. Ueda[1, 2], K. McDonald[1], B. Nunn[1], H. J. Kaplan[1], M. O'Toole[1].* [1]University of Louisville; [2]Tokyo Medical University Hospital

5815 — *A0260* **Inflammation and intraocular fibrosis in a rabbit model of penetrating injury to the posterior segment.** *Whitney Greene, T. Burke, G. Bramblett, H. H. Wang.* United States Army Inst of Surgical Rsrch

5816 — *A0261* **Cigarette smoke promotes epithelial-mesenchymal transition in retinal pigment epithelial cells.** *Mohammad H. Bawany[1], A. Heffer[2], J. Proaño[2, 3], A. E. Kuriyan[2].* [1]University of Rochester School of Medicine and Dentistry; [2]Flaum Eye Institute, University of Rochester Medical Center; [3]Lake Erie college of Osteopathic Medicine

West Exhibition Hall A0314-A0358

Thursday, May 02, 2019 8:00 AM-9:45 AM

Clinical/Epidemiologic Research

510 Myopia and Refractive Error

Moderator: Susan Vitale

5817 — *A0314* **The Montreal Experience: A Retrospective Study Of The Management Of Myopia And Axial Length Progression On 469 Subjects.** *Langis Michaud.* Optometry, Ecole d'Optom de l'Univ de Montreal **CR*

5818 — *A0315* **Withdrawal_The Association between Near Work Activities and Myopia.** *jie xu[1], W. Zhang[1], J. B. Jonas[2], L. Xu[1].* [1]fundus, Beijing Institute of Ophthalmology; [2]Department of Ophthalmology, Medical Faculty Mannheim of the Ruprecht-Karls-University of Heidelberg

5819 — *A0316* **A randomized non-inferiority trial of adjustable glasses versus standard and ready-made spectacles among Chinese school children: WEAR (Wearability and Evaluation of Adjustable Refraction) III.** *Congyao Wang[1], N. G. Congdon[1, 2], G. Zhang[1], L. Jin[1], B. Tang[2], T. Chen[3, 1], W. Zhu[3, 1], J. Wang[1], B. Xiao[1].* [1]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Centre, Sun Yat-sen University; [2]Centre for Public Health, Queen's University Belfast; [3]Department of Ophthalmology, First Affiliated Hospital of Sun Yat-sen University ↗

5820 — *A0317* **Distribution of corneal spherical aberration in a Tanzanian population.** *Hiroki Asano[1], T. Hiraoka[2], Y. Seki[3], T. Shibata[3], H. Osada[3, 4], T. Saruta[1], N. Hatsusaka[3], F. Fujikake[5], Y. Tabata[6], C. Mhina[7], A. Sanyiwa[7], T. Oshika[2], H. Sasaki[3].* [1]Ophthalmology, Namegata District Medical Center; [2]Ophthalmology, University of Tsukuba; [3]Ophthalmology, Kanazawa Medical University; [4]Ophthalmology, Nagano Matsushiro General Hospital; [5]Rehabilitation, Tohoku Bunka Gakuen University; [6]Ophthalmology, Kagoshima Minami Eye Clinic; [7]Ophthalmology, Muhimbili University of Health and Allied Sciences **CR*

5821 — *A0318* **Attitudes, Beliefs and Perceived Barriers toward Myopia Management in Clinical Practice.** *Saoirse McCrann[1], I. Flitcroft[1, 2], C. Barrett[1], J. Loughman[1, 3].* [1]Optometry, Technological University of Dublin; [2]Childrens University Hospital, Dublin; [3]African Vision Research Institute, University of KwaZulu Natal

5822 — *A0319* **Relation between treatment effect of myopia control lenses and demographic factors in children.** *Rebecca Y. Weng[1], T. J. Naduvilath[1], R. C. Bakaraju[1, 2], X. Chen[3], P. Sankaridurg[1, 2].* [1]Brien Holden Vision Institute; [2]School of Optometry and Vision Science, University of New South Wales; [3]Zhongshan Ophthalmic Centre, Sun Yet Sen University ↗

5823 — *A0320* **Characteristics of Best Corrected Visual Acuity with Machine Learning: In a Large Population.** *weiting hao[1, 3], s. ji[2], c. zheng[2], t. cui[1, 3], Y. Wang[1, 3].* [1]Clinical College of Ophthalmology, Tianjin Medical University; [2]School of Computer Science and Engineering, Beihang University; [3]Tianjin Eye Institute, Tianjin Eye Hospital

5824 — *A0321* **The Aloka Vision Program - Holistic approach increase availability of eye care in unserved areas in India.** *Siegfried Wahl[1, 2], A. Leube[1, 2], R. Dhasmana[3], P. Moodbidri[4], J. Kuss[2].* [1]ZEISS Vision Science Lab, University Tuebingen; [2]Carl Zeiss Vision International GmbH; [3]Himalayan Institute of Medical Science, Dehradun; [4]Carl Zeiss India Pvt. Ltd, Bangalore **CR*

5825 — *A0322* **Compliance rates in children using soft bifocal contact lenses and 0.01% atropine.** *Juan Huang, D. O. Mutti, B. E. Dougherty, L. Jones-Jordan, J. J. Walline.* The Ohio State University

5826 — *A0323* **Association between Myopia and Lower Serum Zinc Status in Adolescents: The 2010 Korean National Health and Nutrition Examination Study.** *Niamh Burke[1], j. butler[1], I. Flitcroft[2, 3], J. Loughman[1, 4].* [1]Dublin Institute of Technology; [2]Dublin Institute of Technology; [3]Temple Street Children's University Hospital; [4]African Vision Research Institute

5827 — *A0324* **Prevalence and Risk Factors of Myopia in Adult Korean Population: Korea National Health and Nutrition Examination Survey 2015-2016 (KNHANES VI-VII).** *Sang Beom Han[1, 2], S. Lee[3], H. Yang[3], J. Hwang[3], D. Kim[4, 6], S. Park[5].* [1]Ophthalmology, Kangwon National University College of Medicine; [2]Ophthalmology, Kangwon National University Hospital; [3]Seoul National University Bundang Hospital; [4]Department of Ophthalmology, Gachon University College of Medicine; [5]Seoul National University College of Medicine; [6]Gil Medical Center

5828 — *A0325* **Incidence of Myopia in Southern India in the Longitudinal Andhra Pradesh Eye Disease Study.** *Rohit C. Khanna[1, 3], S. Marmamula[1, 3], N. Dhawlikar[2], A. Mettla[1], P. Giridhar[1], S. Banerjee[1, 6], K. Shekar[1], S. Chakrabarti[3], H. Pant[4], G. Murthy[4, 5], C. Gilbert[5], G. N. Rao[1, 3].* [1]Allen Foster Community Eye Health Research Centre, Gullapalli Pratibha Rao International Centre for Advancement of Rural Eye care, L V Prasad Eye Institute; [2]Rutgers Robert Wood Johnson Medical School; [3]Brien Holden Eye Research Centre, L V Prasad Eye Institute ; [4]Indian Institute of Public Health; [5]International Centre for Eye Health, Department of Clinical Research, London School of Hygiene and Tropical Medicine; [6]School of Optometry, The Hong Kong polytechnic university

5829 — *A0326* **The effect of peripheral defocus on axial growth in hyperopes.** *Ian Beasley, L. Davies, N. S. Logan.* Aston Optometry School, Aston University **CR*, ↗

5830 — *A0327* **Influence of prismatic round segment bifocals on posture during near tasks in Chinese myopic children.** *Zuopao Zhuo[1, 3], Y. Wang[1, 3], J. Bao[1, 3], A. Yang[2], D. Paille[2, 3], H. Chen[1, 3].* [1]School of Ophthalmology and Optometry, Wenzhou Medical University; [2]Essilor International, R&D Vision Sciences AMERA; [3]WEIRC, Wenzhou Medical University-Essilor International Research Centre **CR*

5831 — *A0328* **The impact of computers on myopia in 6 to 9 year old school children.** *Clair Enthoven[1], W. Tideman[1], J. Polling[1, 2], V. J. Verhoeven[1], C. C. Klaver[1, 3].* [1]Erasmus MC; [2]Orthoptics & Optometry, University of Applied sciences; [3]Ophthalmology, Radboudumc

5832 — *A0329* **Correlation Between Prevalence of Pinguecula and Ocular Refraction.** *Natsuko Hatsusaka, S. Shibata, N. Shibata, H. Miyashita, N. Tanimura, H. Ishida, E. Kubo, H. Sasaki.* Kanazawa Medical University

Thursday Posters 8:00 am – 9:45 am

5833 — *A0330* **Two-Year Incidence of Myopia among Schoolchildren in China.** *Damien Paille[1, 2], Y. WONG[1, 3], Y. Yuan[4, 2], B. Su[4, 2], M. Li[4, 2], D. Yang[4, 2], J. Bao[4, 2], B. Drobe[1, 2], H. Chen[4, 2].* [1]Vision Science Department, Essilor; [2]WEIRC - WMU-Essilor International Research Centre; [3]Saw Swee Hock School of Public Health, National University of Singapore; [4]WMU - Wenzhou Medical University **CR*

5834 — *A0331* **Development and test of a screening program to detect uncorrected refractive errors..** *Arne Ohlendorf, M. Garcia Garcia, S. Wahl.* Technology and Innovation, Carl Zeiss Vision International GmbH **CR*

5835 — *A0332* **Time trend of the prevalence of uncorrected visual acuity in middle school students in Japan: 2012-2016.** *Ryo Kawasaki[1, 2], J. Ito[2], S. SATO[1, 2], H. Sakaguchi[2], K. Nishida[2].* [1]Department of Vision Informatics, Osaka University Graduate School of Medicine; [2]Ophthalmology, Osaka University Graduate School of Medicine

5836 — *A0333* **Can refractive error impact the academic performance?** *Efrain Castellanos, P. G. Davey, K. Remick-Waltman.* Western University College of Optometry

5837 — *A0334* **The Relationship Between Open Recreation Areas and Myopia Among UCLA Preschool Vision Program Participants.** *Jessica Jara[1, 2], V. Sampaio[1, 2], A. Young[2], F. Yu[2], A. L. Coleman[2].* [1]Epidemiology, UCLA Fielding School of Public Health; [2]Ophthalmology, UCLA Jules Stein Eye Institute

5838 — *A0335* **Retrospective study of myopia progression and correlation with median household income for pediatric patients in the greater Cincinnati area.** *Kelsey A. Carriere[1], P. Cobb[1], K. Castleberry[1], C. Liu[2].* [1]Ophthalmology, Cincinnati Children's Hospital Medical Center; [2]Biostatistics and Epidemiology, Cincinnati Children's Hospital Medical Center

5839 — *A0336* **Can young adults accurately recall their time spent outdoors during childhood?** *Gareth Lingham[1], E. Milne[2], R. M. Lucas[3, 1], D. A. Mackey[1], S. Yazar[1].* [1]Centre for Ophthalmology and Visual Science, Lions Eye Institute/University of Western Australia; [2]Telethon Kids Institute/University of Western Australia; [3]National Centre for Epidemiology and Population Health, Australian National Unviersity

5840 — *A0337* **Near writing distances predict the faster myopic progression in Chinese myopic children: 2 years results of a prospective study.** *Binjun Zhang[1, 2], B. Drobe[2, 3], J. Bao[1, 2], x. yu[1, 2], H. Chen[1, 2].* [1]School of Ophthalmology and Optometry, Wenzhou Medical University; [2]Wenzhou Medical University-Essilor International Research Centre, WEIRC; [3]R&D Vision Sciences AMERA, Essilor International **CR*

5841 — *A0338* **Latent growth modelling of refractive error development in white children & young adults.** *Sara J. McCullough[2], G. Adamson[1], L. Doyle[2], K. Saunders[2].* [1]School of Psychology, Ulster University ; [2]Optometry & Vision Science, Ulster University

5842 — *A0339* **Annual Changes in Refraction before and after the Onset of myopic anisometropia.** *Wen Long, Y. Hu, D. Cui, J. Zeng, X. Yang.* Zhongshan Ophthalmic Center,Sun Yat-sen University

5843 — *A0340* **Longitudinal changes in spherical equivalent refractive error among schoolchildren with moderate to high hyperopia.** *Wenchen Zhao, Y. Hu, D. Cui, C. Li, X. Yang.* Zhongshan Ophthalmic Center,Sun Yat-sen University

5844 — *A0341* **The use of analgesics associated with refractive error shift toward hypermetropia.** *Karina Patasova[1], P. G. Hysi[1], C. J. Hammond[1], R. Wojciechowski[2].* [1]King's College; [2]Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health

5845 — *A0342* **Tolerability of novel myopia control spectacle designs.** *Joe Rappon[1], J. Woods[2], D. Jones[2], L. W. Jones[2].* [1]SightGlass Vision, Inc.; [2]Centre for Ocular Research & Education, University of Waterloo **CR*, ↗

5846 — *A0343* **Assessment of the association among physical activity, sleep status, and high-degree myopia using objective wearable devices.** *Luoming Huang[1], H. Kawasaki[1], Y. Liu[2], Z. Wang[3].* [1]Graduate School of Biomedical & Health Sciences, Hiroshima University; [2]School of Material Engineering, School of Material Engineering, Jinling Institute of Technology; [3]School of Economics & Management, Changsha University of Science & Technology

5847 — *A0344* **Effect of Defocus Incorporated Multiple Segments (DIMS) spectacle lens wear on visual functions in myopic children.** *Carly S. Lam, W. Tang, D. Y. Tse, R. Chun, C. To.* Centre for Myopia Research, School of Optometry, The Hong Kong Polytechnic Univ **CR*, ↗

5848 — *A0345* **Evaluation of the necessity for cycloplegia during refraction of 4-10 years old Chinese children.** *Xinting Liu, X. Mao.* School of Ophthalmology & Optometry, Wenzhou Medical University

5849 — *A0346* **Refractive Characteristics of Pseudomyopia and Its Association With Myopia Progression:Anyang Childhood Eye Study.** *Meng Tian Kang.* Beijing Tongren Hospital

5850 — *A0347* **The Association between Ametropia and Astigmatism in a Large-Scale Non-Clinical Population of German Military Recruits.** *Frank M. Jakobs, D. Hering, J. Frischmuth, F. Weber.* German Air Force Institute of Aviation Medicine

5851 — *A0348* **The Investigation on Professional Degree of Optometry in Spectacle Stores in Urban Area of China.** *Xintong Liang, M. Kang, S. Li, N. Wang, Y. Sun, S. Wei, J. Gan.* Beijing TongRen Eye Center

5852 — *A0349* **Changes of refraction, visual function and ocular biometrics of schoolchildren: Follow-up data of the WEPrOM Study in Wenzhou, China.** *Yimin Yuan[1, 3], B. Su[1, 3], D. Yang[1, 3], Y. Wong[2], J. Bao[1, 3], B. Drobe[2, 3], M. Li[1], H. Chen[1, 3].* [1]School of Ophthalmology & Optometry, Wenzhou Medical University; [2]R&D Vision Sciences AMERA, Essilor International, Singapore; [3]WEIRC, WMU-Essilor International Research Centre

5853 — *A0350* **Prevalence of anisometropia and its effects on visual acuity and stereoacuity, and.nisometropic spectacle prescribing pattern in a clinical population.** *Myra Leung[2], M. Uddin[1], C. S. Lam[2].* [1]School of Optometry, The Hong Kong Polytechnic University; [2]Centre for Myopia Research, School of Optometry, The Hong Kong Polytechnic University

5854 — *A0351* **Development of geometric visual perception during childhood and adolescence.** *Jiahe Gan[1], S. Li[1, 2], M. Kang[1], N. Wang[1], B. Wang[3].* [1]Beijing Tongren Eye Center, Beijing Tongren Hospital, Capital Medical University; [2]Ophthalmology & Visual Science Key Lab, Beijing Institute of Ophthalmology; [3]State Key Laboratory of Brain and Cognitive Science, Institute of Biophysics, Chinese Academy of Sciences

5855 — *A0352* **Smartphone Usage as a Possible Contributor to the Increasing Prevalence of Myopia.** *James Loughman[1], S. McCrann[1], j. butler[1], I. Flitcroft[1, 2].* [1]Technological University of Dublin; [2]Temple Street Children's University Hospital

5856 — *A0353* **What can anisometropia tell us about eye growth?** *Kathryn Saunders[1], S. J. McCullough[1], D. I. Flitcroft[2, 3].* [1]Ulster University; [2]Ophthalmology, Children's University Hospital ; [3]Centre for Eye Research Ireland, Dublin Institute of Technology

5857 — *A0354* **A Retrospective Longitudinal Study of Refractive Error Change in Children Aged 3 to 17 Years.** *Yi Pang[1], Q. Li[2], S. S. Block[1].* [1]Illinois Coll of Optom; [2]Fujian Hospital

5858 — *A0355* **Prevalence of High Order Aberrations in hispanic LASIK candidates.** *Alejandro Tamez, C. Cadena, J. E. Valdez.* Ophthalmology, Tec de Monterrey

5859 — *A0356* **The UH NEAR Survey: University of Houston Near work, Environment, Activity, and Refraction.** *Rachel Williams, K. Richdale, L. A. Ostrin.* College of Optometry, University of Houston

5860 — *A0357* **Exome-chip Association Study of Refractive Error in U.S. Caucasians.** *Deyana Lewis[1], I. Jain[1], T. Alexander[1, 2], A. Musolf[1], D. Stambolian[3], J. E. Bailey-Wilson[1].* [1]National Human Genome Research Institute; [2]National Institute of Arthritis and Musculoskeletal and Skin Diseases; [3]Department of Ophthalmology, Perelman School of Medicine, University of Pennsylvania

5861 — *A0358* **Parental Myopia and Myopia in 6- to 72-month-old Multiethnic Children.** *Rohit Varma[2, 9], K. Tarczy-Hornoch[3], S. A. Cotter[4], S. Matsumura[5], S. Seang Mei[5], P. Mitchell[6], K. A. Rose[7], X. Jiang[1, 8].* [1]Ophthalmology, University of Southern California; [2]Southern California Eyecare and Vision Research Institute; [3]Ophthalmology, University of Washington; [4]Southern California College of Optometry; [5]Singapore Eye Research Institute; [6]Westmead Institute; [7]Discipline of Orthoptics, University of Technology Sydney; [8]Department of Preventive Medicine, Keck School of Medicine; [9]CHA Hollywood Presbyterian Medical Center ***CR**

West Exhibition Hall A0359-A0395

Thursday, May 02, 2019 8:00 AM-9:45 AM

Anatomy and Pathology/Oncology

511 Molecular mechanisms and anatomical changes in experimental myopia

Moderators: Christopher Taylor and Ute Mathis

5862 — *A0359* **Scleral crosslinking using genipin can effect normal eye development in tree shrews.** *Mustapha El Hamdaoui, M. Gaonkar, C. A. Girkin, B. C. Samuels, R. Grytz.* The University of Alabama at Birmingham

5863 — *A0360* **Scleral Changes in Induced Refractive Error in Chicks.** *Elizabeth L. Irving, D. Hileeto.* School of Optometry and Vision Science, University of Waterloo ***CR**

5864 — *A0361* **Altered Scleral Biomechanics in the Mouse Model of Myopia.** *Dillon M. Brown[1], R. Strickland[2], E. Landis[2], C. R. Ethier[1], M. T. Pardue[1, 2].* [1]Biomedical Engineering, Georgia Institute of Technology; [2]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Healthcare System

5865 — *A0362* **Sex specific endocrine differences in sclera of myopically progressing chicks.** *Patrick Carney[1, 3], B. Ford[2], D. Nomura[4], C. F. Wildsoet[1].* [1]School of Optometry, UC Berkeley; [2]Graduate Group in Endocrinology, UC Berkeley; [3]Vision Science Graduate Program, UC Berkeley; [4]Chemistry, UC Berkeley

5866 — *A0363* **Scleral macrophages contribute to myopia development via MMP-2 upregulation.** *Xiangtian Zhou, F. Zhao, H. Wu, L. Ma, Y. Wu, J. Qu.* School of Ophthalmology and Optometry, Wenzhou Medical University

5867 — *A0364* **Validation of lens-induced myopia protocols in C57BL/6 mice.** *Emilie van der Sande[1], B. Winkelman[1, 2], C. de Zeeuw[2, 3], C. C. Klaver[4, 5].* [1]Ophthalmology, Erasmus Medical Center; [2]Netherlands Institute for Neuroscience; [3]Neuroscience, Erasmus Medical Center; [4]Ophthalmology, Epidemiology, Erasmus Medical Center; [5]Ophthalmology, Radboud Medical Center

5868 — *A0365* **Altered retinal responses in chicken myopia model using image-guided global flash multifocal electroretinogram.** *Sonal Vyas[1], Y. LAKSHMANAN[1], H. H. Chan[1, 3], C. Kee[1, 2].* [1]School of Optometry, The Hong Kong Polytechnic University; [2]Department of Biomedical Engineering, The Hong Kong Polytechnic University; [3]University Research Facility in Behavioral and Systems Neuroscience (UBSN), The Hong Kong Polytechnic University, Kowloon, Hong Kong

5869 — *A0366* **The effect of a common tissue preservative on form deprivation myopia in the guinea pig.** *Quan V. Hoang[1, 2], S. A. McFadden[3].* [1]Singapore Eye Research Institute, Singapore National Eye Centre, Duke-NUS; [2]Ophthalmology, Harkness Eye Institute, Columbia University Medical Center; [3]Hunter Medical Research Institute and School of Psychology, Faculty of Science, University of Newcastle

5870 — *A0367* **Screening of high myopia in non-human primates.** *qiang lin[1], R. Lin[1], K. Wu[1], G. Jin[1], R. Shen[1], W. Liu[1], Z. Chen[1], K. Zhang[2], Z. Jin[1].* [1]Laboratory for Stem Cell & Retinal Regeneration, Institute of Stem Cell Research, Division of Ophthalmic Genetics, The Eye Hospital, Wenzhou Medical University, State Key Laboratory for Ophthalmology, Optometry & Visual Science, National Center for International Research in Regenerative Medicine and Neurogenetics; [2]Division of Ophthalmology, Kunming Biomed International (KBI)

5871 — *A0368* **Growth-related changes in thickness in individual retinal layers in marmoset eyes.** *Reynolds K. Ablordeppey, A. Pope, X. Zhu, A. Benavente-Perez.* State University of New York, College of Optometry ***CR**

5872 — *A0369* **Myopia-related changes in the retinal capillaries and co-localized astrocytes of juvenile marmosets.** *Carol Lin, A. Toychiev, N. Slavi, M. Srinivas, A. Nour, A. Benavente-Perez.* SUNY College of Optometry

5873 — *A0370* **Establishment of the novel form deprivation myopia model in rabbits using openable cover cap.** *Naoya Shigesada, K. Ohashi, K. Shibagaki.* Santen Pharmaceutical Co.,Ltd**.** ***CR**

5874 — *A0371* **Choroidal vascular remodeling in experimental mouse models: Ultra-widefield angiographic analysis.** *Junyeop Lee, Y. Choi, S. Kim, J. Jeon, D. Kim, A. Kim.* Department of Ophthalmology, Yeungnam University

5875 — *A0372* **Constructing Murine Model of Posterior Staphyloma Through Targeted Disruption of Bruch's Membrane.** *Kritchai Vutipongsatorn[1, 2], T. Yoshida[2], X. Li[2], K. Cao[2], K. Ohno-Matsui[2].* [1]Medicine, Imperial College London; [2]Ophthalmology and Visual Science, Tokyo Medical and Dental University

5876 — *A0373* **A novel locus identified in chromosome 14 modulates lens weight on mouse using Genome-wide Efficient Mixed Model Association.** *Jennifer B. Cordero, R. W. Williams, L. Lu, C. L. Simpson.* University of Tennessee Health Science Center

5877 — *A0374* **Immunohistochemical localization of alpha-2A adrenergic receptor in chicken retina.** *Ute Mathis.* Ophthalmic Research Institute, Section Neurobiology of the Eye, University of Tuebingen

5878 — *A0375* **Effect of 7-methylxanthine (7-MX) on Deprivation Myopia and Retinal Dopamine Release in Chickens.** *Hong Liu[2, 1], F. Schaeffel[1], K. Trier[3], M. P. Feldkaemper[1].* [1]Section of Neurobiology of the Eye, Ophthalmic Research Institute, University of Tuebingen, Tuebingen, Germany; [2]Aier School of Ophthalmology, Central South University, Changsha, China; [3]Trier Research Laboratories, Hellerup, Denmark

5879 — *A0376* **Combining Narrow-Band Red and Blue Ambient Light Causes Moderate Myopia in Tree Shrews.** *Timothy Gawne[1], R. Grytz[2], T. T. Norton[1].* [1]Optometry and Vision Science, University of Alabama at Birmingham; [2]Ophthalmology and Visual Science, University of Alabama at Birmingham

5880 — *A0377* **Influence of light and autonomic innervation on growth factor expression in chick choroid.** *Alexandra Kaser-Eichberger[1, 2], C. Platzl[1, 2], C. Taylor[3], A. Trost[1], C. Strohmaier[1], B. Bogner[1], C. Runge[1], D. Bruckner[1], H. Reitsamer[1], F. J. Rucker[3], F. Schroedl[1, 2].* [1]Dept**.** of Ophthalmology and Optometry, Research Program Experimental Ophthalmology and Glaucoma Research, Paracelsus Medical University; [2]Dept**.** of Anatomy, Paracelsus Medical University; [3]Dept of Biomedical Sciences and Disease, New England College of Optometry

5881 — *A0378* **Dopamine in Flickering Illumination and Monochromatic Light.** *Tian Tian, R. Liu.* Eye & ENT Hospital of Fudan University

5882 — *A0379* **In vivo stiffening of rabbit sclera by bacteriochlorophyll derivative WST11 and near infrared light.** *Arie L. Marcovich[1, 2], A. Goz[1, 2], J. Brekelmans[3], A. Brandis[4], S. R. Cohen[5], A. Scherz[1].* [1]Plant and Environmental Sciences, Weizmann Institute of Science; [2]Ophthalmology, Kaplan Medical Center; [3]Ophthalmology, University eye clinic Maastricht; [4]Biological Services, Weizmann Institute of Science; [5]Chemical Research Support, Weizmann Institute of Science ***CR**

Thursday Posters 8:00 am – 9:45 am

5883 — *A0380* **Dopamine: Mechanistic Conundrums in Eye Growth Control.** *Shanta Sarfare[1], R. A. Stone[2], P. Iuvone[3], M. G. Maguire[2], B. McGeehan[2], W. Wei[2], J. Elin-Calcador[1], L. He[3], S. Dhakal[3], J. A. Dixon[3], D. L. Nickla[1].* [1]Bioscience Dept., New England College of Optometry; [2]Ophthalmology, Univ**.** Pennsylvania; [3]Ophthalmol/ Pharmacology, Emory Univ.

5884 — *A0381* **Effects of short-term dynamic ON and OFF stimulation on choroidal thickness in humans and on choroidal thickness and dopamine release in chicks.** *Andrea Carrillo Aleman[1], M. Wang[1, 2], F. Schaeffel[1].* [1]University of Tuebingen; [2]Department of Ophthalmology, The Second Xiangya Hospital, Central South University

5885 — *A0382* **Early Changes in Gene Expression in the Choroid of Chick Eyes in Response to Myopic Defocus.** *Mohsain Gill[1], J. A. Summers[2].* [1]College of Medicine, University of Oklahoma Health Science Center; [2]Department of Cell Biology, University of Oklahoma Health Science Center

5886 — *A0383* **Effects of long-term dynamic ON and OFF stimulation on refractive development, ocular dimensions and dopamine release in chickens.** *Min Wang[1, 2], A. Carrillo Aleman[1], F. Schaeffel[1].* [1]University of Tuebingen; [2]Department of Ophthalmology, The Second Xiangya Hospital, Central South University

5887 — *A0384* **PRSS56 inactivation induced retinal expression of ADAMTS19 ameliorates ocular axial length reduction/hyperopia.** *Swanand Koli[1], C. Labelle-Dumais[1], S. Paylakhi[1], V. Chi[1], S. Nair[1, 2].* [1]Department of Ophthalmology, University of California San Francisco; [2]Department of Anatomy, University of California San Francisco

5888 — *A0385* **QTL remapping of murine eye weight reveals novel candidate genes for ocular growth.** *Roberto Y. Cordero, R. W. Williams, L. Lu, C. L. Simpson.* University of Tennessee Health Science Center

5889 — *A0386* **GC/MS metabolomics in chick myopia and hyperopia models.** *Nina Riddell, M. J. Murphy, S. G. Crewther.* Psychology and Counselling, La Trobe University

5890 — *A0387* **Oral lactoferrin administration suppresses lens-induced myopia in mice.** *Shin-ichi Ikeda[1, 2], T. Kurihara[1, 2], X. Jiang[1, 2], M. Toda[1], K. Tsubota[2].* [1]Laboratory of Photobiology, Keio University School of Medicine; [2]Department of Ophthalmology, Keio University School of Medicine **CR*

5891 — *A0388* **Expression of the mechanotransduction channels is altered in the retina of myopic marmosets.** *Tam phuong[1], A. Nour[2], D. Krizaj[1], A. Benavente-Perez[2].* [1]Department of Ophthalmology, University of Utah; [2]SUNY College of Optometry

5892 — *A0389* **Omega-3 polyunsaturated fatty acids suppressed experimental myopia progression in mice.** *Kiwako Mori, T. Kurihara, X. Jiang, S. Ikeda, M. Arita, H. Torii, K. Tsubota.* Ophthalmology, Keio University **CR*

5893 — *A0390* **miRNA-mRNA Signalling Pathways in Chick Models of Development of Refractive Error.** *Sheila G. Crewther, N. Riddell.* Psychological Science, La Trobe University

5894 — *A0391* **Spontaneous variations in refractive error and axial length identified in a population of geriatric rhesus macaques.** *Hidetaka Miyagi[1], S. Kim[2], A. Strom[2], G. Yiu[3], A. Moshiri[3], L. Garzel[4], A. Marangakis[2], C. Chang[2], J. Roberts[3], C. J. Murphy[2, 4], S. M. Thomasy[2, 4].* [1]Ophthalmology and Visual Science, Hiroshima University; [2]Department of Surgical and Radiological Sciences**.** School of Veterinary Medicine, University of California, Davis; [3]Department of Ophthalmology & Vision Science, School of Medicine, University of California, Davis; [4]California National Primate Research Center, University of California, Davis

5895 — *A0392* **Atropine and NO inhibit form-deprivation myopia via retinal mechanisms in the chick.** *William K. Stell[1], A. D. Lillywhite[2], B. J. Carr[3].* [1]Cell Biology & Anatomy, Hotchkiss Brain Institute, and Alberta Children's Hospital Research Institute, Cumming School of Medicine, University of Calgary; [2]School of Optometry and Vision Science, University of Waterloo; [3]Department of Ophthalmology and Visual Sciences, Faculty of Medicine, University of British Columbia **CR*

5896 — *A0393* **IVMED-85 eye drops for myopia control in guinea pigs.** *Sarah Molokhia[1, 2], H. Hauritz[1], B. Archer[2], M. Burr[1], L. A. Owen[2], B. K. Ambati[1, 2].* [1]iVeena Delivery Systems; [2]University of Utah **CR*

5897 — *A0394* **The Effects of Latanoprost on Negative-Lens-Induced Myopia in Rhesus Monkeys.** *Krista M. Beach, L. Hung, Z. She, L. A. Ostrin, E. L. Smith.* Optometry, University of Houston **CR*

5898 — *A0395* **Sclera-specific Hif-1α knockdown attenuates form deprivation myopia (FDM) development in mice.** *Fei Zhao, Q. Zhou, Y. Zhai, J. Qu, X. Zhou.* School of Optometry and Ophthalmology, Wenzhou Medical University

West Exhibition Hall A0396-A0442

Thursday, May 02, 2019 8:00 AM-9:45 AM

Visual Psychophysics/Physiological Optics

512 Vision Assessment & Performance. Aging. Driving

Moderator: Shrikant R. Bharadwaj

5899 — *A0396* **Contrast Sensitivity Function (CSF) of Anisometropia with Spectacle Lens and Soft Contact Lens..** *Ming Li, L. Cui, L. Zhang, W. Zhou, F. Hou.* Ophthalmology, Eye Hospital of Wenzhou Medical University

5900 — *A0397* **Perceptual learning along the "weaker" principal meridian improves contrast sensitivity function and visual acuity in patients with astigmatism.** *Li Gu[1], J. Li[1], z. jing[1], Z. Chen[1], S. Zhang[1], Z. Lu[2], J. Yuan[1].* [1]Zhongshan Ophthalmic Center; [2]The Ohio State University **CR*

5901 — *A0398* **Improving the efficiency of oculometric measures of contrast sensitivity.** *Mark P. Burton, P. V. McGraw, C. Scholes, N. W. Roach.* School of Psychology, University of Nottingham

5902 — *A0399* **Induced straylight decreases visual performance homogenously at different spatial frequencies measured by the Tuebingen Contrast Sensitivity Test.** *Tim Schilling[1], A. Ohlendorf[1, 2], S. Wahl[1, 2].* [1]Institute of Ophthalmic Research; [2]Carl Zeiss Vision International GmbH **CR*

5903 — *A0400* **Active learning of contrast sensitivity function as a clinical endpoint in cataract disease.** *Megan A. Kasetty[1, 3], R. Silverman[1, 3], R. Zeng[1, 4], Z. K. Luo[2], R. Vasan[2], A. Lorch[2], J. Cho[5], L. A. Lesmes[6], J. B. Miller[1].* [1]Retina, Massachusetts Eye and Ear; [2]Comprehensive Ophthalmology and Cataract, Massachusetts Eye and Ear; [3]Tufts University School of Medicine; [4]Boston University School of Medicine; [5]Northeastern University; [6]Adaptive Sensory Technology, Inc**.** **CR*

5904 — *A0401* **The repeatability of visual changes measured with tests of visual acuity and contrast sensitivity.** *Manonmani Murugappan[2], A. M. Janoff[1], L. A. Lesmes[4], E. Flor[1], M. J. Barnes[1], A. K. Bittner[1, 3].* [1]College of Optometry, Nova Southeastern University; [2]College of Osteopathic Medicine, Nova Southeastern University; [3]Ophthalmology, University of California, Los Angeles; [4]Adaptive Sensory Technology **CR*

5905 — *A0402* **Reliability of Testing Methodology Aimed to Measure Visual Acuity and Contrast Sensitivity.** *Kevin Bui[1], M. Gomez[2], M. Maniglia[2], A. Seitz[2], P. G. Davey[1].* [1]College of Optometry, Western University of Health Sciences; [2]Psychology, University of California, Riverside **CR*

Thursday Posters 8:00 am – 9:45 am

5906 — *A0403* **Pupil-tracking-based determination of visual acuity.** *Consuelo Robles[1, 2], P. Prieto[2], P. Artal[2].* [1]Voptica SL; [2]Laboratorio de Óptica, Universidad de Murcia **CR*

5907 — *A0404* **Visual acuity assessment in adults using optokinetic nystagmus.** *Paul A. Harris[1], T. Garner[1], M. Sangi[2], P. Guo[2], J. Turuwhenua[2], B. Thompson[3].* [1]Optometry, Southern College of Optometry; [2]University of Auckland; [3]School of Optometry and Vision Science, University of Waterloo **CR*

5908 — *A0405* **Accuracy and Precision of the ETDRS Chart, E-ETDRS and Bayesian qVA Method.** *Yukai Zhao[1], L. A. Lesmes[2], M. Dorr[3], P. Bex[4], Z. Lu[1].* [1]Psychology, the Ohio State University; [2]Adaptive Sensory Technology, Inc; [3]Technical University of Munich; [4]Psychology, Northeastern Unversity **CR*

5909 — *A0406* **Luminance and visual acuity: 20/30 could be 20/40!** *David W. Evans[1], M. M. Yu[2], P. G. Davey[3].* [1]Guardion Health Sciences; [2]Orange County Retina; [3]Western University of Health Sciences **CR*

5910 — *A0407* **Repeatability and Sensitivity Validation of an ipad based Visual Acuity Application.** *Michel Guillon[1, 2], P. Pepe[1], K. Patel[1], R. Gupta[1], T. Patel[1].* [1]Ocular Technology Group International; [2]School of Heath Sciences, Aston University **CR*

5911 — *A0408* **A novel automated visual acuity test using a portable augmented reality headset.** *Sze Chuan Ong[1], I. Pek[2], C. Chiang[2], H. Soon[3], K. Chua[3], C. Sassman[3], V. T. Koh[2, 1].* [1]Yong Loo Lin School of Medicine, National University of Singapore; [2]Department of Ophthalmology, National University Hospital; [3]School Of Engineering, Ngee Ann Polytechnic

5912 — *A0409* **Kinetic visual acuity was correlated with functional visual acuity and binocular summation.** *Ikko Iehisa[1], M. Ayaki[1, 2], K. Tsubota[1], K. Negishi[1].* [1]Department of ophthalmology, Keio University; [2]Otake Clinic Moon View Eye Center **CR*

5913 — *A0410* **Visual acuity and contrast sensitivity at various stages of cognitive impairment in the COMPASS-ND study.** *Walter Wittich[1, 2], F. Al-Yawer[3], N. Phillips[3].* [1]School of Optometry, University of Montreal; [2]Centre de recherche interdisciplinaire en réadaptation du Montréal métropolitain; [3]Psychology, Concordia University

5914 — *A0411* **Macular pigment and low luminance vision in the Carotenoids in Age-Related Eye Disease Study (CAREDS), an ancillary study of the Women's Health Initiative.** *Krista Christensen[1], Z. Liu[1], J. N. Ver Hoeve[1], J. Stringham[4], Y. Liu[1], R. Wallace[2], K. Gehrs[2], L. Tinker[3], T. Lawler[1], J. A. Mares[1].* [1]University of Wisconsin Madison; [2]University of Iowa; [3]Fred Hutchinson Cancer Research Center; [4]Duke Eye Center

5915 — *A0412* **Healthy and pathological visual aging in a French follow-up cohort study.** *Karine LAGRENE[1, 2], M. Bécu[1], W. H. Seiple[1, 3], M. Raphanel Bataille[1], S. Combariza[1], M. Paques[4], A. Aubois[4], B. Duclos[4], C. Eandi[4], J. Girmens[4], S. Mohand-Said[4], A. Arleo[1].* [1]Sorbonne Université, INSERM, CNRS, Institut de la Vision; [2]Streetlab; [3]Lighthouse Guild; [4]CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DGOS CIC 1423 **CR*

5916 — *A0413* **Moving Beyond Visual Acuity: Examining associations between visual acuity, contrast sensitivity, and cognition in an older adult population.** *Elizabeth Couser, X. Kong, R. Sharrett, X. Guo, P. Y. Ramulu, B. K. Swenor, A. Abraham.* Wilmer Eye Institute, Johns Hopkins

5917 — *A0414* **Infrared light sensitivity in healthy eyes of different age groups.** *Grzegorz Labuz[1], J. Usinger[1], K. Komar[2, 3], H. Son[1], T. Yildirim[1], S. Shah[1], I. Baur[1], P. Merz[1], R. Khoramnia[1], G. U. Auffarth[1].* [1]David J Apple Center for Vision Research; [2]Faculty of Physics, Nicolaus Copernicus University; [3]Baltic Institute of Technology **CR*

5918 — *A0415* **Contrast Sensitivity and Color Confusion in Patients with Pre-Diabetes: A Pilot Study.** *Nicole Karson, M. Jones, A. Datta, K. Richdale, W. W. Harrison.* University of Houston College of Optometry

5919 — *A0416* **The effects of healthy ageing on central and peripheral motion perception.** *Juan A. Sepulveda[1], A. M. McKendrick[1], A. J. Anderson[1], J. M. Wood[2].* [1]Optometry and Vision Sciences, The University of Melbourne; [2]Optometry and Vision Science, Queensland University of Technology

5920 — *A0417* **Contextual visual processing and visual working memory deficits in Alzheimer's disease.** *William J. Harrison[1], J. B. Mattingley[1, 2], G. A. Robinson[1, 2].* [1]Queensland Brain Institute, The University of Queensland; [2]School of Psychology, The University of Queensland

5921 — *A0418* **Considerable age-related contrast sensitivity loss due to less efficient cones.** *Daphné Silvestre, A. Arleo, R. Allard.* Sorbonne Université, INSERM, CNRS, Institut de la Vision **CR*

5922 — *A0419* **Novel computer-based tests for assessing performance in visually guided tasks in people with age-related macular degeneration: searching for everyday objects and detecting road signs.** *Bethany E. Higgins, D. J. Taylor, W. Bi, A. M. Binns, D. P. Crabb.* Optometry and Visual Sciences, City, University of London **CR*

5923 — *A0420* **Model that Summarizes the Effects of Blur on Psychophysical Measures of Visual Function with a Single Latent Variable.** *Robert W. Massof[1], D. Laby[2], D. Meadows[2], D. Kirschen[2].* [1]Ophthalmology, Johns Hopkins Wilmer Eye Inst; [2]EyeCheck Systems LLC **CR*

5924 — *A0421* **Oculomotor changes after sustained Virtual Reality use.** *Angelica Godinez, E. N. Harb, J. Grimes, S. Davuluru, C. F. Wildsoet, D. M. Levi.* School of Optometry, University of California, Berkeley

5925 — *A0422* **Impact of healthy aging on ocular fixation stability and microsaccades during optic flow.** *Angelo Arleo, M. Bécu, G. Tatur, D. Sheynikhovich.* Sorbonne Université, INSERM, CNRS, Institut de la Vision, 17 rue Moreau, F-75012 Paris, France **CR*

5926 — *A0423* **Impact of single vision lens designs for myopes on driving skills and comfort.** *Bernardin Delphine[1, 3], J. Michaels[2, 3], A. Goulet[4], R. Chaumillon[2, 3], J. Faubert[2, 3].* [1]Research and Development, Essilor Canada; [2]Faubert Laboratory; [3]Optometry School, Université de Montréal; [4]Recherche and Development, Essilor International

5927 — *A0424* **Characterization of a new glare source for a driving simulator under varying levels of visibility: A pilot study.** *Breno Schwambach[1], J. Brooks[1], C. Jenkins[1], L. Mims[1], P. Rosopa[2], R. Tanner[3], C. Woody[3], D. Evans[4], K. Melnrick[4], R. Stasaski[5], R. Suryakumar[5].* [1]Automotive Engineering, Clemson University; [2]Psychology, Clemson University; [3]Pelham Vision Center; [4]DriveSafety; [5]Alcon **CR*

5928 — *A0425* **Visual Acuity, Motor Vehicle Collisions, and Moving Violations in a Cohort of Patients Who Have Undergone Eyelid Surgery.** *Katherine Lucarelli[2], M. Lucarelli[3], S. van Landingham[1].* [1]Department of Ophthalmology and Visual Sciences, University of Wisconsin Madison; [2]University of Wisconsin Madison School of Medicine and Public Health; [3]Department of Ophthalmology and Visual Sciences, University of Wisconsin Madison

5929 — *A0426* **Variations in pupil size and light levels while driving at night.** *Alex A. Black[1], J. M. Wood[1], M. J. Collins[1], G. Isoardi[2].* [1]School of Optometry & Vision Science, Queensland University of Technology; [2]Light Naturally

5930 — *A0427* **Comparison of straylight in cataracts to the CIE PSF model.** *Thomas J. Van Den Berg.* Ophthalmic Research, Netherlands Inst for Neurosci, Royal Acad **CR*

5931 — *A0428* **Detection of the Purkinje shift with the rapid dark adaption test, age and vision related correlates.** *Gregory Fu[1], J. Kanter[1], R. Aramburo[2], B. I. Gaynes[2].* [1]Loyola University Chicago: Stritch School of Medicine; [2]Loyola University Medical Center

5932 — *A0429* **The Effects of a Blue Light Screening Filter on Blue Light Emission from a Smartphone.** *Andrew Smith[1, 2], J. Conger[1, 2], B. Hedayati[1], M. C. Mehta[1, 2].* [1]Ophthalmology, UC Irvine; [2]Ophthalmology, Gavin Herbert Eye Institute

Thursday Posters
8:00 am – 9:45 am

5933 — *A0430* **Macular Recovery Following Photostress in Low Luminance Conditions in Young and Old Subjects.** *Donna Welch[1], D. Narayanan[1], J. D. Rodriguez[1], M. J. Chapin[1], G. Wallstrom[2], M. B. Abelson[1].* [1]Ora, Inc.; [2]SDC, Inc**.** **CR*

5934 — *A0431* **Response Reliability during Automated Visual Photosensitivity Assessment in Achromatopsia.** *Alex Gonzalez[1], M. Aguilar[1], C. Rowaan[1], P. R. Rosa[2], V. M. Graham[1], B. E. Hurwitz[4], B. L. Lam[2], J. Parel[1, 3].* [1]Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [2]Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine; [3]Brien Holden Vision Institute, University of New South Wales; [4]Behavioral Medicine Research Center, Psychology, University of Miami

5935 — *A0432* **Mesopic Visual Function Attained By Lenses Specifically Designed For Mesopic Vision.** *Eva Chamorro[2], J. Cleva[1], M. Alvarez[1], M. Subero[1], M. Garcia[1].* [1]Research, Indizen Optical Technologies (IOT); [2]Indizen Optical Technologies (IOT) **CR*

5936 — *A0433* **Does the stylus matter when using the digital Slurp eye-hand coordination test?** *Barbara M. Junghans, S. Khuu.* Univ of New South Wales

5937 — *A0434* **Effect of induced blur on performance on the Beery VMI and its supplemental tests.** *Rebecca Findlay[1], J. Black[1], N. Anstice[2].* [1]School of Optometry and Vision Science, University of Auckland; [2]Optometry and Vision Science, University of Canberra

5938 — *A0435* **The role of vision in balance control.** *Guillaume L. Giraudet.* R&D, ESSILOR INTL **CR*

5939 — *A0436* **Influence of smartphone viewing on eyes under the train shaking condition.** *Fumiatsu Maeda[1, 2], S. Tatara[1, 2], Y. Tsukahara[2], H. Yamamoto[3], K. Kani[4].* [1]Orthoptics and Visual sciences, Niigata University of Health and Welfare; [2]Field of Visual Sciences, Graduate School, Niigata University of Health and Welfare; [3]Graduate School of Human and Environmental Studies, Kyoto University; [4]Orthoptics and Visual Sciences, Kyushu University of Health and Welfare **CR*

5940 — *A0437* **Comparison of a video game-based vision screening to conventional vision screening performed by optometry students.** *Kristy Remick-Waltman, E. Castellanos, P. G. Davey.* Western University of Health Sciences **CR*

5941 — *A0438* **Print Size and Display Size Constraints on Reading with Reduced Acuity.** *Nilsu Atilgan, Y. XIONG, G. E. Legge.* Psychology, University of Minnesota

5942 — *A0439* **Evaluation of relationship between font and silent reading performance in healthy subjects using the eye tracking system.** *Noriaki Murata[1, 2], H. Toda[1, 2], C. Sasagawa[2], E. Seki[2], A. Takayama[2], T. Fukuchi[1].* [1]Niigata University; [2]Niigata University of Health and Welfare

5943 — *A0440* **Influence of the Stiles-Crawford effect of the first kind on visual acuity for decentered pupils.** *Alessandra Marie Carmichael Martins[1], M. Vinas[2], A. Gonzalez-Ramos[2], C. Benedi-Garcia[2], C. Dorronsoro[2], S. Marcos[2], B. Vohnsen[1].* [1]School of Physics, University College Dublin; [2]Instituto de Opctica, CSIC

5944 — *A0441* **Rapid changes in the Stiles Crawford function in response to a decentred aperture.** *Michael J. Collins, F. Yi, B. A. Davis, H. J. McNeill.* School of Optometry, Queensland University of Technology

5945 — *A0442* **Two photon vision with a supercontinuum source.** *Silvestre Manzanera[1], D. Sola[1], K. Komar[2, 4], M. Wojtkowski[3], P. Artal[1].* [1]Laboratorio de Optica, University of Murcia; [2]Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University; [3]Institute of Physical Chemistry, Polish Academy of Sciences; [4]Baltic Institute of Technology **CR*

West Exhibition Hall A0443-A0461

Thursday, May 02, 2019 8:00 AM-9:45 AM

Visual Neuroscience

513 Visual Disease Models and Restoration: Humans

Moderator: Rachael S. Allen

5946 — *A0443* **The Retina in Preclinical Alzheimer's Disease: Degeneration of the Eye Before the Brain.** *Samuel Asanad[1, 2], M. Fantini[1, 3], W. C. Sultan[1], M. Nassisi[1], C. Felix[2], J. Wu[2], R. Karanjia[1], F. N. Ross-Cisneros[1], M. Harrington[4], A. A. Sadun[1, 2].* [1]Dohey Eye Institute - UCLA; [2]Ophthalmology, David Geffen School of Medicine at UCLA; [3]Medicine, University of Udine; [4]Neuroscience, Huntington Medical Research Institute

5947 — *A0444* **Electroretinographic and Tomographic Features of macular retina in patients with optic neuritis.** *Danjie Li[1, 3], S. Kishi[2], H. Akiyama[3].* [1]Ophthalmology, Chen Du Aier eye Hospital, China;; [2]Maebashi Central Hospital; [3]Ophthalmology, 1Department of Ophthalmology, Gunma University School of Medicine,

5948 — *A0445* **Cone dysfunction in early-stage diabetic retinopathy assessed by electroretinography.** *J Jason McAnany, J. C. Park.* Ophthalmology and Visual Sciences, University of Illinois at Chicago

5949 — *A0446* **Oscillatory Potentials in Patients with Posterior Uveitis.** *Scott E. Brodie[1], N. Goldberg[2], A. Friedman[3], D. A. Jabs[3], D. Wang[1].* [1]Ophthalmology, NYU-Langone Medical Center; [2]Ophthalmology, Northwell Health; [3]Ophthalmology, Icahn School of Medicine at Mount Sinai

5950 — *A0447* **Clinical and molecular characterization of autosomal recessive and X-linked incomplete congenital stationary night blindness.** *Rola Ba-Abbad[2, 1], G. Arno[1, 2], O. A. Mahroo[1, 2], M. Michaelides[1, 2], A. Webster[1, 2], A. G. Robson[3, 1].* [1]UCL Institute of Ophthalomology; [2]Moorfields Eye Hospital; [3]Electrophysiology, Moorfields Eye Hospital

5951 — *A0448* **Multifocal ERG Changes Following L-shape Macular Buckle Implantation.** *Marten Brelen, W. Yip, T. Man, C. C. Pang.* Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong

5952 — *A0449* **Rapid non-mydriatic assessment of panretinal cone system function using a hand-held electroretinography device in *ABCA4* retinopathy.** *diana-maria butu[1, 2], A. Fakin[1], T. Soorma[1, 3], A. Neville[1], C. J. Hammond[3], M. Michaelides[1, 4], A. Webster[1, 4], O. A. Mahroo[1, 4].* [1]Moorfields Eye Hospital, London; [2]Royal Free Hospital, London; [3]Department of Ophthalmology, King's College London; [4]UCL Institute of Ophthalmolgy, University College London

5953 — *A0450* **The Photopic negative response (PhNR) of the full-field electroretinogram (ERG) in an Asian-Indian population with Glaucoma: A Pilot Study.** *Wai Siene Ng[1], O. A. Mahroo[2, 3], H. Jayaram[1].* [1]NIHR, Moorfields Biomedical Research Centre; [2]Medical Retina Service, Moorfields Eye Hospital; [3]UCL Institute of Ophthalmology, University College London **CR*

5954 — *A0451* **The Light-adapted Full-field ERG Luminance-response Series in Proliferative Diabetic Retinopathy Treated with Intravitreal Ranibizumab and Multispot Laser Panretinal Photocoagulation.** *Andre Messias, M. Katharina, R. d. Barroso, R. Jorge.* Ophthalmology, University of São Paulo ↗

5955 — *A0452* **Short-term levodopa treatments ameliorate early stage electroretinogram (ERG) delays in diabetic patients.** *Cara Motz[1], K. Chesler[1], R. S. Allen[1], L. Mees[1], D. Olson[1, 4], A. Y. Maa[1, 2], M. Coulter[1], P. M. Thule[1, 4], P. Iuvone[2], A. Hendrick[2], M. T. Pardue[1, 3].* [1]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center; [2]Ophthalmology, Emory University; [3]Biomedical Engineering, Georgia Tech; [4]Endocrinology, Emory University ↗

5956 — *A0453* **Changes in retinal thickness and alterations in multifocal electrorretinogram in Alzheimers disease.** *Johanna Garzon.* Primary visual care research group, University of La Salle↗

Thursday Posters 8:00 am – 9:45 am

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

5957 — *A0454* **A Novel Multifocal Electroretinography Stimulus for Detecting Hydroxychloroquine Retinal Toxicity.** *Adrian Tsang[1], G. Virgili[2], A. Kantungane[1], C. Gottlieb[1], S. G. Coupland[1].* [1]University of Ottawa Eye Institute; [2]Ophthalmology, University of Florence

5958 — *A0455* **Electrophysiological and pupillometric measures of inner-retina function in.on-proliferative diabetic retinopathy.** *Jason C. Park[1], J. McAnany[1, 2].* [1]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago; [2]Department of Bioengineering, University of Illinois at Chicago

5959 — *A0456* **Machine learning to identify multifocal ERG deficits in patients taking hydroxychloroquine..** *Tom Wright[1, 2], P. Yan[1, 2], M. Easterbrook[2].* [1]Kensington Vision & Research Centre; [2]Ophthalmology and Vision Sciences, University of Toronto

5960 — *A0457* **Full-field flicker electroretinograms in preterm infants at risk of retinopathy of prematurity (ROP).** *Daphne L. McCulloch[1], H. Mactier[3], R. Hamilton[2, 4].* [1]School of Optometry and Vision Sciences, University of Waterloo; [2]Department of Clinical Physics & Bioengineering, NHS Greater Glasgow & Clyde; [3]Neonatal Unit, Princess Royal Maternity Hospital; [4]College of Medical, Veterinary & Life Sciences, University of Glasgow ↗

5961 — *A0458* **Electroretinography anomalies in schizophrenia using a portable device.** *Marc Hebert[2, 1], G. Anne-Marie[2], M. Dubois[2], K. Francis[2].* [1]Ophthalmology, Université Laval; [2]CERVO Brain Research Center **CR*

5962 — *A0459* **Correlations between Optical Coherence Tomography Angiography Findings and Multifocal Electroretinogram Parameters in Diabetic Retinopathy Patients.** *Young-Hoon Ohn[1, 2], H. Kim[3, 2], E. Lee[3], J. Kim[1], K. Park[1], T. Park[1, 2].* [1]Department of Ophthalmology, Soonchunhyang University Hospital; [2]Department of Ophthalmology, College of Medicine, Soonchunhyang University; [3]Department of Ophthalmology, Soonchunhyang University Hospital

5963 — *A0460* **Long-term follow-up from a family with X-linked cone dystrophy phenotype.** *Sung E. Watanabe, D. M. Rocha, P. Y. Sacai, G. I. Botelho, J. F. Bueno, A. Barros-Filho, S. R. Salomao, A. Berezovsky.* Ophthalmology, Federal University of Sao Paulo

5964 — *A0461* **Preliminary Evidence for Clinical Relevance of Peripheral Pattern ERG in Diabetic Retinopathy.** *Shresta Patangay[2], J. C. Park[1], J. I. Lim[1], J. McAnany[1, 2], J. R. Hetling[2, 1].* [1]Ophthalmology and Visual Science, University of Illinois at Chicago; [2]Bioengineering, University of Illinois **CR*

West Exhibition Hall A0462-A0475

Thursday, May 02, 2019 8:00 AM-9:45 AM

Visual Neuroscience

514 Animal Electrophysiology

Moderator: Christopher L. Passaglia

5965 — *A0462* **Scotopic ERG Protocols for Rabbits.** *Jamila M. Ahmad[1], G. Ioshimoto[2], A. Liber[2], D. Ventura[2].* [1]MHIRT; [2]University of Sao Paulo

5966 — *A0463* **Development of An Automated Electroretinography Analysis Approach.** *Andrew Feola[1, 2], K. Chesler[1, 2], C. A. Worthy[1, 2], C. Motz[1], R. S. Allen[1, 2], C. R. Ethier[2], M. T. Pardue[1, 2].* [1]Center for Visual and Neurocognitive Rehabilitation, Veterans Affairs Health Care System; [2]Biomedical Engineering, Georgia Institute of Technology

5967 — *A0464* **From humans to mice: an equivalent of the ISCEV standard for full-field electroretinography for assessment of rod and cone function in mice.** *Arkady Lyubarsky[2, 3], J. Bennett[2, 1].* [1]FM Kirby Center for Mol Ophthal, SOM Univ**.** of Pennsylvania; [2]Center for Advanced Retinal and Ophthalmic Therapeutics (CAROT), Department of Ophthalmology, University of Pennsylvania; [3]Vision Research Center, University of Pennsylvania **CR*

5968 — *A0465* **K^+-dependent components of ERG generated by Muller cells in isolated mouse retina.** *Andrey Dmitriev[1], R. A. Linsenmeier[1, 2].* [1]Biomedical Engineering, Northwestern University; [2]Neurobiology, Northwestern University

5969 — *A0466* **Comparison of light-evoked spike trains, compound action potentials, and electroretinograms in rats.** *Youssef Mohamed[3], N. Johnson[1], R. T. Tzekov[2], C. L. Passaglia[3].* [1]Nueroscience, University of South Florida; [2]Opthamology, University of South Florida; [3]ChBME, University of South Florida

5970 — *A0467* **The Effect of the Glucose Substitution Through Succinate on the ERG of the Isolated Superfused Vertebrate Retina.** *Serge Sjapic[1, 2], F. Weller[1], P. Walter[1].* [1]Department of Ophthalmology, RWTH Aachen University; [2]Institute for Neurophysiology of the University of Cologne

5971 — *A0468* **A comparison of the electroretinogram in the cone-dominant thirteen-lined ground squirrel and the rod-dominant Brown Norway rat.** *Hanmeng Zhang[1, 2], B. S. Sajdak[1, 2], D. K. Merriman[3], J. Carroll[1, 2], M. A. McCall[4], D. M. Lipinski[2, 5].* [1]Department of Cell biology, Neurobiology and Anatomy, Medical college of wisconsin; [2]Department of Ophthalmology & Visual Science, Medical College of Wisconsin; [3]Department of Biology, University of Wisconsin Oshkosh; [4]Department of Ophthalmology and Visual Sciences, University of Louisville; [5]Nuffield Laboratory of Ophthalmology, University of Oxford

5972 — *A0469* **Clinically relevant timing of L-DOPA treatment in diabetic rats slows the progression of retinopathy.** *Kyle Chesler[4], C. Motz[4], R. S. Allen[4, 1], P. Iuvone[2, 3], M. T. Pardue[1, 4].* [1]Biomedical Engineering, Georgia Institute of Technology; [2]Department of Pharmacology, Emory University School of Medicine; [3]Department of Ophthalmology, Emory University School of Medicine; [4]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Healthcare System

5973 — *A0470* **Circadian disruption produces lasting retinal dysfunction in a type II diabetic rat model.** *Danielle ClarksonTownsend[1], R. S. Allen[2, 3], C. Motz[2], S. Sachdev[3], J. Fu[2, 3], M. T. Pardue[2, 3].* [1]Environmental Health, Rollins School of Public Health, Emory University; [2]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Healthcare System; [3]Biomedical Engineering, Geogia Institute of Technology

5974 — *A0471* **Do ganglion cells contribute to long-flash electroretinograms (ERGs) in chicks?** *Clement Afari, D. L. McCulloch, V. Choh.* School of Optometry and Vision Science, University of Waterloo

5975 — *A0472* **The Impact of Luminance and Temporal Frequency on S-Cone-Driven ERGs in Wildtype Mice and Mice with Long-Wavelength Absorption Spectra.** *Anneka Joachimsthaler[1, 2], J. J. Kremers[1].* [1]Dept**.** of Ophthalmology, University Hospital Erlangen; [2]Dept**.** of Biology, Animal Physiology, FAU Erlangen-Nürnberg

5976 — *A0473* **Electroretinogram of the pigmented rat: a normative study.** *Rafael Lani, H. Petrs-Silva, R. Linden, A. M. Dantas.* Federal University of Rio de Janeiro

5977 — *A0474* **Normative Values for Multifocal ERGs Recorded from Cynomolgus Macaques in a Non-clinical Setting.** *Yelena Krakova[1], C. B. Kim[2, 1], S. Eaton[1], B. J. Christian[3], E. Budzynski[3], J. Miller[3], T. Nork[1, 2], C. J. Murphy[1, 4], J. N. Ver Hoeve[2, 1].* [1]OSOD LLC; [2]Ophthalmology and Visual Sciences, School of Medicine and Public Health, University of Wisconsin-Madison; [3]Covance Laboratories; [4]Surgical and Radiological Sciences, School of Veterinary Medicine, University of California-Davis **CR*

Thursday Posters
8:00 am – 9:45 am

5978 — *A0475* **Dark adaptation of cone photoreceptors is modulated by autophagy.** *Vladimir Kefalov, A. V. Kolesnikov, Z. Zhou, T. Doggett, T. A. Ferguson.* Ophthalmology and Visual Sciences, Washington University School of Medicine

West Exhibition Hall A0476-A0503

Thursday, May 02, 2019 8:00 AM-9:45 AM

Retinal Cell Biology

515 Retinal Cell Biology

Moderators: Silvia C. Finnemann and Jakub Famulski

5979 — *A0476* **Deregulation of POS phagocytosis and retinal adhesion rhythms in *Prpf31*-mutant mice: implication of the RPE circadian clock.** *Elora Vanoni, E. F. Nandrot.* Institut de la Vision

5980 — *A0477* **Iron Regulates Canonical Wnt/β-catenin Signaling in Retina.** *Jaya P. Gnana-Prakasam, A. Mandala.* Ophthalmology, Saint Louis University

5981 — *A0478* **Lysosomal distribution and function may be affected by the cell type and spatial localization of the cell within the tissue.** *Nadezda A. Stepicheva[1], J. Weiss[1], P. Shang[1], M. Yazdankhah[1], S. Ghosh[1], I. A. Bhutto[1], S. L. Hose[1], J. S. Zigler, Jr[2], D. Sinha[1, 2].* [1]Ophthalmology, University of Pittsburgh; [2]Wilmer Eye Institute, Johns Hopkins University

5982 — *A0479* **Short-wavelength and near-Infrared fundus autofluorescence in blue light-illuminated *Abca4*$^{-/-}$ mice and a patient with Stargardt disease.** *Yuan Fang[1, 2], A. Tschulakow[1, 2], T. Taubitz[1], B. Illing[1], A. Burda[1], A. Biesemeier[1, 3], S. Julien[1], U. Schraermeyer[1, 2].* [1]Center for Ophthalmology, Division for experimental vitreoretinal surgery; [2]STZ OcuTox Preclinical Drug Assesment; [3]Natural and Medical Institute at the University of Tuebingen, Applied Material Science and Electron Microscopy

5983 — *A0480* **Development of a CRISPR dCas9-KRAB based strategy for treatment for dominant retinal degenerative blindness.** *Erin R. Burnight, J. A. Cooke, D. Klaahsen, L. M. Streb, L. M. Affatigato, R. F. Mullins, E. M. Stone, B. Tucker.* Institute for Vision Research, Ophthalmology and Visual Sciences, University of Iowa

5984 — *A0481* **Influence of Loss of Retinitis Pigmentosa 2 (*RP2*) and Retinitis Pigmentosa GTPase Regulator (*RPGR*) Genes on Inner Retina.** *Mahesh Shivanna[1], A. Short[1], B. Wadas[1], R. Periasamy[2], H. Khanna[2].* [1]School of Optometry, MCPHS University; [2]Ophthalmology, UMASS Medical School

5985 — *A0482* **Withdrawal_Precision Genome Surgery for Imprecision Medicine.** *Yang Kong, Y. Tsai, C. Cheng, Y. Li, S. H. Tsang.* Opthalmology, Columbia University Irving Medical Center

5986 — *A0483* **Analysis of retinal phenotype and complement homeostasis in aged Abca4$^{-/-}$ Rdh8$^{-/-}$ mice.** *Dimitrios Stampoulis, S. E. Moss.* Cell Biology, UCL Institute of Ophthalmology

5987 — *A0484* **Retinal Neurocytes are more Sensitive to Blue Light-induced Damage than Gliocytes Due to DNA Double-strand Breaks.** *Jing Zhuang, J. Qiu, P. Chen, Y. Wu, S. Chen, J. Zhang, K. Yu.* State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

5988 — *A0485* **The effect of intravitreal sodium iodate injection on the retinal degeneration in the canine after vitrectomy.** *So Min Ahn[1], C. Yun[1], M. Woo[1], B. Choi[1], J. Ahn[2], S. Cha[2], Y. Goo[2], S. Kim[1].* [1]Korea university; [2]Chungbuk National University

5989 — *A0486* **Expression of the Endoplasmic Reticulum Chaperone GRP78 in a Retinal Degeneration Model Induced by Blue LED Exposure.** *Yongsoo Park[1, 2], S. Lee[1, 2], I. KIM[1, 2].* [1]Department of Anatomy, College of Medicine, The Catholic University of Korea; [2]Catholic Neuroscience Institute, The Catholic University of Korea

5990 — *A0487* **Making eyes invisible to make things more visible: An optimized tissue clearing approach for three-dimensional imaging and high-throughput analysis of whole rodent eyes.** *Akshay Gurdita[2, 1], P. Nickerson[1], N. Pokrajac[2, 1], A. Ortin-Martinez[1], S. Tsai[1], L. Comanita[1], N. Tachibana[1], Z. Liu[1], D. Chen[3], R. Bremner[3], V. Wallace[1, 2].* [1]Donald K Johnson Institute, Krembil Research Institute, University Health Network; [2]Laboratory of Medicine and Pathobiology, University of Toronto; [3]Lunenfeld-Tanenbaum Research Institute Mount Sinai Hospital

5991 — *A0488* **Prolactin Expression is Induced in Photoreceptors of Degenerating Retina.** *Raghavi Sudharsan, L. Murgiano, G. D. Aguirre, W. A. Beltran.* Clinical Sciences and Advanced Medicine, University of Pennsylvania

5992 — *A0489* **Deoxygedunin activates autophagic mechanisms in retinal cells through its modulatory effects on TrkB and p75NTR.** *Abubakar Siddiq Mangani, C. Joseph, M. Mirzaei, V. Gupta, S. L. Graham.* Macquarie University

5993 — *A0490* **Characterization of DL-2-aminoadipic acid-induced histopathological changes in nonhuman primate retina.** *Shervin Liddie, C. Patel, W. Hu, R. J. Goody, M. S. Lawrence.* RxGen Inc.

5994 — *A0491* **MacTel patients carry rare phosphoglycerate dehydrogenase (PHGDH) variants with reduced enzymatic activity.** *Regis Fallon[1], R. Berlow[2], J. Zernant[3], T. Nagasaki[3], M. Gantner[1], S. Harkins-Perry[1], K. Eade[1], R. Allikmets[3], M. Friedlander[4].* [1]Lowy Medical Research Institute; [2]Department of Integrative Structural and Computational Biology, The Scripps Research Institute; [3]Department of Ophthalmology, Columbia University; [4]Department of Molecular Medicine, The Scripps Research Institute

5995 — *A0492* **Using Mass Spectrometry to Elucidate Sex-Dependent Electroretinogram Variability.** *Jarrod C. Harman, J. J. Guidry, N. Lanson, J. Gidday.* LSUHSC-NO

5996 — *A0493* **Differential Expression of Sumoylation Enzymes in Normal Ocular Tissues and Mouse Models for Major Ocular Diseases.** *Qian Nie, D. W. Li.* Zhongshan Ophthalmic Center, Sun Yat-sen University

5997 — *A0494* **Identification of tau protein kinases in mixed rat retinal cell cultures.** *Teresa Mammone, G. Chidlow, R. J. Casson, J. P. Wood.* Ophthalmic Research Laboratories, University of Adelaide

5998 — *A0495* **Effect of nitro-oleic acid on the oxidative stress and glial reactivity in Müller Glial Cells.** *María V. Vaglienti, M. E. Ridano, P. Subirada, M. C. Paz, P. F. Barcelona, G. R. Bonacci, M. C. Sanchez.* Bioquímica Clínica, Facultad de Ciencias Químicas, UNC, CIBICI-CONICET

5999 — *A0496* **Evaluation of Müller cell attachment to various functional amino-acid sequences.** *YOICHIRO SHINKAI[1], K. Kojima[1], H. Tanaka[1], K. Kuroda[2], s. Ichise[2], H. Nose[3], C. Sotozono[1], T. Koide[2].* [1]Kyoto Prefectural University of Medicine; [2]Waseda University of Advanced Science and Engineering; [3]Kola-Gen Pharma ***CR***

6000 — *A0497* **Reduced retinal glial cell proliferation on nanowire arrays.** *Vijayalakshmi Rajendran[1, 3], M. Lard[2, 3], B. Custódio[1, 2], T. Olsson[1, 2], C. Prinz[2, 3], M. Perez[1, 3].* [1]Dept. of Clin. Sciences, Div. of Ophthalmology, BMC, B11, SE-221 85, Lund University; [2]Dept. of Physics, Div. of Solid State Physics, Box 118, SE-221 00, Lund University,; [3]Nanolund Box 118, SE-221 00

6001 — *A0498* **Expression Of B7H3 in Ocular Tissues.** *Bhuvaneswari Ganesan[1], K. Subramanium[1], S. Parameswaran[1], A. Sharma[2].* [1]Histopathology, Vision research Foundation; [2]Chemistry and Biology, Indian Institute of Science Education and Research ***CR***

Thursday Posters 8:00 am – 9:45 am

6002 — *A0499* **Withdrawal_Complement Landscape of Human Retina based on Single-Cell Transcriptomics.** *Dwight Stambolian[1], N. Dana[1], Y. Lyu[2], S. Liu[6], P. D. Gamlin[3], C. A. Curcio[3], C. E. Strang[4], R. Zauhar[5], M. Li[2].* [1]Ophthalmology, University of Pennsylvania; [2]Biostatistics and Epidemiology, University of Pennsylvania; [3]Ophthalmology and Visual Sciences, University of Alabama at Birmingham; [4]Psychology, University of Alabama at Birmingham; [5]Chemistry and Biochemistry, Univeristy of the Sciences in Philadelphia; [6]Biochemistry and Molecular Genetics, University of Alabama at Birmingham

6003 — *A0500* **Analysis of markers of regeneration in adult Zebrafish retina through single-cell RNA sequencing.** *Eyad Shihabeddin, A. Santhanam, J. O'Brien.* UTHealth

6004 — *A0501* **Melanopsin mRNAs isoforms in the rabbit retina.** *Adriana Sanchez-Maldonado, M. Aguirre-Ramirez, J. Pérez-León.* Instituto de Ciencias Biomédicas, Universidad Autónoma de Ciudad Juárez

6005 — *A0502* **Retinal amyloid beta load in Alzheimer's disease.** *Kailun Jiang[1, 2], S. Lee[2, 3], B. Mcilmoyle[2], V. Hirsch-Reinshagen[2], I. Mackenzie[2], R. Hsiung[2], C. Tang[2], B. Eadie[3], M. V. Sarunic[4], M. F. Beg[4], J. Z. Cui[2], J. A. Matsubara[2].* [1]Moorfields Eye Hospital, NHS foundation trust; [2]Department of Ophthalmology and Visual Sciences, University of British Columbia; [3]Department of Ophthalmology & Visual Sciences, Dalhousie University; [4]School of Engineering Science, Simon Fraser University

6006 — *A0503* **Ocular biomarkers of Alzheimer's disease (AD): Distribution of amyloid-beta in human AD and non-AD retina.** *Qinyuan (Alis) Xu[1], S. Lee[1, 2], V. Hirsch-Reinshagen[1], I. Mackenzie[1], R. Hsiung[1], G. Charm[1], E. To[1], K. Jiang[1], M. V. Sarunic[2], M. F. Beg[2], J. Z. Cui[1], E. To[1], J. A. Matsubara[1].* [1]University of British Columbia; [2]School of Engineering, Simon Fraser University

West Exhibition Hall A0504-A0529

Thursday, May 02, 2019 8:00 AM-9:45 AM

Retinal Cell Biology

516 Retinal Development

Moderator: Michael H. Farkas

6007 — *A0504* **Adhesion Dynamics During Choroid Fissure Closure in a Developing Zebrafish Eye.** *Andrea James[1], Z. Murry[1], J. Pardue[1], T. Likes[1], M. Meyer[2].* [1]Biology, University of Northern Colorado; [2]Shared Equipment Authority, Rice University

6008 — *A0505* **Zika virus infection induces retinal neuronal and vascular defects during development.** *Yi Li[1, 2], C. Shan[3], Y. Ha[1], F. Xia[1, 4], H. Liu[1], P. Shi[3], W. Zhang[1, 5].* [1]Department of Ophthalmology and Visual Sciences, University of Texas Medical Branch; [2]Tianjin Medical University Eye Hospital; [3]Department of Biochemistry & Molecular Biology, University of Texas Medical Branch; [4]Department of Ophthalmology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology; [5]Departments of Neuroscience, Cell Biology & Anatomy

6009 — *A0506* **Rapid macrophage-mediated clearance of apoptosis-fated cells during zebrafish retinal development.** *Diana Mitchell, A. G. Lovel, J. Lambert.* Biological Sciences, University of Idaho

6010 — *A0507* **Transcriptional comparison of developing and developed human macular retina and RPE-choroid.** *Andrew P. Voigt[2, 1], S. S. whitmore[2, 1], M. J. Riker[2, 1], K. Varzavand[2, 1], T. E. Scheetz[2, 1], E. M. Stone[2, 1], B. Tucker[2, 1], R. F. Mullins[2, 1].* [1]Ophthalmology & Visual Sciences, University of Iowa; [2]Institute for Vision Research

6011 — *A0508* **LKB1 instructs cellular development and laminar patterning of dopaminergic amacrine cells.** *Justine H. Liang[1, 3], A. Casasent[2, 3], C. A. Burger[1, 3], M. Samuel[2, 3].* [1]Integrative Molecular and Biomedical Sciences, Baylor College of Medicine; [2]Neuroscience, Baylor College of Medicine; [3]Huffington Center of Aging, Baylor College of Medicine

6012 — *A0509* **Growth hormone-releasing hormone receptor signaling in rat retinal development.** *Qichen Yang[1], C. Wang[2], S. Chan[3], H. Cheung[4, 5], A. Schally[6, 7], C. C. Pang[1, 8], T. Ng[1, 8].* [1]Ophthalmology and Visual Sciences, the Chinese University of Hong Kong; [2]Obstetrics and Gynaecology, The Chinese University of Hong Kong; [3]School of Biomedical Sciences, The Chinese University of Hong Kong; [4]Geriatric Research, Miami Veterans Affairs Medical Center; [5]Biomedical Engineering, University of Miami; [6]Endocrine, Polypeptide and Cancer Institute, Veterans Affairs Medical Center; [7]Department of Endocrinology, University of Miami; [8]Joint Shantou International Eye Center of Shantou University and the Chinese University of Hong Kong

6013 — *A0510* **The direct reprogramming of retinal astrocytes into neurons with small-molecule compounds.** *Yuya Fujii, M. Arima, S. Shimokawa, Y. Murakami, K. Sonoda.* Kyushu University

6014 — *A0511* ***Dixdc1* modulates AII amacrine cell number in the mouse retina.** *Bridget Kulesh[1, 2], P. W. Keeley[2], B. E. Reese[3, 2].* [1]Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara; [2]Neuroscience Research Institute, University of California, Santa Barbara; [3]Psychological and Brain Sciences, University of California, Santa Barbara

6015 — *A0512* **BMP Signaling mediates choroid fissure closure by remodeling the retinal epithelium and regulating embryonic vasculature.** *Seema Agarwala[1, 2], C. S. Bernstein[1], a. ramchandran[1].* [1]Molecular Biosciences, Univ of Texas Austin; [2]Institute for Cell and Molecular Biology, University of Texas at Austin

6016 — *A0513* **Nf2 is required during late stages of optic fissure closure in the developing mouse eye.** *Sabine Fuhrmann, K. Spiller, W. Sun.* Ophthal & Vis Sci, Vanderbilt University Medical Center

6017 — *A0514* **Migratory neural crest directs optic cup morphogenesis by depositing nidogens to build extracellular matrix superstructure.** *Kristen Kwan[1], C. Bryan[1], M. Casey[1], R. L. Pfeiffer[2], B. W. Jones[2].* [1]Human Genetics, University of Utah; [2]Ophthalmology and Visual Sciences, University of Utah

6018 — *A0515* **Bim Expression Modulates Retinal Astrocyte Function through Regulation of the Extracellular Microenvironment.** *Christine M. Sorenson, J. Falero-Perez, N. Sheibani.* University of Wisconsin School of Medicine and Public Health

6019 — *A0516* **Functional studies of Znhit1 in the mouse retinal development.** *Jianhong An[1], J. Lu[1], X. Cao[1], X. Lin[2, 3], X. Zhou[1].* [1]School of Ophthalmology and Optometry, Wenzhou Medical University; [2]State Key Laboratory of Genetic Engineering, Institute of Genetics, Collaborative Innovation Center of Genetics and Development, School of Life Sciences, Fudan University; [3]Division of Developmental Biology, Perinatal Institute, Cincinnati Children's Hospital Medical Center

6020 — *A0517* **Ndr influences Nestin expression in mouse retinal neuroblasts.** *Helene Leger, F. C. Luca.* School of Veterinary Medicine

6021 — *A0518* **Role of somatostatin in determining cell type in the developing retina.** *Kurt Weir[1], S. Blackshaw[2].* [1]Mckusick/Nathans Institute of Genetic Medicine, Johns Hopkins School of Medicine; [2]Neuroscience, Johns Hopkins School of Medicine

6022 — *A0519* **OTX2 controls cell fate in the developing retina.** *Miruna G. Ghinia-Tegla[1], D. F. Buenaventura[1, 2], D. Kim[1], C. Thakurdin[1], K. C. Gonzalez[1], M. Emerson[1].* [1]Biology, CCNY, CUNY; [2]CUNY Graduate Center

6023 — *A0520* **NFIA is essential for functional AII amacrine cells.** *Patrick W. Keeley[1], B. E. Reese[1, 2].* [1]Neuroscience Research Institute, University of California, Santa Barbara; [2]Psychological and Brain Sciences, University of California, Santa Barbara

6024 — *A0521* **Inhibiting Sox2 expression in developmental mouse retina leads to increased retina bipolar cells.** *Yumeng Shen, Y. Li, Y. Shen.* Wuhan University

Thursday Posters 8:00 am – 9:45 am

6025 — *A0522* **Regulation of mRNA decay by Zfp36l1 and Zfp36l2 in retinal development and maintenance.** *Xiuqian Mu[1], F. Wu[1], T. J. Kaczynski[1], M. Turner[2], T. Liu[3].* [1]Ophthalmology, University at Buffalo; [2]The Babraham Institute; [3]Biochemistry, University at Buffalo

6026 — *A0523* **Identifying the role of Sox2 in mediating FGF-WNT signaling interaction in the developing ciliary margin.** *Revathi Balasubramanian, C. Tao, K. Polanco, X. Zhang.* Columbia University

6027 — *A0524* **Molecular targets of homeodomain transcription factor Six3 and Six6 in murine retinal differentiation.** *Wei Liu, R. Diacou, Y. Zhao, D. Zheng, A. Cvekl.* Albert Einstein College of Med

6028 — *A0525* **Mutation of Bmp3 represents a novel cause of ocular coloboma.** *Lisa Prichard[1], S. Widen[2], O. J. Lehmann[3], A. Waskiewicz[2].* [1]Department of Biological Sciences, MacEwan University; [2]Department of Biological Sciences, University of Alberta; [3]Department of Medical Genetics, University of Alberta

6029 — *A0526* **Müller Glia Lose Neurogenic Potential over Development.** *Leah VandenBosch[1], S. G. Wohl[2], K. Cox[1], L. Chipman[1], T. Reh[1].* [1]Biological Structure, University of Washington; [2]College of Optometry, SUNY

6030 — *A0527* **Identification of Key miRNAs and Genes for Mouse Retinal Development Using a Linear Model.** *Yi Shen Wang, M. Li, X. Wang, J. Lu, L. Lu, Y. Luo.* Zhongshan Ophthalmic Center, Sun Yat-sen University

6031 — *A0528* **MicroRNAs in Foveal Development.** *Anna La Torre, C. L. Fairchild, S. Cheema, J. Wong.* Cell Biology and Human Anatomy, University of California Davis

6032 — *A0529* **Roles of Mechanistic Target of Rapamycin Complexes in Retinal Development and Visual Function.** *Dejuan Kong, H. Hager, S. Shanmugam, L. Elghazi, P. E. Fort, T. W. Gardner, S. F. Abcouwer.* Ophthalmology and Visual Sciences, University of Michigan

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West Exhibition Hall A0530-A0549

Thursday, May 02, 2019 8:00 AM-9:45 AM

Retinal Cell Biology

517 Photoreceptor Cell & Developmental Biology

Moderators: Deborah L. Stenkamp and Sabine Fuhrmann

6033 — *A0530* **Functional diversity of *Otx2* and *Crx* in retinal development.** *Haruka Yamamoto, Y. Omori, T. Kon, T. Furukawa.* Institute for Protein Research, Osaka university

6034 — *A0531* **The Snf2h/Smarca5 Chromatin Remodeling Protein is Essential for Retinal Structure and Function.** *Pamela S Lagali[1, 3], A. N. Baker[1, 3], K. Yan[2], D. J. Picketts[2, 4], C. Tsilfidis[1, 3].* [1]Neuroscience, Ottawa Hospital Research Institute; [2]Regenerative Medicine, Ottawa Hospital Research Institute; [3]University of Ottawa Eye Institute; [4]Biochemistry, Microbiology & Immunology, University of Ottawa

6035 — *A0532* **Loss of Her9/HES4 in zebrafish disrupts photoreceptor development.** *Cagney Coomer, A. C. Morris.* University of Kentucky

6036 — *A0533* **The microRNA *miR-18a* regulates photoreceptor regeneration.** *Scott M. Taylor, E. Magner.* Biology, University of West Florida

6037 — *A0534* **Topographic Patterns of Regenerated Retinal Neurons in Zebrafish.** *Derek Viall, D. Mitchell, D. L. Stenkamp.* Biological Sciences, University of Idaho

6038 — *A0535* **What makes the fovea so special?** *Todd E. Scheetz[1, 2], A. Voigt[1, 2], A. Deluca[1, 2], E. Burnight[1, 2], S. S. whitmore[1, 2], B. Tucker[1, 2], E. M. Stone[1, 2], R. F. Mullins[1, 2].* [1]University of Iowa; [2]Institute for Vision Research

6039 — *A0536* **Thyroid hormone regulates the tandemly-quadruplicated *rh2* cone opsin gene array in zebrafish.** *Ashley Farre, R. Mackin, D. L. Stenkamp.* University of Idaho

6040 — *A0537* **A novel *in vitro* model of intracellular protein exchange between primary photoreceptors.** *Nicole Yan[1, 2], L. Comanita[2], Z. Liu[2], A. Ortin-Martinez[2], E. Tsai[2], N. Tachibana[2], V. Wallace[2, 3].* [1]Laboratory Medicine & Pathobiology, University of Toronto; [2]Donald K. Johnson Eye Institute; [3]Ophthalmology and Vision Science, University Of Toronto

6041 — *A0538* **LKB1 regulates cone driven laminar stratification in the outer retina.** *Melanie Samuel, C. A. Burger, A. Casasent, J. Alevy, D. Jiang, N. Albrecht, J. Liang.* Baylor College of Medicine

6042 — *A0539* **Peripherin-2/rds (P/rds) self-assembly drives membrane curvature generation.** *Michelle L. Milstein, B. L. Cavanaugh, A. F. Goldberg.* Eye Research Institute, Oakland University

6043 — *A0540* **Utilizing CRISPR to perturb photoreceptor/bipolar enhancer mediated cell fate decisions in the mouse retina.** *Noah Goodson[1, 2], J. A. Brzezinski[1].* [1]Ophthalmology, University of Colorado Denver; [2]Neuroscience Program, University of Colorado Denver

6044 — *A0541* **ASCOT identifies key regulators of photoreceptor-specific splicing.** *Jonathan Ling, C. Wilks, C. Santiago, B. Clark, B. Langmead, S. Blackshaw.* Johns Hopkins School of Medicine

6045 — *A0542* **Transcriptome analysis of adult zebrafish LWS1 vs LWS2 (long wavelength sensitive) cones.** *Deborah L. Stenkamp[1], A. L. Farre[1], C. SUN[1], M. Starosik[2], L. Gieser[2], M. English[2], A. Swaroop[2].* [1]Biological Sciences, University of Idaho; [2]National Eye Institute

6046 — *A0543* **Interdependency of photoreceptor matrix proteoglycans IMPG1 (SPACR) and IMPG2 (SPARCAN) in mouse vision.** *Ezequiel M. Salido, V. Ramamurthy.* Ophthalmology, West Virginia University

6047 — *A0544* **Inactivation of syntaxin 3B in rod photoreceptors causes photoreceptor degeneration.** *Roger Janz, X. Liu, S. Punuru, R. Heidelberger.* Neurobiology & Anatomy, UT Houston Med Sch

6048 — *A0545* **Spontaneous in vitro generation of rhodopsin with all-trans retinal.** *Anne M. Hanneken[1, 2], M. Kono[3].* [1]Molec & Exp Med, Scripps Research Institute; [2]Retina Consultants San Diego; [3]Ophthalmology, Medical University of South Carolina

6049 — *A0546* ***BDNF mediated non-canonical regulation of transcription factor and cytoskeletal proteins in retinal photoreceptor cells.*** *Chitra Joseph, K. Kamath, F. Veljanoski, Y. Wu, A. Mangani, M. Mirzaei, V. Gupta, S. L. Graham.* Macquarie University

6050 — *A0547* **ER-resident BH3-only protein, BNip1, is a safe guard that limits the upper threshold of vesicular transport.** *Yuko Nishiwaki, I. Masai.* Okinawa Insititute of Science and Tecnology

6051 — *A0548* **Characterization of primary cilia in mouse retina during retinal development.** *Ke Ning[1], T. Kowal[1], K. Chang[1], J. A. Alvarado[1], R. A. Silva[1], A. Kreymerman[1], V. B. Mahajan[1], Y. Hu[1], Y. Sun[1, 2].* [1]Department of Ophthalmology, Stanford University; [2]Palo Alto VA medical center

6052 — *A0549* **PRCD supports the organized structure of the photoreceptor outer segment.** *WILLIAM SPENCER[1], J. N. Pearring[2], J. Ding[1], N. P. Skiba[1], M. E. Burns[3], V. Y. Arshavsky[1].* [1]Duke University; [2]University of Michigan; [3]University of California Davis

West Exhibition Hall A0550-A0573

Thursday, May 02, 2019 8:00 AM-9:45 AM

Genetics Group

518 Functional Genomics Characterization and animal models

Moderator: Baojian Fan

6053 — *A0550* **Transcriptome of the canine macular RPE/choroid and retina: parallels with human macular gene expression.** *Freya Mowat[1], M. Foster[1], D. Jima[2, 3].* [1]Clinical Sciences, North Carolina State University; [2]Center for Human Health and the Environment, North Carolina State University; [3]Bioinformatics Research Center, College of Sciences, North Carolina State University

6054 — *A0551* **Multimodal genomic analysis of hydroxychloroquine toxicity in a large cohort.** *Ehsan Ullah[1], D. McGaughey[1], A. Turriff[1], P. A. Sieving[2], R. B. Hufnagel[1], C. A. Cukras[3].* [1]Ophthalmic Genetics and Visual Function Branch, National Eye Institute; [2]National Eye Institute; [3]The Division of Epidemiology and Clinical Applications, National Eye Institute

6055 — *A0552* **CRISPR/Cas9-targeted enrichment and long-read sequencing of the Fuchs endothelial corneal dystrophy-associated *TCF4* triplet repeat.** *Alice E. Davidson[1], N. J. Hafford Tear[1], Y. Tsai[2], A. Sadan[1], B. Sanchez-Pintado[1], C. Zarouchlioti[1], P. Liskova[1, 3], S. J. Tuft[1, 4], T. A. Clark[2], A. J. Hardcastle[1].* [1]Institute of Ophthalmology, UCL; [2]Pacific Biosciences; [3]Department of Ophthalmology, Charles University and General University Hospital in Prague; [4]Moorfields Eye Hospital ***CR***

6056 — *A0553* **Small molecules restore the expression and function of mutant alleles underpinning autosomal dominant and recessive inherited retinal dystrophies.** *Jingshu Liu, F. Manson, G. Black.* The University of Manchester

6057 — *A0554* **Remarkable decrease of *rbp1* expression as hallmark of zebrafish eye with digenic *eys*$^{+/-}$; *lrp5*$^{+/-}$ retinitis pigmentosa-candidate mutations.** *Shimpei Takita, Y. Seko.* Department of Rehabilitation for Sensory Functions, National Rehabilitation Center for Persons with Disabilities Research Institute

6058 — *A0555* **Characterization of Retinal Vascular Development in *fzd4*$^{-/-}$ Zebrafish with Familial Exudative Vitreoretinopathy (FEVR).** *Harald Gjerde[1], L. Cáceres[3], M. Ngo[2], E. Cairns[2], S. Prykhozhij[3], S. van der Ende[2], C. McMaster[2], J. Berman[3], J. M. Robitaille[1].* [1]Ophthalmology & Visual Sciences, Dalhousie University; [2]Pharmacology, Dalhousie University; [3]Pediatrics, Dalhousie University ***CR***

6059 — *A0556* **Phenotype characterization and transcript analysis in *RCBTB1*-associated retinopathy.** *Zhiqin Huang[1], S. McLenachan[1, 2], D. Zhang[1, 2], J. A. Thompson[3], S. Jamuar[4, 5], T. McLaren[3], T. Lamey[2, 3], E. Chelva[6], J. Roach[2, 3], C. Chan[7], F. K. Chen[1, 2].* [1]The University of Western Australia; [2]Lions eye institute; [3]Australian Inherited Retinal Disease Registry and DNA Bank, Sir Charles Gairdner Hospital; [4]Genetics service, Department of Paediatrics, KK Women's and Children's Hospital; [5]Paediatric Academic Clinical Programme, Duke-NUS Medical School; [6]Medical Technology and Physics, Sir Charles Gairdner Hospital; [7]Medical Retina Department, Singapore National Eye Centre

6060 — *A0557* **Forward genetics: searching for novel genes essential to retinal development and homeostasis.** *Rafael Ufret-Vincenty[4], B. Aredo[4], B. Chen[4, 2], Y. Zhu[4, 1], Y. Ding[4, 3], C. X. Zhao[4], B. Beutler[5].* [1]Ophthalmology, Shenzhen Eye Hospital; [2]Ophthalmology, Tongji Hospital; [3]Ophthalmology, Central Hospital of Wuhan; [4]Ophthalmology, UT Southwestern Medical Center; [5]Center for the Genetics of Host Defense, UT Southwestern Medical Center

6061 — *A0558* **Withdrawal_Fast retinal degenerations in mice with two different mutations in the Microphthalmia-associated transcription factor (*Mitf*) gene.** *Thor Eysteinsson[1, 2], A. García Llorca[1, 3], T. B. Gudmundsdóttir[1], M. H. Ögmundsdóttir[3], E. Steingrímsson[3].* [1]Physiology, BioMedical Center, Faculty of Medicine, University of Iceland; [2]Ophthalmology, National University Hospital; [3]Biochemistry and Molecular Biology, BioMedical Center, Faculty of Medicine, University of Iceland

6062 — *A0559* **Gene editing of mouse *Lrrtm4*, a bipolar synaptic protein, responsible for macular dystrophy in human, shows photoreceptor degeneration by light stimulation.** *Akiko Suga[1], M. Yamamoto[2], T. Iwata[1].* [1]National Institute of Sensory Organs, National Hospital Organization; [2]JAC ***CR***

6063 — *A0560* ***In vivo* molecular imaging of endoglin mRNA using anti-sense shRNA-lipid bioconjugates as predictive biomarkers of neovascularization.** *Md Imam Uddin, T. C. Kilburn, J. S. Penn.* Ophthalmology, Vanderbilt University School of Medicine

6064 — *A0561* **Vps13b knockout mice are affected with Cohen syndrome's ophthalmic issues.** *Romain Da Costa[1, 2], V. Lhussiez[1], Q. Cesar[3], E. Dubus[3], M. Simonutti[3], E. F. Nandrot[3], N. Acar[4], L. Bretillon[4], S. A. Picaud[3], L. Faivre[1, 2], C. Thauvin[1, 2], L. Duplomb[1, 2].* [1]Genetics of Developmental Disorders - Team COHEN, INSERM UMR1231 - Université de Bourgogne; [2]FHU TRANSLAD, CHU Dijon; [3]Sorbonne Université, INSERM, CNRS, Institut de la Vision; [4]Eye, Nutrition and Signalization Research Group, UMR CSGA 1324 INRA - 6265 CNRS - Université de Bourgogne

6065 — *A0562* **Remodeling in rescued RP retina.** *Susanne Koch[1], J. Kajtna[1], S. Tsang[2].* [1]Physiology, LMU; [2]Ophthalmology, Columbia University

6066 — *A0563* **Vision and myelination defects due to loss of Vps11 function in a zebrafish model of genetic leukoencephalopathy.** *Ryan Thummel[1], S. Banerjee[1], L. Ranspach[1], X. Luo[1], D. Bessert[1], J. Fogerty[2], B. D. Perkins[2], R. Skoff[1].* [1]Ophthalmology, Visual and Anatomical Sciences, Wayne State University School of Medicine; [2]Cleveland Clinic Foundation

6067 — *A0564* **Identification of a Novel Nonhuman Primate Model of Bardet-Biedl Syndrome.** *Martha Neuringer[1, 2], L. Renner[1], J. Stoddard[1], S. Peterson[1], B. Ferguson[1], A. Lewis[1], L. Colgin[1], K. Prongay[1], C. Cullin[1], B. Dozier[1], D. J. Wilson[2], J. Gayet[3], T. Puthussery[3], T. J. McGill[2, 1].* [1]Oregon National Primate Research Center, Oregon Health & Science University; [2]Casey Eye Institute, Oregon Health & Science University; [3]School of Optometry, University of California Berkeley

6068 — *A0565* **Meta-Analysis of Genetic Expression Profiles in Glaucoma.** *Clara Castillejo Becerra[1], A. Sabbagh[2], J. Aljabban[1], S. Frank[1], A. Tahboub[3], D. Hadley[4].* [1]The Ohio State University College of Medicine; [2]University of Michigan Medical School; [3]Central Michigan University College of Medicine; [4]Institute for Computational Health Sciences, University of California, San Francisco

6069 — *A0566* **Neuroprotective effects of SS-31 on retinal ganglion cell in experimental model of glaucoma by improving mitochondrial function.** *Shenghai Zhang.* Eye and ENT hospital, Fudan University

6070 — *A0567* **Manipulating Gene Expression of Human Lamina Cribrosa Cells and Astrocytes.** *Jr-Jiun Liou[1], S. Tien[2], M. Yee[2], P. R. Kinchington[2], C. A. Girkin[3], J. P. Vande Geest[1, 2].* [1]Department of Bioengineering, University of Pittsburgh; [2]Department of Ophthalmology, University of Pittsburgh; [3]Department of Ophthalmology and Visual Sciences, University of Alabama at Birmingham

6071 — *A0568* **DNA Methylation of human trabecular meshwork: searching for biomarkers of glaucoma.** *Vicente Zanon-Moreno[1], S. M. Sanz-Gonzalez[2, 3], J. Garcia-Medina[4, 3], M. D. Pinazo-Duran[2, 3], O. Coltell[5, 6], D. Corella[7, 6].* [1]Area of Health Sciences, Valencian International University - VIU; [2]Ophthalmology Research Unir "Santiago Grisolia", FISABIO; [3]Thematic Network of Cooperative Research in Ocular Pathology (OFTARED), Carlos III Health Institute; [4]Department of Ophthalmology, Morales Meseguer University General Hospital; [5]Department of Computer Languages and Systems, Universitat Jaume I; [6]CIBER Fisiopatología de la Obesidad y Nutrición, Instituto de Salud Carlos III; [7]Department of Preventive Medicine & Public Health, University of Valencia

Thursday Posters 8:00 am – 9:45 am

6072 — *A0569* **Identifying Genes that Underlie Exfoliation Syndrome using Genetically Determined Gene Expression.** *Jibril Hirbo[1], F. Pasutto[2], P. Pawar[3], J. Sealock[1], P. Evans[1], E. Gamazon[1], R. Tao[1], A. Reis[2], D. Berner[4], U. Schlotzer-Schrehardt[4], M. A. Brantley[3], C. Khor[5], N. Cox[1], K. M. Joos[3].* [1]Vanderbilt University School of Medicine; [2]Institute of Human Genetics, Friedrich-Alexander-Universität Erlangen-Nürnberg FAU; [3]Vanderbilt Eye Institute; [4]Ophthalmology, Universitätsklinikum Erlangen; [5]Singapore Eye Research Institute

6073 — *A0570* **Long-non coding RNAs associated to Fuch's Dystrophy: a bioinformatic analysis.** *Judith Zavala, J. Valdez-García, R. Cuevas-Diaz Duran.* Escuela de Medicina, Tecnologico de Monterrey

6074 — *A0571* **miR-199b-5p directly regulates the expression of ZEB1 and Snail1 in corneal endothelial cells.** *Matilda F. Chan[1, 2], D. Weisenberger[3], S. Zheng[1], M. Wolf[1], D. G. Hwang[1, 2], J. Rose-Nussbaumer[2, 1], U. V. Jurkunas[4, 5], P. Pan[1].* [1]Ophthalmology, Univ of California-San Francisco; [2]Proctor Foundation, University of California, San Francisco; [3]Biochemistry and Molecular Medicine, University of Southern California; [4]Ophthalmology, Harvard Medical School; [5]Schepens Eye Research Institute, Massachusetts Eye and Ear

6075 — *A0572* **Mapping mRNA expression of glaucoma genes in healthy mouse eyes.** *Theo G. Gorgels[1], W. H. Hubens[1, 3], W. D. Ramdas[2], C. A. Webers[1].* [1]University Eye Clinic Maastricht, Maastricht University Medical Center; [2]Ophthalmology, Erasmus Medical Center; [3]School for Mental Health and Neuroscience, University Maastricht **CR*

6076 — *A0573* **Development of a rapid and cost-effective CRISPR-based molecular detection platform for a novel myocilin mutation in rural Philippines.** *Edward Ryan Collantes[1, 2], N. Pendse[1, 2], A. Dy[2], J. Gootenberg[2], O. Abudayyeh[2], B. Fan[1], J. J. Collins[2], F. Zhang[2], E. A. Pierce[1, 2], Q. Liu[1], J. L. Wiggs[1, 2].* [1]Harvard Medical School, Mass Eye and Ear; [2]Broad Institute of MIT and Harvard

West Exhibition Hall A0574-A0584a

Thursday, May 02, 2019 8:00 AM-9:45 AM

Multidisciplinary Ophthalmic Imaging Group

519 Functional and Molecular Imaging

Moderator: Morgan Heisler

6077 — *A0574* **The effect of reduced oxygen delivery and metabolism on electroretinogram b-wave in rats.** *Nathanael Matei[1], J. Burford[1], S. Leahy[1], S. L. Auvazian[1], B. Thomas[1], N. P. Blair[2], M. Shahidi[1].* [1]Ophthalmology, University of Southern California; [2]Ophthalmology and Visual Sciences, University of Illinois at Chicago **CR*

6078 — *A0575* **Imaging of Retinal Oxygen Delivery and Metabolism in Diabetic Retinopathy.** *Mahnaz Shahidi[1], S. Leahy[1], S. L. Auvazian[1], O. Tan[2], D. Huang[2], A. H. Kashani[1], A. A. Moshfeghi[1], H. Ameri[1], N. P. Blair[3].* [1]Ophthalmology, University of Southern California; [2]Ophthalmology, Oregon Health & Science University; [3]Ophthalmology & Visual Sciences, University of Illinois at Chicago **CR*

6079 — *A0576* **Extensive impact of selective retina treatment on RPE metabolism: insights from fluorescence lifetime measurement.** *Svenja R. Sonntag[1], A. Hutfilz[3, 2], B. Lewke[2, 3], D. Theisen-Kunde[3], R. Brinkmann[2, 3], S. Grisanti[1], Y. Miura[1, 2].* [1]Department of Ophthalmology, University Hospital Schleswig-Holstein, Campus Lübeck; [2]Institute of Biomedical Optics, University of Lübeck; [3]Medical Laser Center Lübeck

6080 — *A0577* **Establishing a normative database to monitor mitochondria flavoprotein fluorescence in the retina.** *Grant L. Hom[1], R. Raimondi[1], T. F. Conti[1], J. Hsueh[1, 2], R. P. Singh[1].* [1]Cole Eye Institute, Cleveland Clinic; [2]Case Western Reserve University School of Medicine **CR*

6081 — *A0578* **The effect of different flicker contrasts on the Dynamic Vessel Analysis.** *Sascha Klee, D. Link.* Biomed Eng & Informatics, Technische Universitaet Ilmenau

6082 — *A0579* **Real time eye-tracking and blinking compensation for artefact-free acquisition of polarisation-sensitive OCT volumes.** *Florian Schwarzhans[1], S. Desissaire[3], S. Steiner[2], H. Resch[2], M. Pircher[3], C. K. Hitzenberger[3], C. Vass[2], G. Fischer[1].* [1]Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna; [2]Department of Ophthalmology and Optometry, Medical University of Vienna; [3]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna

6083 — *A0580* **Functional imaging of retinal neurons using OCT.** *Clara Pfäffle[2, 1], D. Hillmann[3, 2], H. Spahr[2, 1], L. Kutzner[2, 1], S. Burhan[2], F. HIlge[2, 1], Y. Miura[2, 1], G. Huttmann[2, 1].* [1]Medizinisches Laserzentrum Lübeck (MLL); [2]Biomedical Optics, Universität zu Lübeck; [3]Thorlabs GmbH **CR*

6084 — *A0581* **Biodegradable nano-probes for the detection of molecular retinal biomarkers of diabetes.** *Ali Hafezi-Moghadam[1, 2], Y. Tu[1, 2], A. Radwan[1, 2], A. Barakat[1, 2], C. Russmann[1, 2], D. Sun[1, 2], M. Amiji[3].* [1]Radiology, Harvard Medical School; [2]Molecular Biomarkers Nano-Imaging Laboratory (MBNI), Brigham and Women's Hospital; [3]Pharmaceutical Sciences, Northeastern University

6085 — *A0582* ***In vivo*** **analysis reveals a switch in metabolism and oxidative state of zebrafish eyes during development.** *Andrew W. Browne[1, 2], Y. Xue[2], T. Kalakuntla[2], W. Tang[2], L. Malacrida[2, 4], T. F. Schilling[3], I. Vorontsova[5, 3].* [1]Ophthalmology, University of California Irvine; [2]Biomedical Engineering, University of California Irvine; [3]Developmental Biology, University of California Irvine; [4]Facultad de Medicina, 2Área de Investigación Respiratoria, Departamento de Fisiopatología, Hospital de Clínicas, Facultad de Medicina; [5]Cell Physiology and Biophysics, University of California

6086 — *A0583* **Investigation of functional connectivity density mapping in patients with monocular blind by using resting state functional MRI.** *Yi Shao, Q. Zhou, C. Pei, W. Shi, P. Zhu.* First Affiliated Hospital of Nanchang University ↗

6087 — *A0584* **Evaluation of Retinal Arteriosclerosis using Doppler Optical Coherence Tomography Flowmeter in Healthy Subjects.** *Masataka Murono[1], T. Tani[1], Y. Song[1], K. Sogawa[1], t. yoshioka[1], K. Takahashi[1], T. Wada[1], M. Akiba[2], J. Sakai[2], S. Nakamura[2], K. MINAMIDE[2], S. Ishiko[1], Y. Yanagi[1, 3], A. Yoshida[1].* [1]Asahikawa Medical University; [2]R&D division, Topcon Corporation; [3]Singapore National Eye Centre (SNEC) **CR*

6087a — *A0584a* **Investigation of rod outer segment disc shedding *in vivo* in mouse with optophysiological signals measured by OCT.** *Pengfei Zhang[1], G. Peinado[2], R. J. Zawadzki[1], E. N. Pugh[1].* [1]Cell Biology and Human Anatomy, University of California, Davis; [2]Center for Neuroscience, University of California Davis

West Exhibition Hall A0585-A0631

Thursday, May 02, 2019 8:00 AM-9:45 AM

Multidisciplinary Ophthalmic Imaging Group

520 Multidisciplinary Imaging Technologies and Applications

Moderators: Ji Won Bang and Jesse B. Schallek

6088 — *A0585* **Dynamic Ocular Thermography: Discovering New Diagnosic Parameters.** *ILYA DIGEL, S. Lienz, K. E. Kotliar, D. Porst.* Biomedical Engineering, FH Aachen University of Applied Sciences

6089 — *A0586* **Temperature Of The Ocular Surface Through Infrared Thermography Imaging In The Healthy Adults Population.** *Diana Alejandra Cortes Rojas[1], S. Belalcazar[1], A. C. Rodriguez Cediel[2], D. Roca[1], M. Plata[1], S. Rosenstiehl[1], C. Carvajal[1], F. Rodriguez[1].* [1]Fundacion Oftalmologica Nacional ; [2]Universidad Distrital

Thursday Posters 8:00 am – 9:45 am

6090 — *A0587* **The application of Terahertz scanning system on corneas.** *Yu-Chi Liu[1, 2], L. Ke[3], N. Zhang[3], E. Teo[1], J. Mehta[4].* [1]Ophthalmology, Singapore Eye Research Institute; [2]Duke-NUS Medical School; [3]Institute of Materials Research & Engineering, The Agency for Science, Technology and Research, Singapore; [4]Singapore National Eye Center

6091 — *A0588* **In vivo corneal confocal imaging and its potential utility for Alzheimer's disease: A feasibility study.** *Cirous Dehghani[1], L. E. Downie[3], S. Frost[1], R. Jayasena[1], C. Fowler[2], C. L. Masters[2], Y. Kanagasingam[1].* [1]Australian e-Health Research Center, CSIRO; [2]The Florey Institute of Neuroscience and Mental Health; [3]Department of Optometry and Vision Sciences, The University of Melbourne

6092 — *A0589* **Visualization of cone cells without adaptive optics.** *Yasuki Ito, J. Takeuchi, K. Kataoka, H. Terasaki.* Ophthalmology, Nagoya Univ Graduate School of Medicine **CR*, ♂

6093 — *A0590* **Label-Free Imaging of Bipolar Cell Axons in Fresh Retina by Second-Harmonic Generation.** *Hyungsik Lim, F. Bucinca-Cupallari.* Physics, Hunter College of CUNY

6094 — *A0591* **An optical method to assess the macular pigment density.** *Dimitrios Christaras[1, 2], H. Ginis[1], A. Pennos[2], J. Mompeán[2], P. Artal[2].* [1]Department of Research, Athens Eye Hospital; [2]Laboratorio de Optica, Universidad de Murcia

6095 — *A0592* **Transcranial transmission fundus imaging.** *Timothy Weber[1], J. Mertz[1, 2].* [1]Department of Biomedical Engineering, Boston University; [2]Boston University Photonics Center

6096 — *A0593* **High resolution three-dimensional imaging of the intact eyeball using tissue clearing and light sheet microscopy.** *Yujia Yang, G. Li, L. Chen.* University of California, Berkeley

6097 — *A0594* **Longitudinal study of retinal vessel oxygen saturation in diabetic retinopathy.** *Sveinn H. Hardarson[1, 2], R. A. Karlsson[1, 3], T. Bek[4].* [1]Institute of Physiology, University of Iceland; [2]Ophthalmology, University of Iceland; [3]Electrical and Computer Engineering, University of Iceland; [4]Department of Ophthalmology, Aarhus University Hospital **CR*

6098 — *A0595* **Multimodal Adaptive Optics Imaging of the Cellular Status and Progression of the Outer Retinal Complex in Bietti Crystalline Dystrophy.** *Johnny Tam[1], L. Huryn[1], Z. Liu[2], J. Liu[1], H. Jung[1], N. Aguilera[1], D. Hammer[2], W. M. Zein[1], T. Liu[1].* [1]National Eye Institute, National Institutes of Health; [2]U.S. Food and Drug Administration, Center for Devices and Radiological Health

6099 — *A0596* **Fluorescence lifetime imaging ophthalmoscopy (FLIO) in punctate inner choroidopathy and multifocal choroiditis with panuveitis.** *Rebekah H. Gensure, L. Sauer, A. S. Vitale, A. Shakoor, A. T. Vitale, P. S. Bernstein.* Ophthalmology, Moran Eye Center **CR*

6100 — *A0597* **Quantitative detection of flavoproteins for fluorescence imaging of oxygen metabolism in the retina.** *Julia Noorbakhsh[1], C. Marcoci[2], K. Smith[2], A. Harvey[1].* [1]School of Physics and Astronomy, University of Glasgow; [2]Department of Neuroinflammation, University College London Queen Square Institute of Neurology

6101 — *A0598* **Fluorescein sodium loaded by polyethyleneimine for fundus fluorescein angiography.** *Wenting Cai[1, 2], J. Yu[2].* [1]Tongji university; [2]Ophthalmology, Shanghai tenth people's hospital

6102 — *A0599* **The correlation between retinal pigment epithelium thickness and lipofuscin accumulation in healthy eyes: an in vivo optical coherence tomography and quantitative autofluorescence study.** *Mariano Cozzi[1], M. Belotti[1], M. Cigada[1], F. Viola[2], G. Staurenghi[1], A. Invernizzi[1].* [1]Ophthalmology, Eye Clinic Luigi Sacco Hospital, University of Milan; [2]Ophthalmology, IRCCS-Cà Granda Foundation- Ospedale Maggiore Policlinico, University of Milan **CR*

6103 — *A0600* **Bevacizumab Diffusion Coefficient In Vivo Measurement Of Rabbit Vitreous Humor With Fluorescein Labeling.** *Anita N. Penkova[1, 2], J. Martinez[9], M. Humayun[3, 4], A. Tadle[6], A. Galesic[5], A. Calle[10], M. Thompson[7], M. Pratt[8], S. S. Sadhal[1, 2].* [1]Aerospace and Mechanical Engineering, University of Southern California; [2]Radiology, SAIRC, Saban Research Center, Children's Hospital Los Angeles; [3]USC Roski Eye Institute; [4]USC Institute for Biomedical Therapeutics; [5]Department of Chemistry, University of Southern California; [6]Department of Chemistry, University of Southern California; [7]Department of Chemistry, University of Southern California; [8]Department of Chemistry, University of Southern California; [9]USC Roski Eye Institute, University of Southern California; [10]USC Ginsburg Institute for Biomedical Therapeutics, University of Southern California

6104 — *A0601* **Utility of quantitative autoradiography for drug pharmacology and ocular tissue distribution in New Zealand White Rabbits.** *Amy Shelton, S. Crowell, H. Anezinos, D. Mandikian, P. Chu.* Genentech **CR*

6105 — *A0602* **Trans-pars-planar illumination enables a 200º ultra-wide field pediatric fundus camera to allow easy examination of the peripheral retina up to the ora serrata.** *Xincheng Yao[1, 2], d. toslak[3, 1], F. Y. Chau[2], M. K. Erol[3], R. V. Chan[2], T. Son[4, 1].* [1]Department of Bioengineering, University of Illinois at Chicago; [2]Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago; [3]Department of Ophthalmology, Antalya Training and Research Hospital; [4]Biolight Engineering LLC **CR*

6106 — *A0603* **Ultra-widefield imaging of the retinal vasculature in mild cognitive impairment and Alzheimer's disease: A pilot study.** *Emma J. Pead[1], D. S. Grewal[4], S. P. Yoon[4], B. Polascik[4], A. Thompson[4], J. R. Burke[2], C. Dunn[2], E. Trucco[3], T. MacGillivray[1], S. Fekrat[4].* [1]Centre for Clinical Brain Sciences, The University of Edinburgh; [2]Department of Neurology, Duke University School of Medicine; [3]Computing (School of Science and Engineering), The University of Dundee; [4]Department of Opthalmology, Duke University School of Medicine **CR*

6107 — *A0604* **Ultra-widefield ocular vasculature imaging without contrast agent.** *Mircea Mujat, Y. Lu, N. Iftimia, R. D. Ferguson.* Physical Sciences Inc. **CR*

6108 — *A0605* **Super-resolution ultrasonic microvessel imaging for retinal and choroidal blood flow measurement.** *Xuejun Qian[1, 2], H. Kang[2], E. Grant[3], K. Shung[2], M. Humayun[1, 4], Q. Zhou[1, 2].* [1]USC Roski Eye Institute, University of Southern California; [2]Department of Biomedical Engineering, University of Southern California; [3]Department of Radiology, University of Southern California; [4]USC Ginsburg Institute for Biomedical Therapeutics, University of Southern California

6109 — *A0606* **Normative retrobulbar measurements of the optic nerve using ultra high field magnetic resonance imaging.** *Bao N. Nguyen[1], J. O. Cleary[2, 3], R. Glarin[2, 4], S. C. Kolbe[2], B. A. Moffat[2], R. J. Ordidge[2], B. V. Bui[1], A. M. McKendrick[1].* [1]Department of Optometry and Vision Sciences, The University of Melbourne; [2]Melbourne Brain Centre Imaging Unit, Department of Anatomy and Neuroscience, The University of Melbourne; [3]Department of Radiology, Guy's and St. Thomas' NHS Foundation Trust; [4]Department of Radiology, Royal Melbourne Hospital

6110 — *A0607* **Exploring the Haemodynamic Response Function in the occipital lobe in glaucoma.** *Melissa E. Wright[1, 2], K. Singh[2], S. Rushton[3], S. Kusmia[2, 3], R. Wise[2, 3], D. Schwarzkopf[4], T. Redmond[1].* [1]School of Optometry and Vision Sciences, Cardiff University; [2]Cardiff University Brain Research Imaging Centre (CUBRIC), Cardiff University; [3]School of Psychology, Cardiff University; [4]School of Optometry and Vision Science, University of Auckland

6111 — *A0608* **MRI Screening for Adalimumab Therapy in Uveitis.** *Joshua Luis[1], P. Sanghi[1], E. Hindle[1], A. L. Rees[1], M. C. Westcott[1, 2].* [1]Moorfields Eye Hospital; [2]Institute of Ophthalmology

Thursday Posters
8:00 am – 9:45 am

6112 — *A0609* **Motion-Resolved 3D Magnetic Resonance Imaging Of The Human Eye.** *Benedetta Franceschiello[1, 2], L. Di Sopra[3], S. Ionta[4], D. Zeugin[4], M. Notter[2], J. A. Bastiaansen[3], J. Jorge[5], J. Yerly[3, 6], M. Stuber[3, 6], M. Murray[2, 1].* [1]Ophthalmology, Fondation Asile des Aveugles; [2]Radiology, CHUV, Laboratory for Investigative Neurophysiology; [3]Department of Radiology, Lausanne University Hospital (CHUV) and University of Lausanne (UNIL); [4]Department of Ophthalmology-University of Lausanne, Fondation Asile des Aveugles, Sensory-Motor Lab (SeMoLa); [5]École Polytechnique Fédérale de Lausanne (EPFL); [6]Center for Biomedical Imaging (CIBM) **CR*

6113 — *A0610* **Quantification of fibrin volume in a juvenile rabbit model of lensectomy using 9.4 Tesla magnetic resonance imaging.** *Jonathon B. Young, A. Bakhshinejad, C. Skumatz, M. Runquist, I. S. Kassem.* Medical College of Wisconsin

6114 — *A0611* **Use of CT Scan in Detecting open Globe Injuries.** *Rachel Schneider, s. azar, G. Wong.* Ophthalmology, Tulane University

6115 — *A0612* **Idiopathic Full Thickness Macular Holes larger than 450 µm: A Comparison between Traditional ILM Peeling Vs Inverted ILM Flap.** *Salvatore Parrulli, I. D'agostino, M. Cigada, F. Bottoni, G. Staurenghi, M. Cereda.* Milan University - Luigi Sacco Hospital **CR*

6116 — *A0613* **Is the spectral effect of cataract in hyperspectral imaging random or well-defined?** *Jason Ha[1, 2], X. Hadoux[2, 3], F. Hui[2, 3], P. van Wijngaarden[2, 3], J. G. Crowston[2, 3].* [1]Faculty of Medicine, Nursing and Health Sciences, Monash University; [2]Centre for Eye Research Australia; [3]Ophthalmology, Department of Surgery, University of Melbourne

6117 — *A0614* **Fundus imaging in the freely gazing eye during large amplitude saccades.** *Kavitha Ratnam[1], R. Sharma[1], R. Konrad[1, 2], K. Curts[1], N. Trail[1], A. Fix[1], R. Cavin[1].* [1]Facebook Reality Labs; [2]Stanford University **CR*

6118 — *A0615* **EyeNED workstation: Development of a multi-modal vendor-independent application for annotation, spatial alignment and analysis of retinal images.** *Harm van Zeeland[1, 2], J. Meakin[4], B. Liefers[1], C. González-Gonzalo[1], A. Vaidyanathan[1], B. van Ginneken[4], C. C. Klaver[3, 2], C. I. Sanchez[1, 2].* [1]EyeNED Research Group, Department of Radiology and Nuclear medicine, Radboud University Medical Center; [2]Department of Ophthalmology, Radboud University Medical Center; [3]Ophthalmology & Epidemiology, Erasmus MC; [4]Diagnostic Image Analysis Group, Department of Radiology and Nuclear Medicine, Radboud University Medical Center

6119 — *A0616* **Comparison of Feature Detectors for Retinal Image Alignment.** *Stefanos Apostolopoulos[1, 2], P. Truong[3, 2], S. De Zanet[2].* [1]ARTORG Center, University of Bern; [2]RetinAI Medical AG; [3]EPFL **CR*

6120 — *A0617* **A deep learning approach to patient alignment and retina tracking.** *Muzammi A. Arain, N. Manivannan, H. Bagherinia, D. Nolan.* Carl Zeiss Meditec, Inc**.** **CR*

6121 — *A0618* **Comparison of the performance of four Fundus Cameras in clinical practice.** *JILI CHEN.* ophthalmology, Shanghai Shibei Hospital of Jing'an District

6122 — *A0619* **Investigation of the origin of the specular fundus reflex.** *Mohamed Belmouhand[1], S. Rothenbuehler[2], M. Larsen[1, 3].* [1]Department of Ophthalmology, Rigshospitalet, Copenhagen; [2]Eye Clinic, Basel University Clinic, Basel; [3]Faculty of Health and Medical Sciences, University of Copenhagen

6123 — *A0620* **Cause of superior detectability of multicolor SLO in detection of epiretinal membrane.** *Ryoh Funatsu, H. Terasaki, S. Sonoda, H. Shiihara, N. Kakiuchi.* Kagoshima University

6124 — *A0621* **Real-Time Tele-ophthalmology in the Emergency Department.** *Olyvia Poyser[1], I. Livingstone[2], A. Ferguson[2], S. Bishop[2], C. McGregor[2], A. Makulowa[2], T. Saboor[2], I. Tuck[2], A. Bailey[2], A. Wilkinson[2], S. Gillies[2], C. Shirlaw[2].* [1]NHS Greater Glasgow and Clyde; [2]NHS Forth Valley

6125 — *A0622* **Use of a tablet attachment in teleophthalmology for real time video transmission from rural vision centres in a three tier eyecare network in India – eyeSmart Cyclops.** *Abhinav Loomba[1], S. Vempati[2], A. Vipin Das[3], M. Taneja[1], N. Deepthi[4], S. M[4].* [1]Cornea and Teleophthalmology, LV Prasad Eye Institute; [2]LVPEI Center for Innovation, LV Prasad Eye Institute; [3]Department of eyeSmart EMR & AEye3, LV Prasad Eye Institute; [4]Teleophthalmology, LV Prasad Eye Institute

6126 — *A0623* **Remote diagnosis of referable macular pathology in high disease prevalence communities.** *Majda Hadziahmetovic, P. S. Mettu, S. W. Cousins.* Ophthalmology, Duke University

6127 — *A0624* **Telemedicine using a macro lens for anterior segment imaging in rural Panama.** *Louie Cao[1], P. Bhatter[1], A. Crochetiere[1], L. Cuevas[1], K. Enendu[1], E. Frisch[1], S. Raefsky[1], C. Shumway[2], A. Browne[3].* [1]UC Irvine School of Medicine; [2]John Moran Eye Center; [3]Gavin Herbert Eye Institute

6128 — *A0625* **Noninferiority of a Head-Mounted 3D Display in Ophthalmic Microsurgical Skill Performance.** *Edward Korot, M. Rolain, G. A. Williams.* Beaumont Eye Instituite

6129 — *A0626* **The prevalence of smartphone fundoscopy use among U.S. ophthalmology residents.** *Zachary Winchester, M. Ullman, J. M. Lustbader.* Ophthalmology, Georgetown University School of Medicine

6130 — *A0627* **Assessment of a 3D printed cobalt filter for smart phone use.** *Brian Lemanski, N. Lemanski, M. Cheng.* Mabel MP Cheng MD, PLLC

6131 — *A0628* **Quantification of RPE changes in choroideremia using a Photoshop-based protocol.** *Yi Zhai[1], M. Xu[1], I. Dimopoulos[5], D. G. Birch[2], P. S. Bernstein[3], P. Francis[4], J. Holt[4], D. Kirn[4], I. M. MacDonald[1].* [1]Department of Ophthalmology and Visual Sciences, University of Alberta; [2]Retina Foundation of the Southwest; [3]Department of Ophthalmology and Visual Sciences, Moran Eye Center, University of Utah; [4]4D Molecular; [5]Department of Ophthalmology, University of Ottawa **CR*

6132 — *A0629* **Nanoparticle-augmented ultrasound and photoacoustic imaging to track stem cells in the anterior eye.** *Kelsey P. Kubelick[1], E. Snider[1], A. Karpiouk[2], C. R. Ethier[1], S. Emelianov[2, 1].* [1]Biomedical Engineering, Georgia Institute of Technology & Emory University; [2]Electrical and Computer Engineering, Georgia Institute of Technology

6133 — *A0630* **Hyperspectral autofluorescence (AF) of lipofuscin (LF) and vitelliform granules in a canine bestrophinopathy.** *Yuehong Tong[1], J. Rosenbloom[2], T. Mohammed[3], N. Challa[4], R. Smith[1].* [1]Ophthalmology, Icahn School of Medicine at Mount Sinai; [2]Keck School of Medicine of USC; [3]New York University; [4]The Ohio State University College of Medicine

6134 — *A0631* **Using Oxygen Saturation as an Alternative Contrast Agent for Angiography.** *Ross Drysdale[1], L. E. MacKenzie[2], T. R. Choudhary[3, 4], J. Fernandez Ramos[1], N. B. Benjamin[5], C. Delles[6], A. Harvey[1].* [1]School of Physics and Astronomy, University of Glasgow; [2]Department of Chemistry, Durham University; [3]School of Engineering and Physical Sciences, Heriot-Watt University; [4]EPSRC IRC Hub, MRC Centre for Inflammation Research, Queens Medical Research Centre, University of Edinburgh; [5]Torbay and South Devon NHS Foundation Trust; [6]Institute of Cardiovascular & Medical Sciences, University of Glasgow

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West Exhibition Hall B0001-B0033

Thursday, May 02, 2019 8:00 AM-9:45 AM

Glaucoma

521 Structure/Function Relationships

Moderators: David Crabb and Lyne Racette

6135 — *B0001* **The effect of ageing on the recovery of retinal function and structure following intraocular pressure elevation in mice.** *Pei Ying Lee[1], Z. He[1], V. H. Wong[1], J. G. Crowston[2], B. V. Bui[1].* [1]Department of Optometry and Vision Sciences, The University of Melbourne; [2]Centre for Eye Research Australia

6136 — *B0002* **Joint analysis of pointwise linear regression with structure and function may not increase sensitivity to glaucoma progression.** *Ivan Marin-Franch[1, 3], P. H. Artes[2], L. Racette[3].* [1]Computational Optometry; [2]Eye and Vision research group, Faculty of Health and Human Sciences, University of Plymouth; [3]Callahan Eye Hospital & Clinics, UAB Medicine

6137 — *B0003* **Functional correlation of retinal inner plexiform layer (IPL) alterations in glaucoma.** *Mine Baris, L. Al-Aswad, D. Blumberg, G. Cioffi, J. M. Liebmann, T. H. Tezel, G. Tezel.* Ophthalmology, Columbia University

6138 — *B0004* **Hierarchical cluster analysis of peripapillary retinal nerve fiber layer damages and macular ganglion cell loss in open angle glaucoma.** *Kwanghyun Lee, S. Kim, C. Park, H. Bae, S. Lee, G. Sung, C. Y. Kim.* department of ophthalmology, Yonsei college of medicine

6139 — *B0005* **Clustered spatial alignment of ganglion cell structure and function delivers near perfect correlation enabling prediction of visual function.** *Barbara Zangerl[1], J. Tong[1], D. Alonso-Caneiro[3], N. Yoshioka[2], M. Kalloniatis[1, 2].* [1]Centre for Eye Health, UNSW Sydney; [2]School for Optometry and Vision Science, UNSW Sydney; [3]School of Optometry and Vision Science, QUT

6140 — *B0006* **Updated Customizable Structure-Function Map from Visual Field to Optic Nerve Head.** *Andrew Turpin[1], A. M. McKendrick[2].* [1]Computing and Information Systems, University of Melbourne; [2]Optometry and Vision Science, The University of Melbourne **CR*

6141 — *B0007* **An automated method for assessing topographical structure-function agreement in abnormal regions in glaucoma.** *Emmanouil (Manos) Tsamis[2], N. Bommakanti[1], A. Sun[2], K. A. Thakoor[3], C. De Moraes[1], D. C. Hood[1, 2].* [1]Ophthalmology, Columbia University; [2]Psychology, Columbia University; [3]Biomedical Engineering, Columbia University **CR*

6142 — *B0008* **The relationship between clinical versus optical coherence tomography defined optic nerve cup to disc ratios in pediatric glaucoma suspects.** *Lindsay Machen, I. Jang, C. Mocan.* University of Illinois at Chicago

6143 — *B0009* **Structure–function relationship in end-stage glaucoma after reaching the RNFL floor.** *Mi Sun Sung, S. Park.* Ophthalmology, Chonnam National University Medical School and Hospital

6144 — *B0010* **Individual Macular Layer Evaluation with Spectral Domain Optical Coherence Tomography in Normal and Glaucoma Eyes.** *Fernanda Mari. Fujihara[1], P. d. Mello[2], C. Z. Benfica[3], N. Castoldi[3], F. M. Mendes[3, 4], R. L. Lindenmeyer[3, 4], D. Lavinsky[3, 4], H. M. Pakter[3, 5], F. Lavinsky[2, 3].* [1]Hospital Banco de Olhos de Porto Alegre; [2]Department of Ophthalmology, Paulista School of Medicine, Federal University of São Paulo; [3]Hospital de Clínicas de Porto Alegre; [4]Department of Ophthalmology, Federal University of Rio Grande do Sul; [5]Ophthalmology, Hospital Nossa Senhora da Conceição

6145 — *B0011* **Correlation between the visual field (VF) quadrant-specific mean deviation (qMD) and the corresponding optical coherence tomography angiography (OCTA) superficial peripapillary vessel density (sppVD).** *Ahmad Najafi[1], M. Doustkhahvajari[1], S. Philip[2], A. Tantraworasin[3], R. Ritch[1].* [1]Einhorn Clinical Research Institute, New York Eye and Ear Infirmary of Mount Sinai; [2]Lake Erie College of Osteopathic Medicine; [3]Clinical Epidemiology and Clinical Statistic Center and Department of Surgery, Chiang Mai University

6146 — *B0012* **Correlation between SD-OCT changes and visual field defects after unilateral acute primary angle closure in Brazilians: a prospective study.** *Erica d. Borges, R. V. Merula, A. Diniz-Filho, c. s. freitas, C. Resende, S. Cronemberger.* Glaucoma Service, Universidade Federal de Minas Gerais

6147 — *B0013* **Point-by-point correlations between macular structure and function using OCT and microperimetry in healthy and glaucomatous eyes.** *Monica Del-Rio-Vellosillo[1], L. Lopez-Canovas[2], M. D. Pinazo-Duran[3, 2], V. Zanón-Moreno[4, 3], J. Garcia-Medina[5, 2].* [1]University Hospital La Arrixaca; [2]Surgery, University of Murcia; [3]Oftalmologia celular y molecular, University of Valencia; [4]Area of Health Sciences, Valencian International University; [5]University Hospital Morales Meseguer

6148 — *B0014* **Multi-Strategy Deep Learning Method for Glaucoma Screening on Fundus Image.** *Meng Wang, K. Yu, W. Zhu, F. Shi, X. Chen.* Soochow University

6149 — *B0015* **The Effect of Sleep Disorders on Retinal Peripapillary, Macular, and Optic Nerve Anatomy.** *Arash Davanian[1], L. Williamson[1], K. E. Bollinger[1], B. Chaudhary[2], D. M. Marcus[1].* [1]Ophthalmology, Augusta University Medical Center; [2]The Sleep Institute of Augusta

6150 — *B0016* **Withdrawal_Assessment of early glaucomatous optic nerve damage by blue light chromatic pupillometry.** *Kuan-Ting Lin, K. L. Koehl, C. Harman, A. M. Komaromy.* small animal clinical sciences, Michigan State University

6151 — *B0017* **Evaluation of acquired color vision deficiency in patients with primary open angle glaucoma with Rabin Cone Contrast Test and its correlation to the nerve fiber layer thickness.** *Luis A. Hernandez, E. C. Hernández Piñamora, E. Garcia, V. Tirado, S. Soberón, A. Gonzalez-H.Leon, Y. Lopez, L. Garcia Arzate, J. Baca Moreno, J. Fromow-Guerra, P. A. Juarez, M. Beltran, V. Morales-Canton, H. Quiroz-Mercado.* Retina, Asociación para Evitar la Ceguera en México

6152 — *B0018* **Pilot analysis of the web-application and inter-evaluator variability for the Crowd-Sourced Glaucoma Study.** *Jayme R. Vianna, B. C. Chauhan.* Ophthalmology and Visual Sciences, Dalhousie University **CR*

6153 — *B0019* **The influence of profession on intraocular pressure.** *Andreas Hartwig[1, 2], N. Stuebiger[3, 4].* [1]Hartwig Research Center; [2]Aston University; [3]Ostfalia; [4]University Medical Hospital

6154 — *B0020* **Contrast-to-noise ratios to evaluate the detection of progression in eyes with diffuse and local glaucomatous damage.** *Juleke E. Majoor, K. A. Vermeer, H. G. Lemij.* Rotterdam Opthalmic Institute

6155 — *B0021* **Dissecting Neural and Vascular Contributions to Glaucoma Progression Using En Face OCT-Reflectance and OCT-Angiography.** *Davis B. Zhou[1, 2], M. V. Castanos[1], J. S. Andrade Romo[1], M. Eguia[5, 3], E. B. Jacobs[5], D. C. Hood[4, 3], R. Ritch[5], R. B. Rosen[1, 2], T. Y. Chui[1, 2].* [1]Ophthalmology, New York Eye and Ear Infirmary at Mount Sinai; [2]Ophthalmology, Icahn School of Medicine at Mount Sinai; [3]Psychology, Columbia University; [4]Ophthalmology, Columbia University; [5]Einhorn Clinical Research Center, New York Eye & Ear Infirmary of Mount Sinai **CR*

6156 — *B0022* **Glaucoma progression prediction using trend-based analysis in optical coherence tomography.** *Maki Nakao, A. Arikawa, S. Hori, Y. Mochizuki.* Mochizuki eye clinic

6157 — *B0023* **Predicting glaucoma progression in one eye based on the progression status of the fellow eye.** *Sampson L. Abu[1], I. Marin-Franch[2], L. Racette[1].* [1]University of Alabama at Birmingham; [2]Computational Optometry

6158 — *B0024* **OCT-Angiography: agonistic β2-adrenergic receptor autoantibodies and FAZ-to-FAZ-ratio in glaucoma patients.** *Christian Y. Mardin[4], S. Hosari[4], G. Wallukat[2], R. Kunze[2], M. Herrmann[3], R. Lämmer[4], B. Hohberger[1, 4].* [1]Ophthalmology, University Erlangen-Nurnberg; [2]Max Delbrueck Center for Molecular Medicine; [3]Internal Medicine III, University Erlangen-Nuremberg; [4]Ophthalmology, University Erlangen-Nuremberg ↗

Thursday Posters
8:00 am – 9:45 am

6159 — *B0025* **The XFG- Associated Deaminase LOXL1 Is An Intrinsically Disordered Protein With A High Aggregative Ability.** *J. Mario Wolosin[1], Z. Wang[1], R. Ritch[2], A. M. Bernstein[3].* [1]Ophthalmology, Icahn School of Medicine at Mount Sinai; [2]Ophthalmology, New York Eye & Ear Infirmary of Mount Sinai; [3]Ophthalmology, SUNY Upstate Medical University

6160 — *B0026* **Functional and cell loss in a genetic βb1-CTGF primary open-angle glaucoma model.** *Maximilian Weiss[1], S. Reinehr[1], C. Voss[1], R. Fuchshofer[2], B. Dick[1], S. C. Joachim[1].* [1]Experimental Eye Research Institute; [2]Institute of human anatomy and embryology

6161 — *B0027* **Gli1, Pitx2, FOXC1, and FOXC2 are expressed in periocular mesoderm (POM) in postnatal mice.** *Kathy K. Svoboda[1, 2], R. J. Thomson[1], M. J. Serrano[1], M. Petroll[2], H. Zhao[1].* [1]Biomedical Science, Texas A&M University; [2]Ophthalmology, UTSW Medical School

6162 — *B0028* **The number of Myo/Nog cells increases in a murine model of glaucoma.** *Alexa N. McGrath, V. MacPherson, R. Brahmbhatt, P. Lecker, S. Murad, S. Young, J. Gerhart, S. Egberts, G. Gorski, M. George-Weinstein, A. Bravo-Nuevo.* Philadelphia College of Osteopathic Medicine

6163 — *B0029* **Glaucoma surveillance in patients receiving intravitreal injections in a regional eye clinic.** *Jie C. Song, E. L. Ong, M. Adams.* Ophthalmology, Sunshine Coast Hospital and Health Services

6164 — *B0030* **Distribution of inter-endothelial junction and vascular mural cells may account for iridal volume change during pupil reflexion.** *Hongfang Yang.* Ophthalmology Department, Fudan University

6165 — *B0031* **High-Frequency Ultrasound Biomicroscopy Measurement of Anterior Chamber Angle Structures in Patients with Primary Congenital Glaucoma.** *Yan Shi, N. Wang, H. Wang.* Ophthalmology, Beijing Tongren Hospital ↗

6166 — *B0032* **Health-Related Quality of Life in Patients with Baerveldt 250 and 350, and Ahmed FP7 Glaucoma Drainage Devices.** *Khin Kilgore, F. Wang, N. C. Stern, N. N. Diehl, D. O. Hodge, C. L. Khanna.* Mayo Clinic

6167 — *B0033* **Iridocorneal angle of eyes in children with cataract.** *Yun-e Zhao, Z. Li, D. Wang, P. Chang, Y. Zhao.* Eye Hospital of Wenzhou Medical University

West Exhibition Hall B0034-B0069

Thursday, May 02, 2019 8:00 AM-9:45 AM

Glaucoma

522 Biomechanics

Moderators: Mark R. Lesk and Jun Liu

6168 — *B0034* **Biomimetic modelling of the lamina cribrosa region using tissue engineered scaffolds - a novel 3D model for glaucoma research.** *Deirdre Brennan[1], D. Clissmann[1], R. Murphy[2], D. Wallace[2], I. Pascu[3], A. Hibbitts[3], F. J. O'Brien[3], C. J. O'Brien[2, 4].* [1]Anatomy, School of Medicine, University College Dublin; [2]Clinical Research Centre, School of Medicine, University College Dublin; [3]Tissue Engineering Research Group (TERG), Royal College of Surgeons in Ireland; [4]Institute of Ophthalmology, Mater Misericordiae University Hospital

6169 — *B0035* **Decellularized optic nerve head model to study glaucoma biomechanics.** *Michelle D. Drewry[1], J. Liou[1], D. Krahe[1], B. Brown[1, 2], J. P. Vande Geest[1, 2].* [1]Bioengineering, University of Pittsburgh; [2]McGowan Institute for Regenerative Medicine, University of Pittsburgh

6170 — *B0036* **Glaucoma-on-a-chip: an *in vitro* model for glaucoma drug discovery based on mimicking mechanical stress of high eye pressure.** *Pascal A. Vroemen[1, 2], R. Sinha[2], J. Rouwkema[3], L. Moroni[2], J. d. Boer[4, 2], C. A. Webers[1], T. G. Gorgels[1].* [1]University Eye Clinic Maastricht; [2]MERLN Institute for Technology-Inspired Regenerative Medicine, Maastricht University; [3]Biomechanical Engineering, University of Twente; [4]Biomedical Engineering and Institute for Complex Molecular Structures, Eindhoven University of Technology **CR*

6171 — *B0037* **Towards optic nerve head on a chip: a tool for understanding glaucomatous optic neuropathy.** *Elizabeth M. Boazak, J. d'Humieres, L. Schildmeyer, G. Kim, P. Pareek, S. Takayama, C. R. Ethier.* BME, The Georgia Institute of Technology

6172 — *B0038* **Finite Element Analysis (FEA) of Anatomical Factors Exaggerating Optic Nerve (ON) Strain During Adduction Tethering in Primary Open Angle Glaucoma (POAG) Without Elevated Intraocular Pressure (IOP).** *Joseph Park, J. Giaconi, K. Nouri-Mahdavi, S. K. Law, L. Bonelli, A. L. Coleman, J. Caprioli, J. L. Demer.* Department of Ophthalmology, Stein Eye Institute - UCLA

6173 — *B0039* **Horizontal Duction Causes Age-dependent Deformation of the Optic Nerve Head and Peripapillary Retina.** *Alan Le[1, 2], M. Lesgart[1], B. A. Gawargious[1], S. Suh[1], J. L. Demer[1].* [1]Ophthalmology, UCLA; [2]Bioengineering, UCLA

6174 — *B0040* **Globe Retraction During Adduction Tethering of the Optic Nerve (ON) Occurs in Primary Open Angle Glaucoma (POAG) With and Without Elevated Intraocular Pressure (IOP).** *Joseph L. Demer[1, 2], R. A. Clark[1], S. Y. Suh[1], J. Giaconi[1], K. Nouri-Mahdavi[1], S. K. Law[1], L. Bonelli[1], A. L. Coleman[1], J. Caprioli[1].* [1]Ophthalmology, Stein Eye Institute, UCLA; [2]Neurology, University of California, Los Angeles

6175 — *B0041* **Effects of mechanical load on cytoskeletal protein arrangement in scleral fibroblasts.** *Petar Markov[1, 2], C. Boote[2, 4], H. Zhu[3], E. Blain[1].* [1]School of Biosciences, Cardiff University ; [2]School of Optometry and Vision Sciences, Cardiff University; [3]School of Engineering, Cardiff University; [4]Department of Biomedical Engineering, National University of Singapore

6176 — *B0042* **CXCR2 Regulates Extracellular Matrix Production by JAK/STAT3 and Cell Motility by FAK/MLC in Human Peripapillary Scleral Fibroblasts Under Mechanical Strain.** *Chen Qiu, S. Qian, X. Sun.* Eye and ENT Hospital of Fudan University

6177 — *B0043* **Collagen fiber interweaving strongly influences sclera stiffness, and likely plays a central role in globe mechanics.** *Ian A. Sigal[1], B. Wang[1, 2], B. Yang[1], P. Lee[1], T. Y. Foong[1], B. Brazile[1], Y. Hua[1].* [1]University of Pittsburgh; [2]Southwest Jiaotong University

6178 — *B0044* **Hydrodynamic effects of interfacial tension on microtubes.** *Christin Henein[1, 2], Y. Bouremel[1, 3], S. Brocchini[1, 2], P. T. Khaw[1].* [1]National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology; [2]School of Pharmacy, UCL; [3]Department of Mechanical Engineering, UCL

6179 — *B0045* **Effect of Changing Heart Rate and Body Posture on the Ocular Pulse Amplitude and Optic Nerve Head Deformations.** *Yuejiao Jin[2, 1], X. Wang[3], S. Febriana Rachmawati Irnadiastputri[1], R. Elsa Mohan[1, 4], T. Aung[4, 5], L. Schmetterer[4, 5], M. J. Girard[1, 4].* [1]Department of Biomedical Engineering, National University of Singapore; [2]NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore; [3]Beijing Advanced Innovation Center for Biomedical Engineering, Beihang University; [4]Singapore National Eye Centre, Singapore Eye Research Institute; [5]Duke-NUS Medical School

6180 — *B0046* **Optic Nerve Vessel Density in Glaucoma Patients of African and European descent.** *Brandon Wong, S. Moghimi, L. M. Zangwill, H. Hou, R. Penteado, P. Manalastas, E. Ghahari, C. Bowd, R. N. Weinreb.* Ophthalmology, University of California, San Diego Shiley Eye Institute **CR*, ↗

Thursday Posters 8:00 am – 9:45 am

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

6181 — *B0047* **Anterograde Neurotropic Virus Infection from Trigeminal Ganglion Nerve Endings Innervating the Rat Anterior Eye Chamber to the Nuclei of Hypothalamus.** *Haixia Liu.* ophthalmology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China

6182 — *B0048* **Acquired Optic Pits Associated with Laser-assisted in situ keratomileusis: A Case Series.** *John Ling, S. Mosaed.* UC Irvine

6183 — *B0049* **An improved mathematical model for OCT-based ocular rigidity measurements: clinical validation.** *Diane N. Sayah[1, 2], J. Mazzaferri[1], P. Ghesquière[1], R. Duval[2], F. A. Rezende[2], S. Costantino[1, 2], M. R. Lesk[1, 2].* [1]Maisonneuve-Rosemont Hospital Research Center; [2]Department of Ophthalmology, University of Montreal

6184 — *B0050* **The tissue within a retina organoid shows a yield stress, the amount of mechanical stress necessary to induce irreversible deformations, which regulates the retina's mechanical integrity.** *Florian H. Huhnke[1], J. Di Russo[1], P. Wysmolek[1], J. Diemer[1], N. Dhanovici[1], J. P. Spatz[1, 2], F. Serwane[1].* [1]Cellular Biophysics, Max-Planck-Institute for Medical Research; [2]Heidelberg University

6185 — *B0051* **Piezo1 plays a role in optic nerve head astrocyte mechanotransduction.** *Yang Liu[1], J. Liu[2], A. F. Clark[1], Y. Yang[2].* [1]North Texas Eye Research Institute, Department of Pharmacology & Neuroscience, UNT Health Science Center; [2]Department of Biomedical Engineering, University of North Texas

6186 — *B0052* **Regional Rate-Dependent Mechanical Response of the Optic Nerve Head.** *Sunny Kwok[1], Y. Ma[1], X. Pan[2], J. Liu[1, 3].* [1]Biomedical Engineering, The Ohio State University; [2]Department of Bioinformatics, The Ohio State University; [3]Department of Ophthalmology and Visual Science, The Ohio State University

6187 — *B0053* **The role of lamina cribrosa tissue stiffness as a fundamental biomechanical driver of pathological glaucomatous cupping.** *Colm J. O'Brien, R. Murphy, M. Irnaten, A. Hopkins.* Ophthalmology, Clinical Research Centre, Catherine McAuley Centre, School of Medicine, University College Dublin

6188 — *B0054* **Biomechanical effects on the mouse optic nerve head in experimental scleral crosslinking in glaucoma.** *Arina Korneva[1, 2], C. Nguyen[1], J. Schaub[1], T. D. Nguyen[2], H. A. Quigley[3].* [1]Ophthalmology, Johns Hopkins Wilmer Eye Inst; [2]Mechanical Engineering, Johns Hopkins University; [3]Ophthalmology, Johns Hopkins Wilmer Eye Inst

6189 — *B0055* **Biomechanical Response of the Lamina Cribrosa in Glaucomatous and Non glaucomatous samples.** *Jonathan P. Vande Geest[1, 2], H. G. Kollech[3], R. Behkam[1], A. Jana[4], U. Utzinger[5], C. A. Girkin[6].* [1]Bioengineering, University of Pittsburgh; [2]McGowan Institute for Regenerative Medicine, University of Pittsburgh; [3]Computational Modeling and Simulation, University of Pittsburgh; [4]Artificial Intelligence and Big Data, Pittsburgh Supercomputing Center; [5]Biomedical Engineering, University of Arizona; [6]Department of Ophthalmology, University of Alabama Birmingham

6190 — *B0056* **Analysis for the effects of glaucoma and optic nerve damage on the pressure-induced strains in the human lamina cribrosa.** *Thao D. Nguyen[1], D. Midgett[1], B. Liu[1], H. A. Quigley[2].* [1]Mechanical Engineering, The Johns Hopkins University; [2]Wilmer Ophthalmological Institute, School of Medicine,, The Johns Hopkins University

6191 — *B0057* **Peri-papillary Bruch's membrane and peri-papillary anterior scleral layer as the reference planes for measuring lamina cribrosa depth.** *Kulawan Rojananuangnit[1], P. Jiajalernpong[2].* [1]Ophthalmology, Mettapracharak (Wat Rai Khing) hospital; [2]Ophthalmology, Somdet Phraputthalerdla Hospital ↗

6192 — *B0058* **Association of Optic Nerve Head Structural Biometric Measures with Refractive Error through Axial Length.** *Seyhan Yazar[1], P. Sanfilippo[2], D. A. Mackey[1].* [1]Centre for Ophthalmology and Visual Science, University of Western Australia; [2]Centre for Eye Research Australia

6193 — *B0059* **Shape of globe expansion determines the optic nerve head configuration.** *Kyoung Min Lee[1], M. Kim[2], S. Oh[1], S. Kim[1].* [1]Department of Ophthalmology, Seoul National University Boramae Medical Center; [2]Ophthalmology, Dongguk University Ilsan Hospital

6194 — *B0060* **Determinants of Lamina Cribrosa Depth in Asian Eyes.** *Tin A. Tun[1], X. Wang[2], T. Aung[3], C. Cheng[1], M. J. Girard[4].* [1]Clinic, Singapore Eye Research Institute; [2]Beijing Advanced Innovation Center for Biomedical Engineering, School of Biological Science and Medical Engineering, Beihang University, Beijing, China; [3]Glaucoma, Singapore National Eye Centre, Singapore; [4]Department of Biomedical Engineering, National University of Singapore, Singapore

6195 — *B0061* **Dynamic changes in iris parameters under physiological conditions -development of a predictive model of angle closure risk.** *Rupert R. Bourne[1, 2], I. Zhekov[2], S. Pardhan[1].* [1]Vision & Eye Research Unit, Anglia Ruskin University; [2]School of Medicine, University of Cambridge ↗

6196 — *B0062* **Effect of IOP Reduction by Latanoprost on Corneal Biomechanical Properties in Glaucomatous Eyes Using Ultrasound Surface Wave Elastography.** *Arash Kazemi[1], B. Zhou[2], X. Zhang[2], A. J. Sit[1].* [1]Department of Ophthalmology, Mayo Clinic; [2]Department of Radiology, Mayo Clinic **CR*

6197 — *B0063* **Influence of prostaglandin analogues on corneal biomechanical parameters measured with a dynamic Scheimpflug analyzer.** *yuichi yasukura[2, 1], A. Miki[1], S. Koh[1], N. Maeda[1, 3], K. Nishida[1].* [1]Osaka university hospital; [2]Yodogawa Christian Hospital; [3]Kozaki eye clinic

6198 — *B0064* **The influence of fluorescein and Goldmann's Applanation Tonometry on the Ultra-high Speed Dynamic Scheimpflug Non-contact Tonometry.** *Marcelo Macedo[1], M. Hatanaka[1], R. Susanna[1], R. Ambrosio[2, 3].* [1]glaucoma, University of São Paulo; [2]Department of Ophthalmology, Federal University of São Paulo; [3]Department of Ophthalmology, Federal University of the State of Rio de Janeiro

6199 — *B0065* **The Relationship between Asymmetries of Corneal Properties and Rates of Visual Field Progression in Glaucoma Patients.** *Tais Estrela, A. A. Jammal, E. B. Mariottoni, C. Urata, N. Ogata, F. A. Medeiros.* Duke University **CR*

6200 — *B0066* **Correlation of dynamic corneal response parameters with visual field severity in open-angle glaucoma.** *Karin R. Pillunat, R. Herber, G. Lorenz, L. E. Pillunat.* Dept of Ophthalmology, Univ Clinic Carl Gustav Carus Dresden ↗

6201 — *B0067* **Corneal Deflection Amplitude and Visual Field Progression in Primary Open-Angle Glaucoma.** *Youn Hea Jung[1], J. Moon[1], J. Shin[2].* [1]Ophthalmology, Yeouido St**.** Mary's ; [2]Daejeon St**.** Mary's

6202 — *B0068* **Evaluation of spectral changes in corneal pulse signal following canaloplasty.** *Monika E. Danielewska[1], A. Kicinska[2], M. M. Placek[1], K. Lewczuk[2], M. Rekas[2].* [1]Department of Biomedical Engineering, Wroclaw University of Science and Technology; [2]Department of Ophthalmology, Military Institute of Medicine ↗

6203 — *B0069* **The increment of IOP counterbalanced by thinning the cornea to result in normal tension of model eye imitating the biomechanical properties of the human cornea.** *Sae Chae Jeoung[1], H. Cho[1], S. Lee[2], H. Moon[3], H. Lee[1].* [1]Advanced Instrumentation Institute, Korea Reasearch Institute of Standards and Science; [2]Ophthalmology,, Bundang Jesaeng General Hospital; [3]Nano Chemistry, Gacheon University

Thursday Posters
8:00 am – 9:45 am

West Exhibition Hall B0184-B0203

Thursday, May 02, 2019 8:00 AM-9:45 AM

Eye Movements/Strabismus/Amblyopia/ Neuro-Ophthalmology

523 Orbit and Thyroid eye Disease

Moderator: Sachin Kedar

6204 — *B0184* **Orbital fibroblasts from thyroid-associated ophthalmopathy patients secret IL-6 via up-regulation of IGF-1 by activating the NF-kB pathway.** *Sung Eun Kim[1], J. Kim[2], J. Lee[2], S. Lee[2], J. Paik[1], S. Kim[3], S. Yang[1].* [1]Department of Ophthalmology and Visual Science, Seoul St**.** Mary's Hospital, College of Medicine, The Catholic University of Korea; [2]Department of Pathology, College of Medicine, The Catholic University of Korea, Institute of Hansen's Disease; [3]MyungDong St.Mary's Eye Clinic

6205 — *B0185* **Insulin-like growth factor 1 receptor (IGF-1R) expression in peripheral blood mononuclear cells (PBMC) in Thyroid-Associated Orbitopathy (TAO).** *Kam-lung, Kelvin Chong, W. CHU.* Ophthalmology and Visual Science, The Chinese University of Hong Kong

6206 — *B0186* **Comparison of biomechanical properties of the orbit in patients with active and inactive endocrine orbitopathy measured with the Dynamic Scheimpflug Analyzer Corvis ST.** *Anna Leszczynska, N. Terai, R. Herber, L. E. Pillunat.* Medical University Dresden

6207 — *B0187* **Thyroid-associated ophthalmopathy in patients with thyroid carcinoma.** *Bin Sun, Z. Zhang, X. Ji.* Shanxi Eye Hospital

6208 — *B0188* **The Cambridge Thyroid Eye Disease Treatment Regime: Retrospective Case Series.** *Nima J. Ghadiri[1], P. Meyer[2], R. Murthy[2, 3].* [1]Department of Ophthalmology, Norfolk and Norwich University Hospital; [2]Department of Ophthalmology, Cambridge University Hospitals; [3]Department of Ophthalmology, Ipswich Hospitals

6209 — *B0189* **Evaluation of choroidal thickness and choroidal vascular blood flow in patients with Thyroid Associated Orbitopathy (TAO) using SD-OCT and Angio-OCT.** *Chiara Del Noce, A. Vagge, C. E. Traverso.* Di.N.O.G.M.I., University Eye Clinic of Genoa

6210 — *B0190* **Withdrawal_Non-responsiveness of raised intraocular pressure in thyroid associated ophthalmopathy.** *Karthikeyan Mahalingam, A. KISHAN, V. Gupta, S. GUPTA.* Ophthalmology, Dr.R.P.Centre for Ophthalmic Sciences, AIIMS

6211 — *B0191* **Value of Radiologic Imaging in Orbital Inflammatory Diseases: Diagnostic Accuracy and the Assessment of Activity.** *Min Joung Lee[1, 2], B. Hamilton[3], K. Ogle[1], J. Murdock[1], S. R. Planck[1], T. M. Martin[1], D. Choi[4, 5], R. A. Dailey[1], J. D. Ng[1], E. A. Steele[1], R. Verma[6], K. S. Biggee[7], J. T. Rosenbaum[1].* [1]Casey Eye Institute, Oregon Health & Science University; [2]Ophthalmology, Hallym University Sacred Heart Hospital; [3]Radiology, Oregon Health & Science University; [4]Oregon Health and Science University-Portland State University School of Public Health; [5]Graduate School of Dentistry, Kyung Hee University; [6]Ophthalmology, UC San Diego, Shiley Eye Institute; [7]Kaiser Permanente Northwest **CR*

6212 — *B0192* **The ues of MRI 3D reconstruction of orbital tissue in dysthyroid optic neuropathy.** *Zhang Te[2, 1], Y. huasheng[2, 1].* [1]Sun Yat-Sen University; [2]State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center

6213 — *B0193* **Quantification of Optic Nerve Length and Tortuosity in Thyroid Eye Disease.** *Umar A. Rehman, S. Ugradar, A. Le, J. Park, C. Lo, D. B. Rootman.* Ophthalmology, UCLA Stein Eye Institute

6214 — *B0194* **Gaze Evoked Deformations of the Optic Nerve Head in Thyroid Eye Disease.** *Liam Fisher[1, 2], X. Wang[3, 2], T. A. Tun[2, 4], H. Chung[4], D. Milea[4, 5], M. J. Girard[2, 4].* [1]NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore; [2]In Vivo Biomechanics Laboratory, Department of Biomedical Engineering, National University of Singapore; [3]Beijing Advanced Innovation Center for Biomedical Engineering, School of Biological Science and Medical Engineering, Beihang University; [4]Singapore Eye Research Institute, Singapore National Eye Centre; [5]Duke-NUS Medical School

6215 — *B0195* **Electroretinography in thyroid eye disease: comparison of the pattern ERG and the pattern VEP..rooke Johnson[1], Jason C. Park[1], Peter MacIntosh[1] & J. Jason McAnany[1]. Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, Illinois, USA.** *Brooke Johnson, J. C. Park, P. MacIntosh, J. McAnany.* Ophthalmology and Visual Sciences, University of Illinois at Chicago

6216 — *B0196* **Deep lateral wall decompression for thyroid eye disease using an ultrasonic bone aspirator.** *Janani Singaravelu, S. Couch.* Ophthalmology, Washington University in St**.** Louis

6217 — *B0197* **Utility of PROSE in thyroid eye disease patients with recurrent proptosis after orbital decompression.** *Kalla A. Gervasio[1], K. J. Godfrey[2, 3], J. P. Winebrake[2], M. N. Lee[2], K. C. Sippel[2], E. C. Lai[2], G. Lelli[2].* [1]Wills Eye Hospital; [2]Ophthalmology, Weill Cornell Medical College; [3]Ophthalmology, Edward S**.** Harkness Eye Institute, Columbia University Medical Center

6218 — *B0198* **Novel histopathological, immunohistochemical and electron microscopic observations in explanted orbital peri-implant capsules.** *Tarjani V. Dave[1, 3], D. Mishra[2], V. Singh[3], N. Mitragotri[3], S. Kumar[3].* [1]Department of Ophthalmic Plastic Surgery, L V Prasad Eye Institute ; [2]Ophthalmic Pathology Laboratory, L V Prasad Eye Institute; [3]L V Prasad Eye Institute

6219 — *B0199* **Effect of a Foldable Capsular Vitreous Body on Stimulation of Orbital Growth and Maintenance of Globe Shape in Immature Rabbits.** *Danping Huang, B. Lin, L. Fang, Q. Gao.* Oculoplasty Department, Zhongshan Ophthalmic Center

6220 — *B0200* **Evaluation of Socket Complications after Enucleation.** *Lucy A. Bailey[1, 2], J. C. Hunt[1], K. Richani-Reverol[1, 2].* [1]Ophthalmology and Visual Science, McGovern Medical School at The University of Texas Health Science Center; [2]Robert Cizik Eye Clinic

6221 — *B0201* **Local excision of orbital metastasis from renal cell carcinoma: 3 cases including one 8-year follow-up.** *Julia Kang, T. Wojno.* Ophthalmology, Emory Eye Center

6222 — *B0202* **Globe Preservation in the Management of Optic Nerve Avulsion.** *Duy Vu[1], G. Justin[2, 4], M. Colyer[4, 3], M. Somogyi[6, 7], B. Davies[4, 5], M. Sniegowski[1], D. Lyon[1].* [1]Ophthalmology, University of Missouri Kansas City; [2]Ophthalmology, Brooke Army Medical Center; [3]Ophthalmology, Walter Reed National Military Medical Center; [4]Surgery, Uniformed Services University of the Health Sciences; [5]Ophthalmology, Brooke Army Medical Center; [6]Texas Oculoplastics Consultants; [7]University of Texas

6223 — *B0203* **Development of an Institutional Orbital Cellulitis Clinical Pathway.** *Lisa Lin[1, 2], K. Revere[2], W. Katowitz[2], J. Lavelle[3], N. Topping-Waller[5], T. Kaur[6], M. Rizzi[4], A. Buzi[4], M. Hayes[7], C. Wilbur[7], M. Blackstone[3], M. Russo[7], K. Reddy[6], I. F. Kuhn[2], G. Binenbaum[2].* [1]Perelman School of Medicine, University of Pennsylvania; [2]Department of Ophthalmology, Children's Hospital of Philadelphia; [3]Department of Emergency Medicine, Children's Hospital of Philadelphia; [4]Department of Otolaryngology, Children's Hospital of Philadelphia; [5]Pathway Program, Children's Hospital of Philadelphia; [6]Department of Pediatrics, Children's Hospital of Philadelphia; [7]Department of Infectious Diseases, Children's Hospital of Philadelphia

West Exhibition Hall B0204-B0225

Thursday, May 02, 2019 8:00 AM-9:45 AM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

524 Eyelid and Lacrimal System

Moderators: Ningdong Li and Stephen P. Christiansen

6224 — *B0204* **Lacrimal tissue resection and dry eye in Fasanella-Servat Operation.** *Shani Golan[1], G. Lelli[1], C. Magro[2].* [1]Ophthalmology, Weill Cornell Medical college; [2]Pathology and Laboratory Medicine, Weill Cornell Medical college

6225 — *B0205* **Exposure challenges with vismodegib treatment for basal cell carcinoma.** *Gabriela Rifkin.* Ophthalmology, Flaum Eye Institute

6226 — *B0206* **Switchover study of onabotulinumtoxinA to incobotulinumtoxinA for facial dystonia.** *John Bladen, M. Favor, A. Litwin, R. Malhotra.* Ophthalmology, Queen Victoria Hospital, East Grinstead

6227 — *B0207* **Repair of a full thickness lower eyelid defect with an ipsilateral full thickness bilamellar graft from the upper eyelid in a porcine model (Sus scrofa).** *Donovan Reed, W. Brundridge, C. Gallagher, T. Soeken, B. Davies.* SAUSHEC

6228 — *B0208* **Relative Incidence of Postoperative Ptosis Among Ophthalmic Surgeries.** *Benjamin C. Campbell[1], M. Esfandiari[2], R. A. Goldberg[1], D. B. Rootman[1].* [1]Orbital and Ophthalmic Plastic Surgery, UCLA Stein Eye Institute; [2]Statistics, UCLA

6229 — *B0209* **A prospective study of eyelid position after retina surgery.** *Livia Teo, A. Jung, L. S. Lim.* Singapore National Eye Centre

6230 — *B0210* **Modified Hotz procedure with CO2 laser ablation of the orbicularis oculi muscle for epiblepharon.** *ChunChieh Lai, C. Lin.* National Cheng Kung University Hospital

6231 — *B0211* **Eyelid Weight Sizing Sets Using Readily Available Materials.** *Jenny Dohlman, M. Yoon.* Massachusetts Eye and Ear Infirmary

6232 — *B0212* **Correction of recurrent pediatric ptosis with poor levator function: A modified pentagon frontalis suspension.** *Jingjing Jiang, L. Li.* Department of Ophthalmology, Beijing Children's Hospital

6233 — *B0213* **The Effect of Ptosis Repair on Tear Film Lipid Layer Thickness and Dry Eye Symptoms.** *Neel Vaidya, S. Kirk, D. Yoo.* Ophthalmology, Loyola University Medical Center

6234 — *B0214* **Buccal mucous membrane grafting for intractable cicatricial entropion.** *SAE MI LEE, H. Ahn, W. C. Park, W. Jung, Y. Kwon, S. Jin, N. Kim.* Dong-A university hospital

6235 — *B0215* **Age-related changes in anthropometric measurements in the ocular region from childhood to adulthood in Chinese Han population.** *Huan Ma[1, 2], Y. Chen[1, 2], R. Lu[1, 2].* [1]Zhongshan Ophthalmic Center; [2]State Key Laboratory of Ophthalmology

6236 — *B0216* **Prevalence of Incidental Ophthalmic Findings in Children Presenting to Oculoplastic Surgeons.** *Alice Shen[1], K. Revere[1], Y. Yu[2], G. Ying[2], W. Katowitz[1], G. Binenbaum[1].* [1]Pediatric Ophthalmology, Children's Hospital of Philadelphia; [2]University of Pennsylvania

6237 — *B0217* **Identification of Primary Acquired Nasolacrimal Duct Obstruction Risk Factors.** *Andrew Mueller, A. Zhang, S. Scofield-Kaplan, R. Mancini.* Ophthalmology, UT Southwestern Medical Center

6238 — *B0218* **Improvement of Functional Visual Acuity Following Levator Resection in Involutional Blepharoptosis.** *Junya Sato, X. Zheng, A. Mitani, T. Kamao, A. Shiraishi.* Ophthalmology, Ehime Univ Sch Med

6239 — *B0219* **Seven novel and three known mutations in FOXL2 in 10 Chinese families with Blepharophimosis syndrome.** *Bingying Lin[1], B. Zeng[2], D. Huang[1].* [1]Zhongshan Ophthalmic Center, Sun Yat-sen University,; [2]Guanghua School of Stomatology, Hospital of Stomatology, Guangdong Provincial Key Laboratory of Stomatology, Sun Yat-sen University, Guangzhou

6240 — *B0220* **Treatment of corneal opacity by automatic blepharopigmentor.** *Jeong Yong Kim.* BORA Eye Hospital

6241 — *B0221* **The role of topical antibiotic prophylaxis in eyelid surgery: interim analysis of a pilot randomized controlled trial.** *Qinyun Wang[1], O. O. Idowu[1], S. Tanaboonyawat[2, 1], T. S. Copperman[1], M. R. Vagefi[1], R. C. Kersten[1].* [1]UCSF Ophthalmology; [2]Department of Ophthalmology, Phramongkutklao College of Medicine, Royal Thai Army ↗

6242 — *B0222* **Rebamipide promotes lacrimal-duct epithelial cell survival via protecting the barrier function.** *Michiko Tsukamoto[1, 2], H. Tanaka[1, 3], T. Nakayama[1], T. Nakamura[1], A. Watanabe[1], C. Sotozono[1], S. Kinoshita[4, 1].* [1]Kyoto Prefectural University of Medicine; [2]Saiseikai Shigaken Hospital; [3]Japanese Red Cross Kyoto Daini Hospital; [4]Frontier Medical Science and Technology for Ophthalmology **CR*

6243 — *B0223* **Free Tarsoconjunctival Graft Combined with Skin-orbicularis Muscle Advancement Flap: A 1-Stage Technique for Eyelid Reconstruction.** *Xin Song, X. Fan.* Ophthalmology, Shanghai Ninth People's Hospital

6244 — *B0224* **Topical Bacitracin Zinc+Neomycin Sulfate+Polymyxin B (Neosporin) vs Gentamicin For The Prevention Of Wound Infection Following Outpatient Oculoplastic Surgical Procedures.** *philip R. rizzuto, M. Zaskey, y. seol.* Surgery (Ophthalmology), Warren Alpert Medical School, Brown University

6245 — *B0225* **Development of customized lacrimal bypass ducts using high resolution 3D-printing technology.** *Xian Zhang[1, 2], R. Liu[1], g. Shao[2], H. Henry Oliver Tenadooah Ware[2], D. Ke[1], N. Xiang[1], H. F. Zhang[2], c. sun[2].* [1]Ophthalmology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology; [2]Biomedical Engineering, Northwestern University

West Exhibition Hall B0227-B0252

Thursday, May 02, 2019 8:00 AM-9:45 AM

Cornea

525 Conjunctival Cell Biology, Disease and Surgery

Moderator: Takefumi Yamaguchi

6246 — *B0227* **A Phase 2 Multicenter, Randomized, Vehicle-Controlled Study to Evaluate the Safety and Efficacy of CBT-001 for Pterygia.** *Scott M. Whitcup[2, 1], K. N. Sall[3], J. A. Hovanesian[5], D. F. Goldberg[7], P. Bernstein[6], O. L. Lee[4, 2].* [1]Whitecap Biosciences; [2]Ophthalmology, UCLA Stein Eye Institute; [3]Sall Research Medical Center; [4]Doheny Image Reading Center, Doheny Eye Institute; [5]Harvard Eye Associates; [6]Bernstein Biostatistics Consulting; [7]Wolstan & Goldberg Eye Associates **CR*, ↗

6247 — *B0228* **Effec of N-Acetylcysteine in conjunctival pterygium.** *Fidelina Parra[3], M. Toledo-Blas[1], A. Franco-Vadillo[1], D. Capiz-Correa[3], A. Kormanovski-Kovzova[1], R. Jarillo Luna[2], G. Guevara-Balcazar[1], M. Castillo-Hernandez[1].* [1]Laboratorio de Farmacologia Cardiovascular y Medicina Hiperbarica Experimental, Escuela Superior de Medicina, Instituto Politecnico Nacional; [2]Laboratorio de Morfologia, Escuela Superior de Medicina, Instituto Politecnico Nacional; [3]Orbita y Oculoplastica, Fundacion Hospital Nuestra Señora de la Luz, IAP. ↗

6248 — *B0229* **Conjunctival transcriptome profiling in vernal keratoconjunctivitis.** *Andrea Leonardi[1], P. Daull[2], P. Brun[3], R. L. Modugno[1], J. Garrigue[2].* [1]Neuroscience, Ophthalmology, University of Padova; [2]Santen SAS; [3]Department of Molecular Medicine, University of Padua

6249 — *B0230* **Shear stress affects expression of mucins in conjunctival epithelia.** *Kazuhiro Yokoyama[1], T. Utsunomiya[1], A. Ishibazawa[1], N. Ishii[1], K. Hanada[1], Y. Yanagi[1, 2], A. Yoshida[1].* [1]Asahikawa Medical University; [2]Singapore Eye Research Institute

6250 — *B0231* **Treatment of Pyogenic Granulomas with Intralesional Injections of Bevacizumab.** *Randal Pham[5, 1], N. Phu[3], A. Pham[1, 2], C. Chow[4].* [1]Aesthetic and Refractive Surgery Medical Center; [2]Byers Eye Institute ; [3]Burrell College of Osteopathic Medicine; [4]Retinal Diagnostic Center; [5]Advanced Surgery Medical Center

6251 — *B0232* **Comparison of the P.E.R.F.E.C.T. and a modified amniotic membrane graft version of the technique for pterygium removal.** *Sahitya Podila[3], G. Nguyen[3], O. Myers[1], L. Rose[2].* [1]Family and Community Medicine, University of New Mexico Health Sciences Center; [2]Surgery, Division of Ophthalmology, University of New Mexico Health Sciences Center; [3]School of Medicine, University of New Mexico Health Sciences Center

6252 — *B0233* **Isolation and Identification of Human Conjunctival Epithelial Stem Cells by Neurotrophin Receptor P75.** *Yao Fu, N. Wu, X. Fan.* Department of Ophthalmology, Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine

6253 — *B0234* **Tissue engineered conjunctival substitute on the basis of decellularized porcine conjunctiva.** *Joana Witt[1], J. Dietrich[2], G. Geerling[1], S. Mertsch[2], S. Schrader[2], K. Spaniol[1].* [1]Department of Ophthalmology, University Hospital Duesseldorf; [2]Department of Ophthalmology, Pius Hospital, University of Oldenburg

6254 — *B0235* **Comparative Evaluation of Typical and Atypical Pterygia Using Stem Cell and Germ Cell Markers.** *Rebecca Weiss[1], M. Abadi[2], A. Herzlich[2], T. Nagasaki[3], J. MBEKEANI[2].* [1]Montefiore Medical Center; [2]Jacobi Medical Center; [3]Columbia University

6255 — *B0236* **Conjunctival bacterial flora in eyes with lacrimal passage obstruction before and after successful endoscopic recanalization.** *Takahiro Hiraoka[1], S. Hoshi[1], K. Tasaki[1], Y. Kaji[1], M. Maruyama[2], T. Oshika[1].* [1]University of Tsukuba; [2]Maruyama Eye Clinic **CR*

6256 — *B0237* **Cleavage of FITC-tagged N-acetylmuramyl-L-alanine-D-isoglutamine by rabbit tears.** *Peter Lam, M. Burch, T. Redens, C. Liang, M. P. Langford.* Ophthalmology, LSUHSC-Shreveport

6257 — *B0238* **Reducing Adenoviral Patient-Infected Days (RAPID) Study: A Randomized Trial Assessing Efficacy of One Time, In-Office Application of 5% Povidone-Iodine in Treatment of Adenoviral Conjunctivitis.** *Andrew Hartwick[1], T. Than[2], B. Rodic-Polic[3], S. Johnson[5], M. Migneco[6], E. Shorter[4], J. S. Harthan[7], C. Morettin[7], M. Whiteside[8], C. Olson[9], M. Margolis[6], J. Huecker[6], G. Storch[6], M. O. Gordon[6].* [1]Optometry, Ohio State University; [2]Carl Vinson VAMC; [3]DiaSorin Molecular; [4]University of Illinois; [5]Northeastern State University; [6]Washington University in St. Louis; [7]Illinois College of Optometry; [8]UC Berkeley; [9]Fort Sam Houston **CR*, ↗

6258 — *B0239* **Extracellular eosinophilic traps formation was observed at the giant papillae of atopic keratoconjunctivitis patients.** *Akira Matsuda, Y. Asada, S. Iwamoto, T. Hirakata, N. Ebihara.* Department of Ophthalmology, Juntendo Univ School of Med

6259 — *B0240* **Histological differences between plica semilunalis and conjunctivochalasis in Patients with epiphora.** *Nam Yeong Kim, Y. Kwon, M. Rho, W. Park, H. Ahn.* Ophthalmology, Dong-A University Hospital

6260 — *B0241* ***Comparison of Signaling Pathways used by the Specialized Pro-Resolving Mediators Maresin1- and Maresin-2 to Regulate Conjunctival Goblet Cell Function.*** *Darlene A. Dartt[1, 2], J. Bair[1, 2], M. Olsen[1, 3], R. Hodges[1, 2], T. P. Utheim[4, 5], C. N. Serhan[6].* [1]Schepens Eye Research Institute/MEEI; [2]Ophthalmology, Harvard Medical School; [3]Faculty of Medicine, University of Oslo; [4]Institute of Clinical Medicine, Faculty of Medicine, University of Oslo; [5]Medical Biochemistry, Oslo University Hospital; [6]Center for Experimental Therapeutics and Repercussion Injury, Department of Anesthesia, Harvard Medical School

6261 — *B0242* **Withdrawal_Evaluation of the Adenoplus™, an immunochromatography kit in US, for the novel adenoviruses (Types 53,54,56).** *Tomoko Tsukahara-Kawamura[1, 2], N. Hanaoka[2], T. Fujimoto[2], M. Konagaya[2], E. Uchio[1].* [1]Ophthalmology, Fukuoka University School of Medicine; [2]Infectious Disease Surveillance Center, National Institute of Infectious Diseases

6262 — *B0243* **Pterygium: Prevalence and Associations in Western Australian Adults.** *David A. Mackey[1], L. Stevenson[1], G. Lingham[1], A. Burton[1], H. Brown[1], E. Huynh[1], I. Tan[1], P. Sanfilippo[2], S. Yazar[1].* [1]Lions Eye Institute, University of Western Australia/Lions Eye Institut; [2]Centre for Eye Research Australia

6263 — *B0244* **The characteristics of Superior Limbic Keratoconjunctivitis: evaluation of 189 Chinese patients.** *Kaili Wu, C. Cheng, M. Zhu, T. Lin, F. Duan.* Zhongshan Ophthalmic Center, Sun Yat-Sen Univ

6264 — *B0245* **Superior conjunctival healing after autografting used in pterygium excision: pre and postoperative outcomes.** *Fernanda S. Vidal, S. Cronemberger, J. A. Massote.* Ophthalmology, Federal Univ of Minas Gerais ↗

6265 — *B0246* **Anterior Segment Optical Coherence Tomography Angiography Demonstrates Limbal Vascular Changes in Patients with Limbal Stem Cell Deficiency.** *William Binotti, R. Nose, K. Kenyon, P. Hamrah.* Ophthalmology, Tufts Medical Center **CR*

6266 — *B0247* **Morphofunctional study of porcine ocular surface for preclinical research.** *Yolanda Diebold[1, 2], L. García-Posadas[1, 2], A. López-García[1], M. Crespo-Moral[1].* [1]IOBA (Institute of Applied Ophthalmobiology), University of Valladolid; [2]CIBER-BBN (Biomedical Research Networking Center Bioengineering, Biomaterials and Nanomedicine), Carlos III National Institute of Health

6267 — *B0248* **Effect of different FBS concentrations on the proliferation of primary subculture of human pterygium fibroblasts.** *Mariana Lopez-Martinez, D. Gomez-Elizondo, G. Guerrero-Ramirez, D. Morales-Aseff, J. Zavala, J. Valdez-García.* Tecnológico de Monterrey

6268 — *B0249* **Antiproliferative, antioxidant and anti-inflammatory activity of lyophilized Siempreviva in human pterygium fibroblasts.** *Paloma Lopez[1], J. Zavala[1], G. Guerrer-Ramirez[2], J. E. Valdez[1].* [1]Ophthalmology, Tecnologico de Monterrey; [2]Tecnologico de Monterrey Escuela de Medicina

6269 — *B0250* **Subconjunctival bevacizumab injections in the management of impending recurrent pterygium.** *Ying Chen[1, 2], H. Levine[2], A. Quan[1, 2], R. Goldhardt[1, 3], A. Galor[1, 3].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]Miller School of Medicine, University of Miami; [3]Ophthalmology, Miami Veterans Affair Hospital **CR*

6270 — *B0251* **Standardized Lid Margin Redness Scale for Blepharitis.** *Yesha Raval, P. J. Gomes, M. B. Abelson.* Ora **CR*

6271 — *B0252* **The open-book technique: a surgical approach to the conjunctival fornix.** *Jorge Agi.* Ophthalmology, University of Calgary

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West Exhibition Hall B0323-B0376

Thursday, May 02, 2019 8:00 AM-9:45 AM

Cornea

526 Corneal surgery-non refractive

Moderators: Jong Suk Song and Tor P. Utheim

6272 — *B0323* **An International Skills Assessment Rubric for Pterygium Surgery.** *Mehran Zarei Ghanavati[1], H. Ghasemi[1], M. Salabati[1], R. Mahmoudzadeh[1], J. Beltz[5], M. Daniell[4], A. J. Huang[3], C. Liu[6], A. R. Djalilian[2].* [1]Farabi Eye Hospital; [2]University of Illinois at Chicago; [3]Washington University School of Medicine; [4]Royal Victorian Eye and Ear Hospital; [5]Royal Victorian Eye and Ear Hospital; [6]Sussex Eye Hospital

6273 — *B0324* **Comparing fibrin glue and suture for graft fixation in pterygium surgery in area of high levels of ultraviolet radiation.** *Rafael d. Borges[1], R. Y. Hida[1], L. B. Vergara[1], R. S. Ferro[1], D. A. Montenegro[2].* [1]Ophthalmology, Santa Casa de Misericordia de Sao Paulo; [2]Ophthalmology, Universidade Federal da Paraiba

Thursday Posters 8:00 am – 9:45 am

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

6274 — *B0325* **Outcomes of Simple Limbal Epithelial Transplant (SLET) for Treatment of Recurrent Pterygium.** *Tanya Trinh, N. Sorkin, Z. Mednick, G. Santaella, A. Telli, A. Slomovic.* Ophthalmology, University of Toronto **CR*

6275 — *B0326* **Corneal patch grafts for exposed glaucoma drainage devices.** *Manotosh Ray[1, 2].* [1]Ophthalmology, National University Health System; [2]Ophthalmology, Yong Loo Lin School of Medicine

6276 — *B0327* **Autologous Tenons Patch Graft in Corneal Fistula.** *deepali singhal, P. Sahay, P. K. Maharana.* All India Institute of Medical Sciences

6277 — *B0328* **Study of clinical profile and outcome of cases of traumatic and nontraumatic wound dehiscence following Corneal Transplantation Surgery.** *Rasik B. Vajpayee[1, 2], L. Stevenson[3], R. Abell[3], M. McGuinness[4].* [1]Royal Victorian Eye and Ear Hospital, University of Melbourne; [2]Vision Eye Institute; [3]Royal Victorian Eye and Ear Hospital; [4]Centre for Eye Research Australia, University of Melbourne

6278 — *B0329* **The Newcastle Corneal Transplant Registry: 15-year outcomes of the first corneal transplantation.** *Francisco C. Figueiredo[1, 2], A. E. Ghareeb[3], M. S. Figueiredo[2], W. J. Armitage[4, 5], S. Pradhan[2].* [1]Ophthalmology/ Institute Genetic Medicine, Newcastle University; [2]Ophthalmology, Royal Victoria Infirmary; [3]Institute Genetic Medicine, Newcastle University; [4]Bristol University; [5]NHS Blood and Transplantation

6279 — *B0330* **Long-term survival of re-grafts by penetrating keratoplasty – a prospective study in the UK.** *Sayali Pradhan[1], M. S. Figueiredo[1], A. E. Ghareeb[1], F. Figueiredo[1, 2].* [1]Ophthalmology, Royal Victoria Infirmary, Newcastle Upon Tyne; [2]Newcastle University

6280 — *B0331* **Comparison of Intraocular Pressure, Steroid use, and Glaucoma Incidence after Penetrating Keratoplasty versus Endothelial Keratoplasty.** *Priscilla Vu, S. Aggarwal, Y. Lu, K. Xie, M. Wade, A. Bhatt.* Ophthalmology, UC Irvine

6281 — *B0332* **Clinical evaluation of lifeline suture technique for DSAEK in cases without posterior capsule using novel donor insertion device (NS Endo-Inserter).** *Hideaki Yokogawa, A. Kobayashi, N. Mori, T. Nishino, K. Sugiyama.* Ophthalmology, Kanazawa Univ Grad Sch of Med

6282 — *B0333* **Clinical evaluation of NS Endo-Inserter, a novel donor inserter for Descemet's Stripping Automated Endothelial Keratoplasty.** *Akira Kobayashi, H. Yokogawa, N. Mori, T. Nishino, K. Sugiyama.* Dept of Ophthalmology, Kanazawa Univ Sch of Medicine

6283 — *B0334* **Outcomes of complex Descemet's stripping automated endothelial keratoplasty (DSAEK) in eyes with significant ocular comorbidities.** *Kevin K. Ma[1], Y. Wang[1], N. Sanjiv[2], U. V. Jurkunas[1], J. Yin[1].* [1]Massachusetts Eye and Ear Infirmary, Harvard Medical School; [2]Boston University School of Medicine

6284 — *B0335* **Clinical Outcomes of Replacing a Failed Descemet's Stripping Automated Endothelial Keratoplasty Graft.** *Alex Bauer[1], L. Potts[2], S. Chen[2], K. D. Tran[1], M. D. Straiko[2], M. A. Terry[2].* [1]Lions VisionGift; [2]Devers Eye Institute

6285 — *B0336* **Delayed corneal clearance after uneventful Descemet Membrane endothelial keratoplasty.** *Victor A. Augustin, J. M. Weller, F. E. Kruse, T. Tourtas.* University of Erlangen-Nuremberg

6286 — *B0337* **DMEK tamponade using 20% sulfur hexafluoride (SF6) gas is associated with a significantly lower re-bubbling rate but comparable endothelial cell count in contrast to air.***Cedric Matar, L. Daas, G. Milioti, S. Suffo, B. Seitz.* Ophthalmology, Universitätsklinikum des Saarlandes

6287 — *B0338* **Descemet Membrane Endothelial Keratoplasty with small grafts (mini-DMEK) for the treatment of focal defects in Descemet's membrane.** *Björn Bachmann, A. Händel, S. E. Siebelmann, M. Matthaei, C. Cursiefen.* Department of Ophthalmology, University of Cologne

6288 — *B0339* **Cystoid macular edema following staged Descemet's Membrane Endothelial Keratoplasty in Asian Eyes.** *Satoru Inoda[1], T. Hayashi[2], H. Takahashi[1], I. Oyakawa[3], H. Yokogawa[4], A. Kobayashi[4], N. Kato[5], H. Kawashima[1].* [1]Ophthalmology, Jichi Medical University; [2]Ophthalmology, Yokohama Minami Kyosai Hospital; [3]Ophthalmology, Heart Life Hospital; [4]Ophthalmology, Kanazawa Univ Grad Sch of Med; [5]Ophthalomogy, Saitama Medical University **CR*

6289 — *B0340* **Incidence of and Risk Factors for Cystoid Macular Edema Post-Descemet Membrane Endothelial Keratoplasty.** *Geoffrey Ching[1], M. Al-Obthani[2], A. Covello[2], M. McCarthy[2], S. P. Holland[2], R. Ritenour[3], S. Yeung[2], A. Iovieno[2].* [1]University of British Columbia; [2]Vancouver Coastal Health; [3]Vancouver Island Health Authority

6290 — *B0341* **Deturgescence using dextran negatively affects corneal endothelial cell viability of pre-stripped grafts for Descemet's Membrane Endothelial Keratoplasty.** *Johannes Menzel-Severing[1], G. Geerling[1], F. E. Kruse[3], P. Walter[2], S. Salla[2].* [1]Ophthalmology, University of Düsseldorf; [2]Ophthalmology, RWTH Aachen University; [3]Ophthalmology, University of Erlangen-Nuremberg

6291 — *B0342* **DMEK vs phaco-DMEK triple procedure : a comparative multivariate study about 106 cases.** *Sarah Stoebener, A. MADKAUD, C. Gisquet, c. goetz, N. Ouamara, Z. Mohamed, L. Lhuillier, J. Perone.* CHR Metz-Thionville

6292 — *B0343* **Long-term results of Descemet membrane endothelial keratoplasty (DMEK).** *Julia M. Weller, V. A. Augustin, F. E. Kruse, T. Tourtas.* Ophthalmology, University of Erlangen-Nürnberg, Germany

6293 — *B0344* **Clinical outome of 150 consecutive cases undergoing Descemet Membrane Endothelial Keratoplasty.** *Mayte Arino[1], I. Jimenez-Alfaro[2], B. Garcia Sandoval[2], N. Alejandre[2], M. Iradier[1], P. Arriola-villalobos[1].* [1]Hospital Clinico San Carlos; [2]Fundación Jiménez Diaz

6294 — *B0345* **Changes in Anterior and Posterior Corneal Astigmatism after Descemet Membrane Endothelial Keratoplasty versus Ultrathin Descemet Stripping Automated Endothelial Keratoplasty: Results from the Randomized Controlled DETECT Trial.** *Samuel Werner[1], J. Rose-Nussbaumer[2], C. Lin[3], A. Austin[2], W. Chamberlain[1].* [1]Cornea, Casey Eye Institute, Oregon Health and Science University; [2]Ophthalmology, University of California, San Francisco; [3]Ophthalmology, Stanford University ↗

6295 — *B0346* **Simplified DMEK Technique : Description and Clinical Outcomes about 106 Eyes.** *Anne-Claude MADKAUD, S. Stoebener, D. Marie, Z. Mohamed, L. Lhuillier, N. Ouamara, c. goetz, J. Perone.* Hôpital de Mercy, CHR Metz-Thionville

6296 — *B0347* **Descemet's membrane endothelial keratoplasty (DMEK) scrolling patterns following paired small radial incisions (hinges).** *Peter Bedard[1, 2], J. J. Justin[2], M. S. Hansen[3], J. H. Hou[1].* [1]Dept of Ophthalmology and Visual Neuroscience, University of Minnesota; [2]Lions Gift of Sight; [3]Minnesota Eye Consultants

6297 — *B0348* **Myofibroblastic membranes after corneal surgery: a clinical histopathologic correlation study.** *Nathan Pirakitikulr[1], J. D. Martinez[1], A. L. Garcia[1], R. Goldhardt[1, 2], S. Dubovy[1], G. Amescua[1], A. Galor[1, 2].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]Ophthalmology, Veterans Health Administration

6298 — *B0349* **First in human trial of Novel DMEK punch to facilitate DMEK surgery.** *Chandra Bala.* Department of Ophthalmology, Macquarie University **CR*, ↗

6299 — *B0350* **An alternative stain for DMEK grafts: safety, stain retention, and feasibility of Patent blue.** *Shin-Yi Chen[1, 2], K. D. Tran[3], S. Wehrer[3], L. Potts[1], A. Bauer[3], M. D. Straiko[1], M. A. Terry[1].* [1]Cornea service, Devers Eye Institute; [2]Ophthalmology, Chang Gung Memorial Hospital; [3]Lions VisionGift

6300 — *B0351* **Supplementation of amphotericin B in Optisol-GS for Descemet membrane endothelial keratoplasty (DMEK).** *Maria Elena Galimi, J. M. Weller, F. E. Kruse, V. A. Augustin, T. Tourtas.* University of Erlangen-Nuremberg

6301 — *B0352* **The Association of Eye Bank Observations, Donor and Recipient Factors with Operative Complications in the Cornea Preservation Time Study.** *Kevin Ross[1], C. Stoeger[2], R. O'Brien[3], L. Szczotka-Flynn[4], A. Ayala[3], M. G. Maguire[5], B. Benetz[4], J. H. Lass[4].* [1]Eversight; [2]Lions VisionGift; [3]Jaeb Center for Health Research; [4]Ophthalmology, Case Western Reserve University and University Hospitals Eye Institute; [5]Center for Preventive Ophthalmology and Biostatistics, Perelman School of Medicine, University of Pennsylvania **CR*, ↗

6302 — *B0353* **Suitability of Corneal Tissue Related to Donor Ophthalmic History.** *Taylor Fields[1], R. Jaber[1], L. James[2], K. Jones[2], K. McCoy[2], M. Secic[2].* [1]Ophthalmology, Henry Ford Health; [2]Eversight

6303 — *B0354* **Routine Donor Tomography in the Eye Bank as Sterile Screening Method for Improved Graft Selection in Corneal Transplantation.** *Berthold Seitz[1], S. Maeurer[2], F. Asi[1], L. Hamon[1], L. Daas[1], A. Abdin[1], T. Eppig[2], A. Langenbucher[2].* [1]Department of Ophthalmology, University of Saarland; [2]Institute of Experimental Ophthalmology, Saarland University

6304 — *B0355* **Prospective Comparison of Telemedicine versus In-Person Consultations to Determine Corneal Tissue Suitability for Transplantation.** *Daniel L. Kornberg[1], R. Alabi[1], A. Ansin[2], J. Clover[2], K. D. Tran[2], C. S. Sales[1].* [1]Ophthalmology, Weill Cornell Medical College/NewYork-Presbyterian; [2]Vision Research Laboratory, Lions VisionGift

6305 — *B0356* **Learning curve for *in situ* corneoescleral excision by health care professionals without previous surgical training.** *Ana G. Montiel García, D. A. Pérez Juárez, R. Rodriguez-DeRiquer, M. P. Jaimes Gutierrez, E. O. Graue-Hernandez, J. L. Pedro Aguilar.* Instituto de Oftalmología FAP Conde de Valenciana

6306 — *B0357* **Graft Opacity in Corneal Transplant Failure is Characterized by Stromal Fibrosis: a Confocal Microscopy Analysis.** *Thomas Dohlman, J. Yin, Z. Luznik, W. Foulsham, T. Blanco, S. Chauhan, R. Dana.* Ophthalmology, Mass Eye and Ear Infirmary/Harvard Medical School

6307 — *B0358* **Corneal grafts from body donors from the Institute of Anatomy - the experience of the LIONS Eye Bank in Homburg/Saar.** *Cristina Martin[1], B. Seitz[1], T. Tschernig[2], K. Schäfer[2], I. Scheck[2], H. Mayer[2], R. Dollwett[2], M. Bischoff-Jung[1].* [1]Department of Ophthalmology, Saarland University Medical Center UKS; [2]Institute of Anatomy and Cell Biology of the Saarland University

6308 — *B0359* **Two-year Outcomes of Femtosecond Laser Myoring Implantation Combined with Corneal Transpocket Cross-linking in Treatment of Keratoconus.** *Hosam Ibrahim-Elzembely[1], M. Iqbal[2], A. Elmasry[3].* [1]Ophthalmology, Minia University; [2]Ophthalmology, Sohag University; [3]Ophthalmology, Alexandria University

6309 — *B0360* **Sinsky Assisted descemet endothelium Frill formation and Edge lifting (SAFE) for descemet membrane endothelial keratoplasty (DMEK) donor preparation in eye bank.** *Prafulla K. Maharana, P. Sahay, D. Singhal.* Dr Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences

6310 — *B0361* **Implantation of Intrastromal Allograft Corneal Segment (ISACS) for treatment of pellucid marginal degeneration (PMD).** *Mohammad Jafarinasab[1, 2], M. Javadi[1, 3], S. Safi[1, 2], H. Abbasi[1], Y. Hadi[1].* [1]labbafinejad Medical Center,Department of Ophthalmology, Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences; [2]Ophthalmic Epidemiology Research Center, Shahid Beheshti University of Medical Sciences; [3]Eye BankManagement

6311 — *B0362* **Small graft, simultaneous amniotic membrane transplantation, temporary lateral tarsorrhaphy and autologous serum improves outcome of penetrating keratoplasty in congenital aniridia with aniridia associated keratopathy.** *Fabian N. Fries, C. Farah, L. Latta, B. Käsmann-Kellner, B. Seitz.* Ophthalmology, Saarland University

6312 — *B0363* ***In vitro* bio-functional profiles and *in vivo* outcome of α1,3-galactosyltransferase gene-knockout miniature pig-to-nonhuman primate corneal xenotransplantation.** *Mee Kum Kim[1, 2], C. Yoon[1, 2], S. Choi[1, 2], H. Lee[2], H. Kang[3], J. Kim[4], C. Park[4], K. Choi[5], H. Kim[5], C. Ahn[6], H. Choi[1, 2].* [1]Ophthalmology, Seoul National University College of Medicine; [2]Laboratory of Ocular Regenerative Medicine and Immunology, Seoul Artificial Eye Center, Seoul National University Hospital Biomedical Research Institute; [3]Department of Laboratory Medicine, Hallym University College of Medicine; [4]Translational Xenotransplantation Research Center, Seoul National University College of Medicine; [5]Optipharm, Inc.; [6]Department of Internal medicine, Seoul National University College of Medicine

6313 — *B0364* **Predictive biomarkers for graft rejection in pig-to-non-human primate corneal xenotransplantation.** *Chang Ho Yoon[1, 2], S. Choi[1, 2], H. Lee[2], H. Kang[3], M. Kim[1, 2].* [1]Ophthalmology, Seoul National University Hospital; [2]Laboratory of Ocular Regenerative Medicine and Immunology, Seoul Artificial Eye Center, Seoul National University Hospital Biomedical Research Institute; [3]Department of Laboratory Medicine, Hallym University College of Medicine

6314 — *B0365* **Plasma Rich in Growth Factors membrane in the treatment of Limbal Stem Cell Deficiency.** *Jesus Merayo-Lloves[2], R. Sanchez-Avila[2], M. Chacon[2], N. Vazquez[2], S. Berisa[1], M. P. MEDINA[2], C. Lisa[1], M. Naveiras[1], A. Meana[2].* [1]Instituto Oftalmologico Fernandez-Vega; [2]Instituto Universitario Fernandez-Vega, Fundacion de Investigacion Oftalmologica & Universidad de Oviedo

6315 — *B0366* **Management of early acute rejection of keratolimbal allografts: a case series.** *Eubee B. Koo[1], A. Gibbons[1], V. L. Perez[2].* [1]Ophthalmology, Bascom Palmer Eye Institute; [2]Ophthalmology, Duke

6316 — *B0367* **Interface Keratitis following Lamellar Keratoplasty: A Retrospective Case Series.** *Jennifer Ling, G. L. Qiao, T. Wong, S. Yeung, A. Iovieno.* University of British Columbia

6317 — *B0368* **Visual outcomes and complications with Boston Type 1 Keratoprosthesis in an ophthalmology referral center in Mexico City from 2010 to 2018.** *Carlos A. Muller Morales, A. J. Ramirez-Miranda, A. Navas, E. O. Graue-Hernandez.* Cornea and Refractive Surgery, Instituto de Oftalmologia Conde de Valenciana

6318 — *B0369* **Long-term Outcomes of Pediatric Keratoprosthesis.** *Sneha Bontu, P. Chhadva, J. de la Cruz, M. S. Cortina.* University of Illinois at Chicago

6319 — *B0370* **Association between retroprosthetic membrane formation and post-operative angle closure after Boston type 1 Keratoprosthesis surgery.** *Carmen Somavilla, F. I. Karas, M. S. Cortina.* Cornea, Illinois Eye and Ear Infirmary University of Illinois at Chicago

6320 — *B0371* **Corneal Topographic Characteristics after Crosslinking in pediatric patients after one year follow-up.** *Regina Velasco, M. LOPEZ-DIMAS, A. BABAYAN-SOSA, O. Fernandez Vizcaya, E. Alegria Gomez, C. Pacheco Del Valle, O. Baca Lozada.* Cornea, Hospital de la Luz

6321 — *B0372* **Cool Crosslinking: " Riboflavin at 4° C for the Management of Pain After Crosslinking for Keratoconus Patients.".** *Enrique O. Graue-Hernandez, L. E. Toro Giraldo, A. J. Ramirez-Miranda, A. Olivo-Payne, A. Jimenez-Corona, A. Navas, O. Santana-Cruz.* Lentes de contacto, Instituto de Oftalmologia ↗

6322 — *B0373* **Compared effectiveness of Dresden-protocol versus pulsed-accelerated crosslinking for halting keratectasia in progressive keratoconus.** *Liam O'Sullivan, D. Johnson, A. Ralhan.* Ophthalmology, Queen's University

6323 — *B0374* **Morphological corneal changes up to one year after crosslinking surgery with and without intracorneal ring segment insertion.** *Lacey Haines[1], O. Kralj[2], S. Marschall[3], A. Gawish[4], P. Fieguth[4], N. Singal[5], H. Chew[5], D. Rootman[5], A. Slomovic[5], W. Hatch[5], K. K. Bizheva[2], L. Sorbara[1].* [1]School of Optometry and Vision Science, University of Waterloo; [2]Dept. of Physics and Astronomy, University of Waterloo School of Optometry and Vision Science; [3]Oculus; [4]Systems Design Engineering Dept., University of Waterloo School of Optometry and Vision Science; [5]Dept. of Ophthalmology and Vision Sciences, University of Toronto **CR*

6324 — *B0375* **Keratoconus stability after corneal accelerated crosslinking.** *Norma Morales, A. J. Ramirez-Miranda, A. Navas, E. O. Graue-Hernandez.* Instituto de Oftalmologia Conde de Valenciana

6325 — *B0376* **Save Sight Keratoconus Registry: Outcomes of corneal cross-linking for Keratoconus from routine clinical practice.** *Stephanie L. Watson[1], A. Ferdi[1], M. Abbondanza[2], V. Nguyen[1], M. Garcia Molina[1], D. Barthelmes[3], M. C. Gillies[1].* [1]The University of Sydney, Save Sight Institute, Discipline of Ophthalmology, Sydney Medical School, Sydney, New South Wales, Australia; [2]Studio Oculistico Abbondanza; [3]University of Zurich

West Exhibition Hall B0414-B0469

Thursday, May 02, 2019 8:00 AM-9:45 AM

Cornea

527 Contact lens

Moderators: Ping Situ and Eduardo M. Rocha

6326 — *B0414* **Development of an eye model with polyvinyl alcohol.** *Chau-Minh Phan[1], H. Qiao[1], R. Shinde[2], L. W. Jones[1].* [1]School of Optometry and Vision Science, University of Waterloo; [2]Manipal Institute of Technology **CR*

6327 — *B0415* **Can orthokeratology lens design be modified to alter peripheral refraction?** *Paul Gifford, P. Kang, V. Masseedupally, M. Tran, C. Priestley.* Sch of Optometry & Vision Sci, University of New South Wales **CR*

6328 — *B0416* **Modelling non-invasive tear break-up times of soft lenses using a sophisticated *in vitro* blink platform.** *Hendrik Walther, V. W. Chan, C. Phan, L. W. Jones.* CORE, School of Optometry, University of Waterloo **CR*

6329 — *B0417* **New analysis methods for characterizing contact lenses with indentation.** *Thomas Angelini, M. Garcia, C. Obryan.* University of Florida **CR*

6330 — *B0418* **Conjunctival neuropathic and inflammatory pain-related gene expression in contact lens discomfort.** *Amalia Enriquez-De-Salamanca[1, 2], A. López-de-la Rosa[1], I. Fernandez[2, 1], C. García-Vázquez[1], C. Arroyo-del-Arroyo[1], M. Calonge[1, 2], M. González-García[1, 2].* [1]IOBA-University of Valladolid; [2]CIBER-BBN

6331 — *B0419* **The clinical study of orthokeratology.omplications and the discontinue reasons.** *Jiwen Yang[1], C. Chen[2], C. Zhou[3], J. Lin[4], Y. He[5], Z. Fan[6], J. Li[7], Z. Lin[8].* [1]Aier Eye Hospital Group Shenyang aier eye hospital; [2]Aier Eye Hospital Group Changsha aier eye hospital; [3]Aier Eye Hospital Group Wuhan aier eye hospital; [4]Aier Eye Hospital Group Chengdu aier eye hospital; [5]Aier Eye Hospital Group Chongqing aier eye hospital; [6]Aier Eye Hospital Group Lanzhou aier eye hospital; [7]Aier Eye Hospital Group Guangzhou aier eye hospital; [8]Aier Eye Hospital Group Changchun aier eye hospital

6332 — *B0420* **Influence of contact lens material in shielding against atmospheric pollutants.** *Sam Popwell[1], C. W. Scales[1], B. Liang[1], D. Riederer[1], E. Dow[1], Z. Fadli[1], M. Scholten[2], P. Offermans[2].* [1]Johnson & Johnson Vision; [2]Philips Electronics

6333 — *B0421* **The effect of Glycoprotein 340's scavenger receptor cysteine-rich domain on bacterial adhesion on soft contact lens.** *Kwaku A. Osei[1], C. Deivanayagam[2], J. J. Nichols[1].* [1]School of Optometry, University of Alabama at Birmingham; [2]Department of Biochemistry and Molecular Genetics, University of Alabama at Birmingham

6334 — *B0422* **Re-Centering Dynamics Of Contact Lenses.** *Kara Maki, D. Ross.* School of Mathematical Sciences, Rochester Institute of Technology **CR*

6335 — *B0423* **Segmentation Tools for the Fourier Evaluation of Commercially Avalilable Multifocal Contact Lenses.** *Pablo De Gracia[1, 2], C. Des Rosiers[1], T. D. Whitescarver[3].* [1]Chicago College of Optometry, Midwestern University; [2]Viam Optical Solutions; [3]Chicago College of Osteopathic Medicine, Midwestern University **CR*

6336 — *B0424* **Shape discrimination ability and disability glare in orthokeratology children.** *Jun Jiang[1], B. Su[1], L. zhou[1], B. Zhang[2, 1], F. Lu[1].* [1]Optometry Clinic, Eye Hospital of Wenzhou Medical University; [2]College of Optometry, Nova Southeastern University

6337 — *B0425* **Assessing the Changes in Optic Nerve Head Morphology during Acute Scleral Lens Wear.** *Maria Walker, L. P. Pardon, R. L. Redfern, N. B. Patel.* College of Optometry, University of Houston

6338 — *B0426* **The Impact of Contact Lens Discomfort on Symptoms of Ocular Pain and Quality of Life.** *Seyed Rezapour[1, 2], M. Ozmen[1, 2], G. Dieckmann[1, 2], N. Koseoglu[1, 2], Y. Seyed-Razavi[1], C. Chao[1], A. Jamali[1], R. Nose[1, 2], A. Akhlaq[1, 2], Z. Salem[1, 2], A. Sahin[1], P. Hamrah[1, 2].* [1]Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston; [2]Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical School, Tufts University School of Medicine, Boston **CR*

6339 — *B0427* **Protein Deposition on antimicrobial contact lenses during extended wear.** *Parthasarathi Kalaiselvan[1], D. Dutta[1], S. Sharma[2], F. Stapleton[1], M. Willcox[1].* [1]School of Optometry and Vision Science, University of New South Wales; [2]Jhaveri Microbiology Centre, L V Prasad Eye Institute **CR*, ↗

6340 — *B0428* **The impact of orthokeratology lens on corneal sensitivity and corneal nerve fibers.** *qian gao[1, 2], J. Yang[1, 2].* [1]Aier eye hospital group Shenyang aier eye hospital; [2]Aier School of Ophthalmology, Central South University **CR*

6341 — *B0429* **Short-Term Changes of Subfoveal Choroidal Thickness and Axial Length in Myopic Children After Orthokeratology.** *Ruiqi Zhang[1], J. Yang[1, 2].* [1]Central South University; [2]Aier eye hospital Group Shengyang aier eye hospital

6342 — *B0430* **Association Between Endothelial Cell Density and Corneal Swelling in Post-Penetrating Keratoplasty Scleral Contact Lens Wear.** *Sofia Murillo[1, 2], J. Caty[2], A. Shariff[2], L. Szczotka-Flynn[2, 1].* [1]Case Western Reserve University; [2]University Hospitals **CR*

6343 — *B0431* **Quantifying Pre- and Post-Lens Tear Film Thickness over Time with Alternative Contact Lens Packaging Solutions.** *Chloe Degre[1, 3], O. Pikul[1, 3], S. Basuthkar[2], G. Yoon[1, 3].* [1]Flaum Eye Institute, University of Rochester; [2]CooperVision Inc.; [3]Center for Visual Science, University of Rochester **CR*

6344 — *B0432* **Adverse events with contact lens wear in children.** *Padmaja Sankaridurg[1, 2], R. Y. Weng[1], T. Naduvilath[1, 2].* [1]Brien Holden Vision Institute; [2]Optometry, School of Optometry and Vision Science **CR*, ↗

6345 — *B0433* **Minimal Effect of Evaporation on Ocular Surface Temperature with Contact-lens Wear.** *Clayton J. Radke[1, 2], Y. Kim[2, 1], S. M. Yi[3], K. H. Panora[1], J. W. Yuen[3], W. Li[3], M. C. Lin[3, 2].* [1]Chemical and Biomolecular Engineering, University of California, Berkeley; [2]Vision Science Graduate Group, University of California, Berkeley; [3]Clinical Research Center, School of Optometry, University of California, Berkeley **CR*

6346 — *B0434* **Measurement of the optical quality of contact lens materials with dehydration.** *soheila boojari, J. Schwiegerling.* university of arizona **CR*

Thursday Posters 8:00 am – 9:45 am

6347 — *B0435* **A large-scale, epidemiologic study of the influence of ultraviolet exposure on myopia progression. A 5-year follow-up study of approximately 57,000 Japanese patients' eyes.** *Masao Yoshida[1], N. Mizuki[2], M. Takeuchi[2], T. Yamane[2], E. Okada[3].* [1]Department of Public Health, Kyorin University School of Medicine; [2]Department of Ophthalmology, Yokohama City University School of Medicine; [3]Okada Eye Clinic

6348 — *B0436* **Assessment of Corneal Endothelium (CE) in Patients Undergoing Temporary Myopia Therapy (Ortho-K) with CRT Contact Lenses (CL).** *Tania M. Schaefer[1], I. F. Godinho[1], R. Godinho[1], G. Carracedo[2], P. Oliveira[1], F. C. Abib[1].* [1]Schaefer Clinic Research Center; [2]Universidad Complutense de Madrid **CR*, ↗

6349 — *B0437* **Characterization of a novel surface modified silicone hydrogel contact lens in fully hydrated environments.** *Charlie Shi, D. Cantu-Crouch, V. Sharma, J. Wu.* Alcon **CR*

6350 — *B0438* **Symptoms associated with mid-day fogging when using a novel scleral lens filling solution.** *Jennifer S. Fogt, M. Karres, A. Menner, J. T. Barr.* The Ohio State University College of Optometry **CR*

6351 — *B0439* **Sensitivity of contact lens-related Pseudomonas aeruginosa keratitis isolates to antibiotics, multipurpose disinfecting solutions and disinfectants.** *Mahjabeen Khan, F. Stapleton, M. Willcox.* School of Optometry and vision science, University of New South Wales

6352 — *B0440* **Asymptomatic versus symptomatic young contact lens wearers: differences in corneal sensitivity, ocular surface temperature, tear stability and blinking rate.** *M Carmen Acosta[1], J. Á. Pastor-Zaplana[1], J. Gallar[2].* [1]Instituto de Neurociencias, Universidad Miguel Hernandez-CSIC; [2]Instituto de Investigación Sanitaria y Biomédica de Alicante

6353 — *B0441* **Presenting clinical, microbiological and treatment characteristics of contact lens related corneal infections in Asia.** *Chris H. Lim[1, 2], J. S. Mehta[3, 4], F. Stapleton[2].* [1]Department of Ophthalmology, National University Hospital; [2]School of Optometry and Vision Sciences, University of New South Wales; [3]Singapore National Eye Centre; [4]Ophthalmology and Visual Sciences Academic Clinical Program, Duke-NUS Graduate Medical School ↗

6354 — *B0442* **What are the effects of a short term interruption in contact lens wear on the suprathreshold response among symptomatic wearers?** *Ping Situ[1], C. G. Begley[1], T. L. Simpson[2].* [1]School of Optometry, Indiana University Bloomington; [2]School of Optometry and Vision Science, University of Waterloo **CR*

6355 — *B0443* **Reciprocal geometrical interactions of modern soft contact lenses and the corneal epithelium.** *Bartlomiej J. Kaluzny[1], P. Mlyniuk[1], J. Stachura[1], A. Jimenez-Villar[2], I. Grulkowski[2].* [1]Division of Ophthalmology and Optometry, Department of Ophthalmology, Collegium Medicum, Nicolaus Copernicus University; [2]Institute of Physics; Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University

6356 — *B0444* **Vision Modeling Prediction of Senofilcon-A with HYDRACLEAR® PLUS and Senofilcon-A with HydraLuxe™ Contact Lenses.** *Vrushali Korde[1], X. Wei[1], G. Hofmann[1], P. Gerligand[1], P. Jubin[1], B. Wooley[2].* [1]R&D, Johnson & Johnson Vision Care; [2]Artech Information Systems, LLC **CR*

6357 — *B0445* **Layer-by-layer coating to control the diclofenac release from contact lenses material.** *Helena Filipe[1, 2], D. Silva[3], H. Sousa[4], H. Gil[5], C. Alvarez - Lorenzo[7], B. Saramago[6], A. Serro[3, 8].* [1]Ophthalmology, Hospital das Foreas Armadas/PL-EMGFA; [2]Ophthalmology, Hospital SAMS; [3]CQE III, Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal; [4]CIEPQPF, Departamento de Engenharia Química, Universidade de Coimbra, Rua Sílvio Lima, Pólo II, Pinhal de Marrocos, Coimbra, Portugal.; [5]CIEPQPF, Departamento de Engenharia Química, Universidade de Coimbra, Rua Sílvio Lima, Pólo II, Pinhal de Marrocos, Coimbra, Portugal; [6]CQE III, Instituto Superior Técnico, Universidade de Lisboa, Portugal; [7]Departamento de Farmacología, Farmacia y Tecnología Farmacéutica, R+D Research Group (GI-1645), Facultad de Farmacia and Health Research Institute of Santiago de Compostela (IDIS), Universidade de Santiago de Compostela, Santiago de Compostela, Spain; [8]CIIEM, Instituto Universitário Egas Moniz, Campus Universitário, Quinta da Granja, Monte de Caparica, Caparica

6358 — *B0446* **Ocular Comfort observed with Revitalens Solution at 45 and 120 minutes.** *Ming Bai, M. J. Bishop, B. K. Hoyt, R. Patrizi.* Johnson & Johnson Vision Care **CR*, ↗

6359 — *B0447* **Efficacy of Euclid Spherical and Toric Orthokeratology Lenses in Decreasing Corneal Astigmatism.** *Erin Tomiyama, K. Richdale.* Cornea and Contact Lens, University of Houston College of Optometry **CR*

6360 — *B0448* **The Changes of Higher-order Aberrations After Wearing Orthokeratology Lens.** *Jae Yong Kim[1], I. Hahn[1], D. Lee[2], H. Tchah[1].* [1]University of Ulsan College of Medicine, Asan Medical Center; [2]Bitsarang Eye Clinic

6361 — *B0449* **Agreement among high-definition anterior segment optical coherence tomography instrumentation in the evaluation of scleral contact lenses in vivo.** *Dorcas Tsang, J. Shen, F. Spors.* College of Optometry, Western University of Health Sciences

6362 — *B0450* **Cosmetic contact lens-related corneal infections in Asia.** *Fiona Stapleton[1], C. H. Lim[1, 2], S. Kweon[1], D. Bautista[3], D. Tan[4], J. Mehta[4, 5].* [1]School of Optometry and Vision Science, University of New South Wales; [2]Department of Ophthalmology,, National University Health System,; [3]Singapore Clinical Research Institute; [4]SIngapore National Eye Centre; [5]Singapore Eye Research Institute

6363 — *B0451* **Translation and Validation of the 8-Item Contact Lens Dry Eye Questionnaire (CLDEQ-8) among Japanese Soft Contact Lens Wearers: the J-CLDEQ-8.** *Shizuka Koh[1, 2], R. Chalmers[3], D. Kabata[4], A. Shintani[4], K. Nishida[2].* [1]Innovative Visual Science, Osaka University Graduate School of Medicine; [2]Ophthalmology, Osaka University Graduate School of Medicine; [3]Clinical Trial Consultant; [4]Medical Statistics, Osaka City University Graduate School of Medicine **CR*

6364 — *B0452* **Clinical evaluation of higher add bifocal soft contact lens to control axial length growth in myopic children.** *Rémy Marcotte-Collard.* School of optometry, Université de Montréal

6365 — *B0453* **Clinical Evaluation Of Customized Ortho-K Design On Myopia Control And Axial Length Elongation.** *Patrick Simard.* School of Optometry, Univ of Montreal

6366 — *B0454* **The Relationship Between Vision And Comfort In Contact Lens Wear.** *Jennie Diec[1], T. J. Naduvilath[1, 2], D. Tilia[1, 2], R. C. Bakaraju[1, 2].* [1]Brien Holden Vision Institute; [2]School of Optometry and Vision Science, University of New South Wales **CR*, ↗

6367 — *B0455* **Visual performance and binocular vision function in adults wearing prototype extended depth-of-focus contact lenses.** *Jennifer Sha[1], D. Tilia[1, 2], H. Amrizal[1], N. Yeotikar[1], V. Thomas[1], R. C. Bakaraju[1, 2].* [1]Brien Holden Vision Institute; [2]School of Optometry and Vision Sciences, University of New South Wales **CR*, ↗

6368 — *B0456* **Lid margin debridement improves contact lens discomfort caused by Meibomian Gland Dysfunction.** *Srihari Narayanan, N. Kasraie, M. Stewart, N. Kasraie, A. Barr, C. G. Connor, W. L. Miller.* Univ Incarnate Word Rosenberg Sch of Optometry ↗

6369 — *B0457* **Binocular vision disorders and contact lens dissatisfaction.** *Daniel Tilia[1, 2], R. C. Bakaraju[1, 2], L. J. Asper[2], E. Papas[2].* [1]Clinical Research and Trials Centre, Brien Holden Vision Institute; [2]School of Optometry and Vision Science, University of New South Wales ↗

6370 — *B0458* **A radioactive labelling technique for evaluating the uptake and release of myristamidopropyl dimethylamine (MAP-D) from contact lenses.** *Alan Yee, V. W. Chan, M. L. Heynen, L. W. Jones.* Centre for Ocular Research and Education (CORE), University of Waterloo **CR*

6371 — *B0459* **The Attenuation of Hydrophobicity Recovery on Contact Lens Surface via Plasma UV Induced Grafting Polymerization of NVP and PEGMA.** *Man-Ching Huang[1], T. Wang[1, 2], J. Ho[1, 2].* [1]Department of Ophthalmology, Taipei Medical University Hospital; [2]Department of Ophthalmology, School of Medicine, College of Medicine, Taipei Medical University

6372 — *B0460* **Scleral lens reservoir densitometry changes in small and large diameter lenses after one hour of wear.** *Cherie B. Nau[1], E. Shorter[2], A. C. Nau[3], J. S. Fogt[4], M. Schornack[1], J. S. Harthan[5].* [1]Optometry, Mayo Clinic; [2]University of Illinois; [3]Korb & Associates; [4]The Ohio State University; [5]Illinois College of Optometry **CR*

6373 — *B0461* **Effects of horizontal eye movement and contact lens decentration on horizontal peripheral refraction.** *David A. Atchison[1], d. Jaisankar[1], K. Gifford[1], A. Leube[2, 3], K. L. Schmid[1].* [1]Institute of Health and Biomedical Innov, Queensland University of Technology; [2]Institute for Ophthalmic Research, Eberhard Karls University Tuebingen; [3]Carl Zeiss Vision International GmbH **CR*

6374 — *B0462* **Spherical aberration in center-distance multifocal soft contact lenses as a function of power and pupil size.** *Augustine N. Nti[1], G. D. Hastings[2], J. D. Marsack[1], E. R. Ritchey[1], D. A. Berntsen[1].* [1]The Ocular Surface Institute, University of Houston; [2]College of Optometry, University of Houston **CR*

6375 — *B0463* **Patient-Reported Mid-Day Fogging with Scleral Lens Wear.** *Muriel Schornack[1], C. B. Nau[1], A. C. Nau[2], J. S. Harthan[3], J. S. Fogt[4], E. Shorter[5].* [1]Ophthalmology, Mayo Clinic; [2]Korb and Associates; [3]Illinois Eye Institute; [4]College of Optometry, The Ohio State University; [5]Ophthalmology, University of Illinois

6376 — *B0464* **Accommodative responses of young adult myopes wearing multifocal contact lenses.** *Kate Gifford, K. L. Schmid, J. Collins, C. Maher, R. Makan, T. Nguyen, G. Parmenter, B. Rolls, X. Zhang, D. A. Atchison.* School of Optometry and Vision Science, Queensland University of Technology **CR*

6377 — *B0465* **How reliable is labelled power of cast molded soft contact lenses?** *Klaus Ehrmann[1, 2], F. Wißmann[1, 3], A. Neumann[1, 3].* [1]Technology, Brien Holden Vision Institute; [2]School of Optometry and Vision Science, University of New South Wales; [3]Optometry, Aalen University

6378 — *B0466* **Functional visual acuity in rigid gas permeable contact lens wearers.** *Takashi Suzuki[2, 1], T. Itokawa[2], S. Koh[3], Y. Hori[2].* [1]Ophthalmology, Ishizuchi eye clinic; [2]Ophthalmology, Toho University Omori Medical Center; [3]Innovative Visual Science, Osaka University Graduate School of Medicine **CR*

6379 — *B0467* **The Antimicrobial Efficacy of Multipurpose Disinfecting Solutions Against Emerging Pathogens.** *Ajay Kumar Vijay, J. Yuan, L. Chen, M. Willcox.* School of Optometry & Vision Science, University of New South Wales **CR*

6380 — *B0468* **Evaluation of eye drop lubrication on contact lenses using a pendulum tester.** *Hiroko Iwashita[1], T. Itokawa[2], K. Kakisu[2], y. Okajima[2], T. Suzuki[2], K. Mabuchi[3], Y. Hori[2].* [1]Toho University Graduate School of Medicine; [2]Ophthalmology, Toho University School of Medicine; [3]Biomedical Engineering, Kitasato University **CR*

6381 — *B0469* **Evaluation of the compatibility of multipurpose solutions with manufacturer's contact lenses and storage cases on antimicrobial efficacy.** *Monica Crary, C. McAnally, R. Walters, E. Miller, V. Harris, M. M. Gabriel, S. Shannon.* Alcon Laboratories **CR*

Thursday Posters
8:00 am – 9:45 am

East 1

Thursday, May 02, 2019 10:15 AM-12:00 PM

Anatomy and Pathology/Oncology

528 Mechanistic analysis of ocular morphogenesis, growth and disease

Moderators: Sophie Lemmens and Debasish Sinha

6382 — *10:15* **New insight into tear transport through the upper and lower canaliculi of the nasolacrimal ducts.** *Friedrich P. Paulsen[1], M. Zetzsche[1], M. J. Ali[2], J. Heichel[3], M. Scholz[1], C. M. Hammer[1].* [1]Institute of Functional and Clinical Anatomy, Friedrich Alexander University Erlangen-Nürnberg; [2]L.V**.** Prasad Eye Institute, Govindram Seksaria Institute of Dacryology; [3]Department of Otorhinolaryngology, Martin Luther University Halle-Wittenberg **CR*

6383 — *10:30* **Expression and functional analysis of Wnt/PCP components in tear drainage system.** *Jiali Ru, D. Guo, C. Liu.* Zhongshan ophthalmic center

6384 — *10:45* **Determining the role of MITF family of transcription factors during choroid fissure closure.** *Katie L. Wagner[1], A. Larimer-Picciani[1], S. George[1], J. Lister[2], J. M. Gross[1].* [1]Ophthalmology, University of Pittsburgh; [2]Human and Molecular Genetics, Virginia Commonwealth University

6385 — *11:00* **Fractal dimension of the retinal vasculature:.ge-related evolution in the general population and effect of cardiovascular health status.** *Sophie Lemmens[1, 2], C. Landtmeeters[1], R. Peeters[1], A. Simons[1], J. Vercauteren[1], J. Barbosa-Breda[1, 3], K. Van Keer[1, 2], P. De Boever[4], I. Stalmans[1, 2].* [1]Department of Neurosciences, KU Leuven; [2]Department of Ophthalmology, UZ Leuven; [3]Surgery and Physiolog (Ophthalmology Unit), Faculdade de Medicina da Universidade do Porto; [4]Department of Health, VITO (Flemish Institute for Technological Research) **CR*

6386 — *11:15* **Antagonistic interactions of *Srebp2* and *Lrp2* in controlling mouse eye size.** *MAI SHUYI[1, 4], D. M. Wu[2, 3], W. Xiong[1, 4].* [1]Department of Biomedical Sciences, City University of Hong Kong; [2]Massachusetts Eye and Ear Infirmary; [3]Department of Genetics, Harvard Medical School; [4]City University of Hong Kong Shenzhen Research Institute

6387 — *11:30* **The optic nerve lamina region (ONLR) contains a neural progenitor/stem cell (NPC/NSC) niche.** *Steven L. Bernstein[1], Y. Guo[1], Z. Mehrabyan[1], C. Kerr[3], R. J. Fawcett[1], s. Temple[2], J. Stern[2].* [1]Ophthalmology, Univ of Maryland Sch of Medicine; [2]Neural Stem Cell Institute; [3]Division of Aging Biology, National Institutes of Health **CR*

6388 — *11:45* **Autophagy is required for maintaining of oligodendrocyte precursor cells in optic nerve.** *Meysam Yazdankhah[1], S. Ghosh[1], I. A. Bhutto[1], P. Shang[1], N. A. Stepicheva[1], S. L. Hose[1], J. Weiss[1], J. S. Zigler, Jr[2], D. Sinha[1, 2].* [1]Ophthalmology, University of Pittsburgh; [2]Wilmer Eye Institute, Johns Hopkins University

East 2/3

Thursday, May 02, 2019 10:15 AM-12:00 PM

Physiology/Pharmacology

529 AMD and Antiangiogenic agents

Moderators: Jeong-Hyeon Sohn and Eric Furfine

6389 — *10:15* **Extracellular vesicles shed from endothelial colony forming cells (ECFCs) with high expression of CD44 are paracrine mediators of neurovasculotrophic retinal repair.** *Kyle V. Marra[1, 2], E. Aguilar[1], A. Ouchi[1], S. Sakimoto[3], M. Friedlander[1].* [1]Department of Molecular Medicine, The Scripps Research Institute; [2]School of Medicine, University of California, San Diego; [3]Department of Ophthalmology, Osaka University Graduate School of Medicine

6390 — *10:30* **Ranibizumab and aflibercept levels and its impact on vascular endothelial growth factor in human breast milk following intravitreal injection.** *Verena Juncal[1, 2], Q. Paracha[2], M. Bamakrid[2], C. Francisconi[1, 2], J. L. Farah[3], A. Kherani[3], R. Muni[1, 2].* [1]University of Toronto; [2]Ophthalmology, St**.** Michael's Hospital; [3]Ophthalmology, University of Calgary **CR*

6391 — *10:45* **Development of long-acting, pan-specific aptamer inhibitors of vascular endothelial growth factor-A optimized for use in retinal diseases.** *Sarah E. Thacker[1], K. E. Maier[2], S. Kossodo[3], R. Quick[4], A. A. Paylor[5], K. G. McLure[1], R. Carris[4], R. M. Hutabarat[3], D. J. Parks[1], M. Levy[2], C. Erickson[6], C. Rusconi[7].* [1]Biology, Vitrisa Therapeutics; [2]Discovery, Vitrisa Therapeutics; [3]Non-Clinical, Vitrisa Therapeutics; [4]Chemistry, Vitrisa Therapeutics; [5]Program Management, Vitrisa Therapeutics; [6]CEO, Vitrisa Therapeutics; [7]Research, Vitrisa Therapeutics **CR*

6392 — *11:00* **Novel aptamers inhibiting interleukin-8 for the treatment of anti-VEGF non-responsive neovascular retinal diseases.** *Matt Walker[5], A. Bhowmick[1], R. M. Hutabarat[2], R. Quick[3], A. A. Paylor[4], S. Kossodo[2], R. Carris[3], K. G. McLure[5], D. J. Parks[5], M. Levy[1], C. Erickson[6], C. Rusconi[7].* [1]Discovery, Vitrisa Therapeutics; [2]Non-Clinical, Vitrisa Therapeutics; [3]Chemistry, Vitrisa Therapeutics; [4]Program Management, Vitrisa Therapeutics; [5]Biology, Vitrisa Therapeutics; [6]CEO, Vitrisa Therapeutics; [7]Research, Vitrisa Therapeutics **CR*

6393 — *11:15* **Fenofibrate-loaded biodegradable nanoparticles for treating retinal neovascularization.** *Qingguo Xu[1, 2], F. Qiu[3], Q. Chen[3], K. Zhou[3], Y. Shao[3], G. Matlock[3], X. Ma[3], W. Wu[3], T. Meng[1], Y. Du[3], X. Wang[3], G. Deng[3], J. Ma[3].* [1]Pharmaceutics, Virginia Commonwealth University; [2]Ophthalmology, Virginia Commonwealth University; [3]Physiology, The University of Oklahoma Health Sciences Center

6394 — *11:30* **A semi-automated phenotypic RPE *in vitro* scratch assay for screening of small molecule compounds able to influence RPE wound healing.** *Tina storm[1], R. Campbell[1], I. R. Wilson[1], A. Bolinches-Amoros[1], A. J. Russel[3, 4], S. G. Davies[3], A. R. Barnard[1, 2], R. E. MacLaren[1, 2].* [1]Nuffield laboratory of ophthalmology, University of Oxford; [2]Oxford University Hospitals NHS Trust, Oxford Eye Hospital; [3]Department of Chemistry, University of Oxford; [4]Department of Pharmacology, University of Oxford **CR*

6395 — *11:45* **Pharmacokinetics of micellar nanoparsticle drug delivery for laser-induced choroidal neovascularization as seen on live ocular imaging..** *Iris N. Mollhoff[1], S. K. MANNA[2, 1], W. Xiao[3], L. Zhang[3], K. Lam[3], R. J. Zawadzki[2, 1], G. Yiu[1].* [1]Ophthalmology and Vision Science, UC Davis Eye Center; [2]Department of Cell Biology and Human Anatomy, UC Davis Eye-Pod Small Animal Ocular Imaging Laboratory; [3]Biochemistry and Molecular Medicine, UC Davis School of Medicine **CR*

East 8&15

Thursday, May 02, 2019 10:15 AM-12:00 PM

Retina

530 Advances in Retinal Gene Therapy and Stem Cells

Moderators: Stephen R. Russell and Stephen Tsang

6396 — *10:15* **Altered electrical responses in iPSC-RPE derived from distinct genetic eye diseases.** *Qin Wan, M. Farnoodian, N. Hotaling, A. George, K. miyagishima, R. Dejene, T. Pfister, A. Maminishkis, B. P. Brooks, S. S. Miller, K. Bharti.* National Eye Institute, National Institute of Health

6397 — *10:30* **Survival and migration of photoreceptor precursors following transplantation into a macaque eye with host photoreceptors ablated.** *Ebrahim Aboualizadeh[1], M. Phillips[2, 3], J. Strazzeri[1, 4], D. Diloreto[1, 4], K. Dhakal[1], B. Bateman[4], J. J. Hunter[1, 4], W. H. Merigan[1, 4], D. M. Gamm[2, 5], D. R. Williams[1, 6].* [1]Center for Visual Science, University of Rochester; [2]Waisman Center, University of Wisconsin-Madison; [3]McPherson Eye Research Institute, University of Wisconsin-Madison; [4]Flaum Eye Institute, University of Rochester; [5]Department of Ophtalmology and Visual Sciences, University of Wisconsin-Madison; [6]The Institute of Optics, University of Rochester **CR*

6398 — *10:45* **Bleb resolution time following subretinal injections of a cell therapy in porcine eyes appears sensitive to formulation osmolarity.** *Jordi Mones[1, 2], R. Beckman[3], K. O'donovan[3], R. Woodward[3], M. Biarnés[1, 2], E. Rodriguez[1, 2], M. Garcia[1, 2], L. Ferraro[1, 2], E. Aguilera[4], E. Izquierdo[4], B. Reyes[4], S. Patel[3].* [1]Institut de la Macula; [2]Barcelona Macula Foundation; [3]Reneuron Ltd; [4]Specipig Breeding and Biomedical Research **CR*

6399 — *11:00* **An analysis of intraoperative optical coherence tomography findings in subretinal gene therapy surgery.** *Huber Vasconcelos Junior[1, 2], P. Yang[1], M. E. Pennesi[1], B. J. Lujan[1], A. K. Lauer[1].* [1]Casey Eye Institute - OHSU; [2]Oftalmologia, Universidade Federal de Sao Paulo-EPM **CR*

6400 — *11:15* **Assessing the level of evidence for the benefit of commercially-available "cell therapy" treatments in the U.S. for ocular diseases.** *Andrew Chen[1], D. Simhaee[1], R. S. Nirwan[1], T. A. Albini[2], J. Sridhar[2], H. Flynn[2], A. E. Kuriyan[1].* [1]Flaum Eye Institute, University of Rochester; [2]Bascom Palmer Eye Institute, University of Miami

6401 — *11:30* **Subfoveal gene augmentation therapy for choroideremia: One-year results from a Phase I/II trial of AAV2-hCHM.** *Rachel M. Huckfeldt[1], T. S. Aleman[2, 4], T. Doan[1], X. Wen[1], C. Weigel-DiFranco[1], D. C. Chung[3], E. Liu[3], E. A. Pierce[1], J. Bennett[2, 4], A. M. Maguire[2, 4], D. Eliott[1], J. Comander[1].* [1]Massachusetts Eye and Ear, Department of Ophthalmology, Harvard Medical School; [2]Department of Ophthalmology, Scheie Eye Institute, University of Pennsylvania; [3]Spark Therapeutics; [4]Center for Advanced Retinal and Ocular Therapeutics, Department of Ophthalmology, University of Pennsylvania **CR*, ↗

6402 — *11:45* **Phase I/IIa Clinical Trial of Human Embryonic Stem Cell (hESC)-Derived Retinal Pigmented Epithelium (RPE, OpRegen) Transplantation in Advanced Dry Form Age-Related Macular Degeneration (AMD): Interim Results.** *Eyal Banin[1], A. Barak[2], D. S. Boyer[3], D. V. Do[4], R. Ehrlich[5], T. Jaouni[1], R. McDonald[6], D. G. Tealander[7], M. Gurevich[8], O. Cohen[8], G. Razag[9], G. S. Hogge[9], B. Reubinoff[10, 8].* [1]Department of Ophthalmology, Hadassah-Hebrew Univ Med Ctr; [2]Department of Ophthalmology, Sourasky Medical Center; [3]Retina Vitreous Associates Medical Group; [4]Department of Ophthalmology, Byers Eye Institute, Stanford University School of Medicine; [5]Department of Ophthalmology, Rabin Medical Center; [6]West Coast Retina Group; [7]Retinal Consultants Medical Group; [8]BioTime subsidiary, Cell Cure Neurosciences; [9]BioTime, Inc.; [10]Center for Embryonic Stem Cells and the Department of Gynecology and Obstetrics, Hadassah-Hebrew University Medical Center **CR*, ↗

Thursday Papers
10:15 am – 12:00 pm

East 11/12

Thursday, May 02, 2019 10:15 AM-12:00 PM

Retinal Cell Biology

531 Biology of Retinal Neurons

Moderators: Ann C. Morris and Tom Glaser

6403 — *10:15* **Decorin Loss Compromises RPE Microvilli and Photoreceptor Interactions in the Retinal Interphotoreceptor Matrix.** *Shyam S. Chaurasia[1], R. Lim[1], S. Gupta[1], D. P. Hainsworth[2], R. R. Mohan[1, 2].* [1]Veterinary Medicine and Surgery, University of Missouri ; [2]Ophthalmology, Mason Eye Institute

6404 — *10:30* **6-phosphofructo-2-kinase/ fructose-2,6-bisphosphatase 2 governs the metabolic flux between rod and cone photoreceptors.** *Géraldine M. Puel[1], M. Cordonnier[1], A. Saint-charles[1], E. Clerin[1], F. Blond[1], S. Achiedo[1], N. Ait-Ali[1], O. Corchia[1], L. Klipfel[1], Y. Yang[1], R. V. Rajala[2], E. T. Camacho[3], T. D. Leveillard[1].* [1]Department of Genetics, Sorbonne Université, INSERM, CNRS, Institut de la Vision; [2]Department of Ophthalmology and Physiology, University of Oklahoma Health Sciences Center; [3]School of Mathematical & Natural Sciences, Arizona State University **CR*

6405 — *10:45* **Thyroid hormone signaling specifies cone subtypes in human retinal organoids.** *Robert J. Johnston[1], K. Eldred[1], S. Hadyniak[1], K. Hussey[1], B. Brenerman[1], P. Zhang[2], X. Chamling[2], V. Sluch[2], D. S. Welsbie[3], S. Hattar[4], J. Taylor[1], K. J. Wahlin[3], D. J. Zack[2].* [1]Biology, Johns Hopkins University; [2]Wilmer Eye Institute; [3]UCSD; [4]NIH

6406 — *11:00* **Müller glia proliferation and cone regeneration is triggered by acute damage but not progressive photoreceptor degeneration in zebrafish *cep290*$^{-/-}$ mutants.** *Joseph Fogerty, P. Song, L. T. Cianciolo, R. DiCicco, B. D. Perkins.* Ophthalmic Research, Cleveland Clinic

6407 — *11:15* **Pax2 positively regulates angiogenesis in order to initiate optic fissure fusion.** *Jakub Famulski, M. Weaver.* Biology, University of Kentucky

6408 — *11:30* **Atoh7 cis regulation during retinal ganglion cell development: A multi species approach.** *Joel B. Miesfeld[1], L. Jao[1], S. K. MANNA[1], R. J. Zawadzki[1, 2], N. Marsh-Armstrong[3], N. L. Brown[1], T. Glaser[1].* [1]Cell Biology and Human Anatomy, University of California Davis; [2]Ophthalmology & Vision Science, University of California Davis; [3]Neuroscience and Opthamology, University of California Davis

6409 — *11:45* **β2- and γ3-containing laminins regulate axon sorting at the chiasm and SCN.nnervation.** *Reyna I. Martinez-De Luna, G. Bachay, D. D. Hunter, W. J. Brunken.* Ophthalmology, Upstate Medical University

East Ballroom A

Thursday, May 02, 2019 10:15 AM-12:00 PM

Immunology/Microbiology

532 Ocular microbiology and vaccines

Moderators: Linda D. Hazlett, Victor L. Perez and Marlyn P. Langford

6410 — *10:15* **Absence of S-layer impacts pathogenesis of *Bacillus* endophthalmitis.** *Md Huzzatul Mursalin[1], P. S. Coburn[2], E. Livingston[1], A. Fouet[3], M. C. Callegan[1, 2].* [1]Microbiology and Immunology, University of Oklahoma Health Science Center; [2]Department of Ophthalmology, University of Oklahoma Health Science Center and Dean McGee Eye Institute; [3]Institut Cochin INSERM U1016, CNRS 8104, University Paris Descartes

6411 — *10:30* ***Pseudomonas aeruginosa* T3SS effectors delay epithelial cell death to favor intracellular survival.** *Abby Kroken[1], V. Nieto[1], A. Jolly[1], D. J. Evans[1, 2], S. M. Fleiszig[1].* [1]School of Optometry, University of California, Berkeley; [2]Biological & Pharmaceutical Sciences, Touro University, California

6412 — *10:45* **Inside and out: the roles of a stress response-cytolysin in corneal epithelial cell damage and intrastromal inflammation.** *Robert M. Shanks, K. Brothers, N. A. Stella, K. L. Lathrop, E. G. Romanowski, R. P. Kowalski.* Ophthalmology, University of Pittsburgh

6413 — *11:00* **Mechanism of LAT inhibition of apoptosis during latent HSV-1 infection.** *Kati Tormanen, H. Ghiasi.* Surgery, Cedars-Sinai Medical Center

6414 — *11:15* **Complement C3 and CD4 T cells coordinate corneal sensation loss in HSV-1 keratitis.** *Derek J. Royer[1], D. J. Carr[2, 3].* [1]Ophthalmology, Duke University School of Medicine; [2]Ophthalmology, University of Oklahoma Health Sciences Center; [3]Microbiology & Immunology, University of Oklahoma Health Sciences Center

6415 — *11:30* **Zika virus microneedle vaccination confers long-term protection to immune-privileged compartments.** *Jacob Beaver, I. Skountzou.* Microbiology and Immunology, Emory University

6416 — *11:45* **Virus-specific T cell receptor transgenic mice vaccinated with HSV-1 0ΔNLS limit HSV--induced corneal neovascularization in the absence of antibody.** *Daniel J. Carr, M. Montgomery, D. J. Royer.* Ophthalmology, Univ of Oklahoma Hlth Sci Ctr **CR*

East Ballroom B

Thursday, May 02, 2019 10:15 AM-12:00 PM

Retina

533 Retinal Surgery and PVR

Moderators: Gary W. Abrams and Tamer H. Mahmoud

6417 — *10:15* **Human recombinant Galectin-1 mitigates the cellular mechanisms of proliferative vitreoretinopathy in primary human tractive membranes in-vitro.** *Annabel von Studnitz[1], C. Wertheimer[1], A. Hillenmayer[1], A. Geerlof[2], S. Kassumeh[1], S. Priglinger[1], A. Wolf[1], C. Priglinger[1].* [1]Laboratory for Cell- and Molecular Biology, Department of Ophthalmology, Ludwig-Maximilians-University Munich; [2]Helmholtz-Zentrum Munich

6418 — *10:30* **Inactive Cas9 blocks TGF-β2-induced expression of Mdm2 and epithelial to mesenchymal transition in retinal pigmental epithelial cells.** *Bing Liu[1, 2], J. Song[1], Z. Hu[1], N. Chen[1].* [1]Ophthalmology, Schepens Eye Research Institute of Massachusetts Eye and Ear Infirmary, Harvard Medical School; [2]Opthalmology, The First Affiliated Hospital of Jinan University

6419 — *10:45* **An Explant Model of Human Proliferative Vitreoretinopathy Uncovers Synergistic Effects of Methotrexate and RUNX1 inhibition.** *Joseph Arboleda-Velasquez, D. Amarnani, L. Ramos, S. Delgado-Tirado, L. A. Kim.* Ophthalmology, Schepens Eye Research Institute

6420 — *11:00* **Possible mechanism of silicone-oil related vision loss in intractable retinal diseases.** *Hiroki Kaneko, H. Shimizu, K. Yamada, A. Suzumura, R. Namba, H. Terasaki.* Ophthalmology, Nagoya Univ Graduate School of Medicine ↗

6421 — *11:15* **The Posturing after Retinal Detachment (PostRD) Trial.** *Edward Casswell[1], D. Yorston[2], E. Lee[1], T. Heeren[1], N. Harris[1], T. Zvobgo[1], S. Tarafdar[1], W. Xing[1], C. Bunce[1], D. G. Charteris[1].* [1]Moorfields Eye Hospital; [2]Tennant Institute of Ophthalmology ↗

6422 — *11:30* **Long-term outcomes on lens clarity after lens-sparing vitrectomy for persistent fetal vasculature syndrome.** *Irina De la Huerta[1], M. Gappy[2], K. A. Drenser[3], A. Capone[3], M. T. Trese[3].* [1]Department of Ophthalmology and Visual Sciences, Vanderbilt University School of Medicine; [2]Oakland University William Beaumont School of Medicine; [3]Associated Retinal Consultants, P.C.

6423 — *11:45* **Factors Influencing the Adoption of a New Disruptive Surgical Technology by Vitreoretinal Surgeons.** *Naryan S. Sabherwal[1, 2], K. A. Rezaei[1, 2].* [1]Illinois Retina Associates; [2]Ophthalmology, Rush University Medical Center **CR*

East Ballroom C

Thursday, May 02, 2019 10:15 AM-12:00 PM

Biochemistry/Molecular Biology

534 Biochemistry and molecular biology of diabetic retinopathy

Moderators: Sarah X. Zhang, Michael D. Dennis and Marina S. Gorbatyuk

6424 — *10:15* **Loss of Xbp1 leads to early-onset retinal neurodegeneration in a mouse model of type I diabetes.** *Todd McLaughlin[1, 2], D. Seyfried[1], M. Siddiqi[1], J. J. Wang[1, 2], S. X. Zhang[1, 2].* [1]Department of Ophthalmology, University at Buffalo, State University of New York; [2]Ross Eye Institute

6425 — *10:30* **Diabetes-induced down-regulation of PPARα plays a key role in the deficiency of endothelial progenitor cells and mitochondrial function.** *yan shao[2, 1], J. Chen[1], X. Li[2], J. Ma[1].* [1]Physiology, OUHSC; [2]Vitreous and Retinal Disorders, Tianjin Medical University Eye Hospital

6426 — *10:45* ***O*-linked glycosylation of the translational repressor 4E-BP1 promotes mitochondrial dysfunction in retina.** *Michael D. Dennis[1, 2], S. K. Dierschke[1], W. P. Miller[1].* [1]Cellular and Molecular Physiology, Penn State College of Medicine; [2]Ophthalmology, Penn State College of Medicine

6427 — *11:00* **Identification of Photoreceptor Protein, Retinol Binding Protein 3 (RBP3), as a Protective Factor for Diabetic Retinopathy.** *Ward Fickweiler[1, 3], H. Yokomizo[3], K. Park[3], A. C. Clermont[1, 3], Y. Maeda[3], S. M. Paniagua[3], I. Wu[3], D. Pober[3], V. Bahnam[3], R. L. Avery[5], T. S. Kern[6], E. Feener[3, 4], L. P. Aiello[1, 2], J. K. Sun[1, 2], G. L. King[3, 4].* [1]Beetham Eye Institute, Joslin Diabetes Center; [2]Ophthalmology, Harvard Medical School; [3]Vascular Cell Biology, Joslin Diabetes Center; [4]Medicine, Harvard Medical School; [5]California Retina Consultants; [6]Medicine and Ophthalmology, Case Western Reserve University

6428 — *11:15* **TRIB3 ablation attenuates hypoxia-induced angiogenesis in mouse retinas.** *Priyamvada M. Pitale[1], Y. Adu-Agyeiwaah[1], S. Li Calzi[1], T. Satoh[2], S. Akira[2], M. B. Grant[1], M. S. Gorbatyuk[1].* [1]University of Alabama at Birmingham; [2]Osaka University

6429 — *11:30* **Retinal Ganglion Cell Protein Synthesis is Regulated by Glycolysis, mTORC1 Signaling, and Diabetes.** *Mandy Losiewicz[1], L. Elghazi[1], D. Kong[1], D. Fingar[2], R. V. Rajala[3], P. E. Fort[1, 4], S. F. Abcouwer[1], T. W. Gardner[1, 4].* [1]Ophthalmology & Visual Sciences, University of Michigan; [2]Biological Chemistry, University of Michigan; [3]Ophthalmology and Physiology, University of Oklahoma; [4]Molecular & Integrative Physiology, University of Michigan **CR*

6430 — *11:45* **Mitochondrial quality control is dysregulated in diabetic retinopathy.** *Jose Manuel Romero del Hombre[1], L. Cairns[1], T. J. Lyons[2], P. Moynagh[1, 3], T. M. Curtis[1], H. Xu[1].* [1]Centre for Experimental Medicine, Queen's University Belfast; [2]Division of Endocrinology and Diabetes, Medical University of South Carolina; [3]Department of Biology, National University of Ireland Maynooth

West 211

Thursday, May 02, 2019 10:15 AM-12:00 PM

Cornea

535 Corneal surgery- refractive

Moderators: Yuka Okada and Keith H. Baratz

6431 — *10:15* **A new nomogram for the Wavelight® Refractive Suite based on Artificial Intelligence.** *Guillaume Debellemanière, F. Crahay, R. Rampat, A. Saad, D. Gatinel.* Rothschild Foundation, Paris **CR*

6432 — *10:30* **Effect of LASER Beam Truncation and Ordered Dithering on residual smoothness after PMMA ablations, using a close-to-Gaussian beam profile.** *Samuel Arba Mosquera[1], D. T. Lin[2], S. Verma[1].* [1]Research & Development, SCHWIND eye-tech-solution; [2]Pacific Eye Laser Centre **CR*

6433 — *10:45* **Refractive predictability of laser vision correction to treat hyperopia in a large patient cohort.** *Julie M. Schallhorn[1], L. LI[1], S. C. Schallhorn[1, 2].* [1]UCSF; [2]Zeiss **CR*

6434 — *11:00* **Twelve-Month Astigmatic Outcomes from a Prospective, Randomized, Eye-to-Eye Comparison of Wavefront-Guided and Wavefront-Optimized PRK in Myopes.** *Ryan Smith, E. E. Manche.* Ophthalmology, Stanford Univeristy **CR*, ↗

6435 — *11:15* **Intraocular Lens Power Calculation after Small Incision Lenticule Extraction.** *Nikolaus Luft, J. Siedlecki, C. Wertheimer, M. Shajari, T. Kreutzer, W. Mayer, S. Priglinger, m. Dirisamer.* Eye Hospital, Ludwig-Maximilians-University

6436 — *11:30* **Can Corneal Crosslinking Stabilize Corneal Shape after Orthokeratology? A Proof-of-Concept Study in Rhesus Monkeys.** *Chimei Liao[1], X. Lin[1], S. Keel[2], J. Ha[3], X. Yang[1], M. He[2, 1].* [1]Zhongshan Ophthalmic Center, Guangzhou, China; [2]Center for Eye Research Australia; [3]Monash University

West 212-214

Thursday, May 02, 2019 10:15 AM-12:00 PM

Visual Neuroscience

536 Visual Diseases and Protection

Moderators: Yvonne Ou and Scott A. Nawy

6437 — *10:15* ***In vivo* imaging of functional photoreceptor recovery after injury and its relationship to the time courses of microglia and Müller cell activation.** *Eric B. Miller[1], P. Zhang[2, 3], K. Ching[2], K. Ronning[1], R. J. Zawadzki[4, 3], E. N. Pugh[5, 2], M. E. Burns[1, 4].* [1]Center for Neuroscience, UC Davis; [2]Cell Biology & Human Anatomy, UC Davis; [3]EyePod Small Animal Ocular Imaging Lab, UC Davis; [4]Ophthalmology & Vision Science, UC Davis; [5]Physiology & Membrane Biology, UC Davis

6438 — *10:30* **Impact of retinal degeneration on restoring functional vision by optogenetics in *rd* mice.** *Zhuo-Hua Pan, Q. Lu, M. Fenner, T. H. Ganjawala, G. W. Abrams.* Ophthalmology, Visual and Anatomic Sciences, Wayne State Univ Sch of Med ***CR***

6439 — *10:45* **Diabetic rats with endogenously high levels of retinal dopamine do not display retinal vascular hallmarks of diabetic retinopathy.** *Rachael S. Allen[1, 2], C. Motz[1, 2], A. Feola[1, 2], K. Chesler[1, 2], S. Dhakal[3], P. M. Thule[4, 5], P. Iuvone[3], T. S. Kern[6], M. T. Pardue[1, 2].* [1]Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Healthcare System; [2]Biomedical Engineering, Georgia Institute of Technology; [3]Ophthalmology, Emory University School of Medicine; [4]Section Endocrinology & Metabolism, Atlanta VA Healthcare System; [5]Section Endocrinology & Metabolism, Emory University School of Medicine; [6]Pharmacology, Case Western Reserve University

6440 — *11:00* **Disassembly and rewiring of synaptic connectivity in the inner retina in experimental glaucoma.** *Yvonne Ou, A. K. Yu, K. Mai, A. Tran, L. Della Santina.* Ophthalmology, University of California, San Francisco

6441 — *11:15* **Coupling architecture of the Aii/ON cone bipolar cell network in degenerate retina.** *Crystal Sigulinsky[1], R. L. Pfeiffer[1], J. Anderson[1], D. Emrich[1], C. Rapp[1], J. Dahal[1], J. Garcia[1], H. Morrison[1], K. Rapp[1], J. Yang[1], C. Watt[1], M. Kondo[3], H. Terasaki[2], R. Marc[1], B. W. Jones[1].* [1]Ophthalmology & Visual Sciences, University of Utah; [2]Ophthalmology, Nagoya Univ School of Medicine; [3]Ophthalmology, Mie University Graduate School of Med ***CR***

6442 — *11:30* **Ocular hypertension increases expression of Ca^{2+}-permeable AMPA receptors in α OFF RGCs.** *Asia Cahill, S. A. Nawy.* Ophthalmology and Visual Sciences, UNMC

6443 — *11:45* ***In Vivo* Assessment of Retinal Ganglion Cells in Human Preclinical Alzheimer's disease using Electroretinography.** *Christian Felix[1, 2], S. Asanad[1, 2], R. Karanjia[2, 4], M. Harrington[3], A. A. Sadun[1, 2].* [1]Department of Ophthalmology, David Geffen School of Medicine at UCLA; [2]Doheny Eye Institute; [3]Molecular Neurology Program, Huntington Medical Research Institutes (HMRI); [4]Ottawa Eye Institute, University of Ottawa

West 217-219

Thursday, May 02, 2019 10:15 AM-12:00 PM

Lens

537 Posterior Capsular Opacification

Moderators: Linda Musil and Janice L. Walker

6444 — *10:15* **Role of ErbBs in PCO-related TGFβ signaling.** *Linda Musil.* Biochemistry & Molecular Biology, Oregon Health & Science Univ

6445 — *10:30* **Non-canonical TGFβ-signaling pathways in lens EMT: interplay between EGFR and p38 MAPK.** *Daisy Shu[2, 1], B. P. Mao[2], F. J. Lovicu[2, 1].* [1]Ophthalmology, Save Sight Institute; [2]Anatomy and Histology, The University of Sydney

6446 — *10:45* **Aspirin Inhibits TGFβ2-induced Mesenchymal Gene Transcription in Lens Epithelial Cells by Acetylation of the Lateral Surface Lysine Residues in Histone H3.** *Mihyun Nam[1], M. Wormstone[2], k. Fritz[3], J. Galligan[4], M. B. Pantcheva[1], R. H. Nagaraj[1, 3].* [1]Department of Ophthalmology, School of Medicine, University of Colorado Denver; [2]Department of Ophthalmology, University of East Anglia; [3]Department of Pharmaceutical Sciences, Skaggs School of Pharmacy and Pharmaceutical Sciences, University of Colorado; [4]Department of Pharmacology and Toxicology, University of Arizona

6447 — *11:00* **Immediate early genes as drivers of inflammation and posterior capsular opacification following cataract surgery.** *Samuel Novo, M. H. Shihan, Y. Wang, M. K. Duncan.* Biology, University of Delaware

6448 — *11:15* **How the wound-repair microenvironment regulates whether outcomes are regenerative repair or fibrosis.** *Janice L. Walker[1, 2], A. Menko[1, 2].* [1]Pathology/Anatomy&Cell Biology, Thomas Jefferson University ; [2]Ophthalmology, Thomas Jefferson University

6449 — *11:30* **The role of αVβ8-integrin in posterior capsular opacification (PCO).** *Melinda K. Duncan, M. H. Shihan, N. M. Rossi, Y. Wang.* Biological Sciences, University of Delaware

West 220

Thursday, May 02, 2019 10:15 AM-12:00 PM

Clinical/Epidemiologic Research

538 Myopia prevalence and progression

Moderators: Catherine Jan and Seang-Mei Saw

6450 — *10:15* **Longitudinal 19-year myopia progression among Singaporean children with high myopia.** *Jonathan Li[1, 2], C. Lanca[1], H. M. Htoon[1], Y. Wong[1], D. Tan[1], C. Sabanayagam[1], S. Saw[1, 3].* [1]Singapore Eye Research Institute; [2]UCSF; [3]Saw Swee Hock School of Public Health, National Univ of Singapore

6451 — *10:30* **A Multi-Country Study of Myopia in Children: Digital Data Capture Using an Innovative Application - plano.** *Mohamed Dirani[1, 2], A. Salim[1], S. Keel[3, 1], J. G. Crowston[2, 1], T. Y. Wong[4, 1].* [1]plano Pte Ltd; [2]Singapore Eye Research Institute; [3]Centre for Eye Research Australia; [4]Singapore National Eye Centre, Singapore Eye Research Institute ***CR***

6452 — *10:45* **The Spatial Frequency Content of Urban and Indoor Environments as a Potential Risk Factor for Myopia Development.** *Daniel I. Flitcroft[1, 2], E. N. Harb[3], C. F. Wildsoet[3].* [1]Ophthalmology, Childrens University Hospital; [2]Ophthalmology, University College Dublin; [3]Optometry, University of California Berkeley

6453 — *11:00* **Six-Year Changes in Myopic Macular Degeneration in Adults of the Singapore Epidemiology of Eye Diseases Study.** *Yee Ling Wong[1, 2], C. Sabanayagam[1, 3], C. Wong[1, 3], A. Yeo[2], Y. Cheung[3], G. C. Cheung[1, 3], A. Chia[1], A. N. Kuo[3, 4], K. Ohno-Matsui[5], T. Y. Wong[1, 3], J. Wang[3], C. Cheng[1, 3], Q. V. Hoang[1, 3], E. L. Lamoureux[1, 3], S. Saw[1, 6].* [1]Singapore Eye Research Institute, Singapore National Eye Centre, Singapore; [2]R&D Vision Sciences AMERA, Essilor International, Singapore; [3]Duke-NUS Medical School, National University of Singapore, Singapore; [4]Department of Ophthalmology, Duke University Medical Center, Durham, North Carolina, United States of America; [5]Department of Ophthalmology and Visual Science, Tokyo Medical and Dental University, Tokyo, Japan; [6]Saw Swee Hock School of Public Health, National University of Singapore, Singapore ***CR***

6454 — *11:15* **Association of myopia progression with visual behavior.** *Lei Li[1], H. Zhu[1], L. Wen[2], Z. Yang[2], W. Lan[2].* [1]State Key Laboratory of Software Development Environment, Beihang University; [2]Aier School of Ophthalmology, Central South University ↗

6455 — *11:30* **Three-year myopia progression rates in children in Finland and Singapore.** *Seang-Mei Saw[2, 1], Z. Soh[2], C. Tan[1], C. Lanca[2], M. Kauppinen[3], D. Tan[2], O. Parssinen[3].* [1]Saw Swee Hock School of Public Health, Singapore Eye Research Institute; [2]Singapore Eye Research Institute; [3]University of Jyväskylä

Thursday Papers
10:15 am – 12:00 pm

6456 — *11:45* **Visual impairment associated with myopia among school children in China.** *Catherine Jan[1, 2], R. Xu[3], D. Luo[2], X. Xiong[2], Y. Song[2], J. Ma[2], R. Stafford[4].* [1]George Institute for Global Health, University of New South Wales; [2]Institute of Child and Adolescent Health, Peking University; [3]Department of Epidemiology and Preventive Medicine, Monash University; [4]Department of Medicine, Stanford University

West 221/222

Thursday, May 02, 2019 10:15 AM-12:00 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

539 Brain and the Eye

Moderators: Linda K. McLoon and Larry A. Abel

6457 — *10:15* **Progressive Neurodegeneration of the Retinal Nerve Fiber Layer in Veterans with Mild Traumatic Brain Injury.** *Randy H. Kardon[1, 2], C. Gilmore[4, 7], J. Ledolter[2, 3], A. Fenske[4, 7], J. Full[2, 1], J. Nellis[2, 1], P. Poolman[2, 1], M. Garvin[2, 5], J. Wang[2, 5], T. Hendrickson[6], K. Lim[4, 7].* [1]Ophthalmology and Visual Sciences, University of Iowa; [2]Center for the Prevention and Treatment of Visual Loss, Department of Veterans Affairs, Iowa City VA Healthcare System; [3]Statistics, University of Iowa Business College; [4]Geriatric Research, Education and Clinical Center (GRECC), Minneapolis VA Healthcare System; [5]Electrical and Computer Engineering, University of Iowa; [6]Informatics Institute, University of Minnesota; [7]Defense and Veterans Brain Injury Center, Department of Veterans Affairs **CR*

6458 — *10:30* **Primary visual cortex transcranial random noise stimulation improves contrast sensitivity in adults with amblyopia.** *Richard Donkor[1], C. Teske[1], M. Wallis-Duffy[1], M. Barnett-Cowan[2], B. Thompson[1].* [1]School of Optometry and Vision Science, University of Waterloo; [2]Kinesiology, University of Waterloo

6459 — *10:45* **The cortical sources of amblyopic suppression: An EEG source imaging study.** *Chuan Hou, S. C. Nicholas.* Smith-Kettlewell Eye Res Inst

6460 — *11:00* **Pupillary light response and sleep-wake activity in preclinical Alzheimer's disease.** *Angela Oh[1], G. Amore[3, 1], W. Sultan[1], R. Karanjia[1], M. Harrington[2], C. La Morgia[3, 4], A. A. Sadun[1].* [1]Ophthalmology, UCLA Doheny Eye Institute; [2]Huntington Medical Research Institutes and Molecular Neurology Program; [3]Department of Biomedical Science and Neuromotor Sciences,, University of Bologna; [4]Ircss Institute of Neurological Sciences of Bologna, Bellaria Hospital

6461 — *11:15* **Pupil campimetry: An objective measurement of local rod and/or cone function by pupillary response.** *Krunoslav Stingl[1], T. Peters[1, 2], T. Strasser[3], H. Wilhelm[1], B. Wilhelm[2], M. Kempf[3], K. Stingl[1], C. Kelbsch[1].* [1]University Eye Hospital, University of Tübingen, Center for Ophthalmology; [2]STZ eyetrial at the Centre for Ophthalmology, University of Tübingen; [3]Institute for Ophthalmic Research, University of Tübingen, Center for Ophthalmology

6462 — *11:30* **Chromatic pupilloperimetry for objective automated perimetry in retinitis pigmentosa patients.** *Ifat Sher-Rosenthal[1], M. Gurevich[1, 3], Y. Tucker[1, 2], A. Hamburg[1, 3], D. BenNer[1], J. Kfir[1], E. Derazne[3], Y. Rotenstreich[1, 3].* [1]Goldschleger Eye Institute, Sheba Medical Center; [2]Medical School, St**.** Georges University of London; [3]Sackler Faculty of Medicine, Tel Aviv University **CR*, ↗

West 223/224

Thursday, May 02, 2019 10:15 AM-12:00 PM

Visual Psychophysics/Physiological Optics

540 Intraocular Lenses and Presbyopia Correction

Moderators: Pablo De Gracia and Jos J. Rozema

6463 — *10:15* **Intra-Ocular Lens Power Calculation using 3D OCT-based Personalized Computer Eye Models.** *Alberto De Castro[1], E. Martinez-Enriquez[1], M. Velasco-Ocana[1], S. Duran[2], I. Jimenez-Alfaro[2], S. Marcos[1].* [1]Instituto de Óptica, CSIC; [2]Fundación Jiménez Díaz **CR*

6464 — *10:30* **Axial Intraocular Lens Position: The Principal Determinant of Far Temporal Field Vignetting in Pseudophakic Eyes.** *Viswanathan Ramasubramanian[1], N. Lopez-Gil[2], P. S. Kollbaum[1], A. Bradley[1].* [1]Indiana University School of Optometry; [2]Facultad de Óptica y Optometría, Universidad de Murcia

6465 — *10:45* **Perceptual and physical limits to temporal multiplexing simulation of multifocal corrections.** *Carlos Dorronsoro[1, 2], V. Rodríguez-Lopez[1], X. Barcala[1, 3], e. Gambra[3], V. Akondi[1], L. Sawides[3], Y. Marrakchi[3], E. Lage[4], W. S. Geisler[2], S. Marcos[1].* [1]INSTITUTO DE OPTICA (IO-CSIC); [2]Center for Perceptual Systems, University of Texas at Austin; [3]2Eyes Vision; [4]Universidad Autonoma de Madrid **CR*

6466 — *11:00* **Pattern ERG as an Objective Outcome Measure of Contrast Sensitivity in Patients with Multifocal Intraocular Lenses.** *Jack TIAN[5], M. Garcia[6], A. A. Sadun[1, 2], S. G. Coupland[3, 4], R. Karanjia[3, 4], K. Lu[1, 2].* [1]Doheny Eye Center; [2]Doheny Eye Institute; [3]University of Ottawa Eye Institute; [4]Ottawa Hospital Research Institute; [5]Flaum Eye Institute; [6]Ophthalmology, David Geffen School of Medicine

6467 — *11:15* **Comparison of defocus curves of four presbyopia-correcting intraocular lenses with four different designs: diffractive panfocal, diffractive trifocal, segmental refractive, and extended depth of vision.** *Myriam S. Boehm[1, 2], K. Petermann[1], E. Hemkeppler[1], T. Kohnen[1, 3].* [1]Ophthalmology, Goethe University Frankfurt; [2]Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School; [3]Ophthalmology, Cullen Eye Institute, Baylor College of Medicine **CR*

6468 — *11:30* **Optical and visual quality with physical and visually simulated presbyopic multifocal contact lenses.** *Maria Vinas[1], S. Aissati[1], A. Gonzalez-Ramos[1], M. Romero[1], L. Sawides[2], V. Akondi[1], e. Gambra[2], C. Dorronsoro[1], E. Martinez-Enriquez[1], T. Karkkainen,[3], D. Nankivil[3], S. Marcos[1].* [1]Visual Optics & Biophotonics Lab, Instituto de Optica, CSIC; [2]2EyesVision; [3]Research & Development, Johnson & Johnson Vision, Inc., **CR*

6469 — *11:45* **Perceptual differences across binocular corrections for presbyopia.** *Xoana Barcala[1, 2], M. Vinas[1], e. Gambra[2], S. Marcos[1], C. Dorronsoro[1].* [1]Consejo Superior de Investigaciones Cientificas, IO-CSIC; [2]2Eyes Vision **CR*

ARVO Ballroom

Thursday, May 02, 2019 10:15 AM-12:00 PM

Glaucoma

541 Pharmacological Interventions and Cellular Interventions

Moderators: John Danias and M. Francesca Cordeiro

6470 — *10:15* **Long-term stable intraocular pressure (IOP) control and optic nerve head (ONH) preservation following AAV-mediated ocular gene therapy in a canine model of *ADAMTS10*-open-angle glaucoma (OAG).** *Andras M. Komaromy[1], K. L. Koehl[1], C. Harman[1], S. L. Boye[2], J. P. Steibel[3], L. B. Teixeira[4], C. B. Toris[5], S. E. Moroi[6], S. E. Boye[7].* [1]Small Animal Clinical Studies, Michigan State Univ, Coll of Vet Med; [2]Pediatrics, University of Florida; [3]Animal Science & Fisheries and Wildlife, Michigan State University; [4]Pathobiological Sciences, University of Wisconsin; [5]Ophthalmology and Visual Sciences, Case Western Reserve University; [6]Ophthalmology and Visual Sciences, University of Michigan; [7]Ophthalmology, University of Florida

6471 — *10:30* **Stem Cell Secretome as a Potential Treatment for Glaucoma and the Possible Mechanism.** *AJAY KUMAR[1], Y. Du[1, 2].* [1]University of Pittsburgh; [2]McGowan Institute for Regenerative Medicine, University of Pittsburgh

6472 — *10:45* **Adrenergic Control of Lymphatic Drainage from the Eye.** *Joseph Hanna[1, 2], Y. H. Yucel[1, 2], X. Zhou[1], N. Kim[1], N. Gupta[1, 2].* [1]Keenan Research Centre for Biomedical Science, St. Michael's Hospital; [2]Departments of Ophthalmology and Vision Sciences, and Laboratory Medicine and Pathobiology, St. Michael's Hospital, University of Toronto

6473 — *11:00* **Activation of TRPV4 channels reduces IOP and improves outflow facility by regulating eNOS dependent NO release from the TM.** *Pinkal D. Patel, R. Kasetti, p. maddineni, J. Millar, G. Zode.* Department of Pharmacology and Neuroscience, North Texas Eye Research Institute - UNTHSC

6474 — *11:15* **The multikinase inhibitor dasatinib inhibits scleral myofibroblast differentiation.** *Ian F. Pitha, A. Chow, L. McCrea, J. Szeto, E. Kimball, J. Schaub, H. A. Quigley.* Ophthalmology, Johns Hopkins Wilmer Eye Institute

6475 — *11:30* **microRNA21 mimics reduce intraocular pressure by PTEN/Akt/eNOS pathway.** *Yuan Lei[1], C. Tan[1], J. Chen[1], X. Sun[1], W. Stamer[2].* [1]Opththalmology, Eye and ENT Hosp of Fudan Univ; [2]Biomedical engineering, Duke University

6476 — *11:45* **Fibrillin-1 mutant mouse mimics abnormal aqueous humor TGFβ2 and phenotype of human POAG.** *MinHee K. Ko[1], J. Woo[1], J. Gonzalez[1], G. Kim[1], J. Tan[1, 2].* [1]Doheny Eye Institute; [2]Ophthalmology, University of California, Los Angeles.

West Exhibition Hall A0063-A0098

Thursday, May 02, 2019 10:15 AM-12:00 PM

Clinical/Epidemiologic Research

542 Cataract, Cornea, and Ocular Surface Disease

Moderators: Allen O. Eghrari and Qinqin Liu

6477 — *A0063* **Assessing cataract surgery outcomes with toric intraocular lenses in a teaching hospital.** *Elaine M. Tran[1, 2], K. S. Tang[1, 2], A. J. Chen[2, 3], M. L. Chen[4], D. R. Rivera[1, 2], J. J. Rivera[1, 2], P. B. Greenberg[1, 2].* [1]Division of Ophthalmology, Alpert Medical School, Brown University; [2]Section of Ophthalmology, Providence VA Medical Center; [3]Shiley Eye Institute and Department of Ophthalmology, University of California San Diego; [4]Harvard University

6478 — *A0064* **Incidence of endophthalmitis in cataract surgery with and without intracameral vancomycin, a clinical review of 30,649 cases of a single surgeon.** *Brandon Kingrey[2], D. Kingrey[1].* [1]Vision Surgery Consultants; [2]Brown University

6479 — *A0065* **Prevalence of pterygium and its associations in a Russian population: the Ural Eye and Medical Study.** *Renat Kazakbaev[1], M. Bikbov[1], T. Gilmanshin[1], R. Zainullin[1], G. Kazakbaeva[1], S. Panda-Jonas[2], J. B. Jonas[2].* [1]Ufa Eye Research Institute; [2]Department of Ophthalmology, Medical Faculty Mannheim of the Ruprecht-Karls-University of Heidelberg

6480 — *A0066* **Incidence, progression and risk factors of age-related cataract in Malays: the Singapore Malay Eye Study.** *Jie Jin Wang[2, 1], A. G. Tan[2], Y. Tham[7], M. Chee[3], P. Mitchell[2], R. G. Cumming[6], C. Sabanayagam[3, 4], C. Cheng[3, 5], T. Y. Wong[3, 5].* [1]Centre for Clinician-Scientist Dev., Duke-NUS Medical School, Singapore; [2]Centre for Vision Research, Department of Ophthalmology, The Westmead Institute for Medical Research, University of Sydney; [3]Singapore Eye Research Institute; [4]Department of Ophthalmology, Yong Loo Lin School of Medicine, National University of Singapore; [5]Ophthalmology and Visual Sciences Academic Clinical Program, Singapore National Eye Centre, Duke-NUS Medical School; [6]School of Public Health, University of Sydney; [7]Singapore Eye Research Institute

6481 — *A0067* **Correlation of Clinical Aqueous Flare Grade to Semi-automated Flare Assessment using Laser Flare Meter.** *Anh N. Tran[1], M. Halim[1], M. Hassan[1], M. Hasanreisoglu[2], R. Afridi[1], M. S. Ormaechea[1, 3], G. Uludağ[1], N. V. Nguyen[1], S. Mahajan[1], J. Bae[1, 4], K. Y. Al-Kirwi[1], D. V. Do[1], M. A. Ibrahim[5], Y. Sepah[1], Q. D. Nguyen[1].* [1]Ophthalmology, Byers Eye Institute, Stanford University; [2]Ophthalmology, Gazi University, School of Medicine; [3]Ophthalmology, Hospital Universitario Austral; [4]Ophthalmology, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine; [5]Ocular Imaging Research and Reading Center **CR*

6482 — *A0068* **Opioid Prescribing and Use after Corneal Surgeries.** *Yibing Zhang, N. Behunin, L. Niziol, B. Tannen, M. A. Woodward.* University of Michigan **CR*

6483 — *A0069* **Prediction for risk of congenital cataracts based on non-genetic factors.** *Duoru Lin, J. Chen, Z. Lin, K. Zhang, J. Huang, X. Wu, Z. Liu, L. Wang, Y. Liu, W. Chen, H. Lin.* Zhongshan Ophthalmic Certer, Sun Yat-sen University ↗

6484 — *A0070* **Comparison of Incidence of Cataracts in Pre-menopausal and Post-menopausal Women at a County Hospital.** *Amritha D. Kanakamedala[1], J. Go[1], M. Khan[2], Z. N. Al-Mohtaseb[2, 3].* [1]School of Medicine, Baylor College of Medicine; [2]Ophthalmology, Baylor College of Medicine; [3]Ophthalmology, Ben Taub General Hospital

6485 — *A0071* **Surgical Outcomes of an Expedited Pre-operative Anesthesia Pathway for Cataract Surgery in a County Healthcare System.** *Justin Park[1], C. Hoeferlin[1], L. Daskivich[1], P. Prasad[1, 2].* [1]Harbor-UCLA Medical Center; [2]Ophthalmology, Jules Stein Eye Institute, UCLA

6486 — *A0072* **Complication rates in resident-performed cataract surgeries: A systematic review.** *Gaya Sivakumar[1], G. Ng[3], D. Mullen[2].* [1]Schulich School of Medicine & Dentistry, Western University; [2]Michael G**.** DeGroote School of Medicine, McMaster University; [3]Western University

6487 — *A0073* **Building research capacity through global partnerships.** *Suzanne S. Gilbert[1], K. L. Bassett[2, 3].* [1]Research & Learning, Seva Foundation; [2]Seva Canada; [3]Ophthalmology and Vision Sciences, University of British Columbia

6488 — *A0074* **Purpuriocillium keratitis: a challenging infection.** *Aline Couto[1], M. Trindade[2], M. Zorat - Yu[1], A. Hofling Lima[1], A. Colombo[2], D. Freitas[1].* [1]Ophthalmology, Paulista Medicine School ; [2]Infectology, Paulista Medicine of School

6489 — *A0075* **A 5 year review of microbial keratitis disease profile and resistance patterns in Western Sydney, Australia.** *Mia Zhang[1, 2], M. P. Cabrera Aguas[2, 1], C. Samarawickrama[1, 3], S. L. Watson[1, 2].* [1]The University of Sydney; [2]Save Sight Institue; [3]Westmead Hospital

6490 — *A0076* **Phototherapeutic keratectomy for treatment of Recurrent Corneal Erosion Syndrome (RCES): a retrospective review of outcomes for different underlying aetiologies.** *Alice Dutton, G. Cleary, C. Crock.* The Royal Victorian Eye and Ear Hospital

6491 — *A0077* **Evaluation of Corneal Opacities in Patients with Cystinosis by using Anterior Segment Optical Coherence Tomography.** *Yuuka Yamamoto[1], T. Okamura[2], Y. Shimizu[2], M. Akahira[2], Y. Ookuma[3], S. Itinohe[1], H. Hukushima[1], T. Ueta[1], S. Yashiro[1], M. Nagahara[1].* [1]Ophthalmology, Center Hospital of National Center for Global Health and Medicine; [2]Reserch Institute National Center for Global Health and Medicine; [3]Pedilatrics, Center Hospital Of the National Center for Global Health and Medicine

6492 — *A0078* **Rates of Prophylactic Ocular Lubrication Administration and Exposure Keratopathy in Adult Patients Admitted to Intensive Care Units of an Academic Medical Center.** *Gaytri Gupta Elera, S. D. Kim, D. Sambhara, I. U. Scott, S. Pantanelli.* Penn State Hershey Eye Center

6493 — *A0079* **Transepithelial versus epithelium-off corneal collagen cross-linking for corneal ectasia: a systematic review and meta-analysis.** *Siddharth Nath[1, 2], C. Shen[1], A. Koziarz[3], L. Banfield[4], M. Fava[1], W. G. Hodge[5, 6].* [1]Division of Ophthalmology, Department of Surgery, Faculty of Health Sciences, McMaster University; [2]MD/PhD Program, McMaster University; [3]Faculty of Medicine, University of Toronto; [4]Health Sciences Library, McMaster University; [5]Department of Ophthalmology, Ivey Eye Institute, Schulich School of Medicine and Dentistry, Western University; [6]Department of Epidemiology and Biostatistics, Schulich School of Medicine and Dentistry, Western University

6494 — *A0080* **Prevalence of dry eye syndrome in patients with type 2 diabetes.** *Jesus Guerrero[2], M. Vazquez-Duran[1], J. Serna-Ojeda[2], E. O. Graue-Hernandez[2], A. Jimenez-Corona[1].* [1]Ocular Epidemiology and Visual Health, Instituto de Oftalmologia Fundacion Conde de Valen; [2]Cornea, external diseases and refractive surgery, Instituto de Oftalmologia Fundacion Conde de Valenciana

6495 — *A0081* **Treatment outcome of acanthamoeba keratitis in the last decade.** *Kanno Okamura, T. Oshio, E. Uchio.* Fukuoka University

6496 — *A0082* **Causes and Management outcomes of Acquired corneal opacity in pre-school age (0-5 years) group: A Hospital based study.** *Namrata Sharma[1], V. Jhanji[2], P. Maharana[1], S. Nawaz[3], R. B. Vajpayee[4].* [1]Dr.R.P.Centre for Ophthalmic Science, All India Institute of Medical Sciences,; [2]Department of Ophthalmology, University of Pittsburgh; [3]ASG Eye Hospital, Srinagar; [4]Royal Victorian Eye and Ear Hospital, University of Melbourne, Melbourne, VIC, Australia.

6497 — *A0083* **Incidence, Demographics and Risk Factors of Stevens-Johnson Syndrome in India.** *Swapna Shanbhag[1], A. Vipin Das[2], P. Donthineni[1], S. Basu[1].* [1]Cornea and Anterior segment, L.V. Prasad Eye Institute; [2]EyeSmart EMR, L.V. Prasad Eye Institute

6498 — *A0084* **Fuchs dystrophy and weight loss: more than an eye disease.** *Allen O. Eghrari, D. Dzhaber, J. D. Gottsch.* Wilmer Eye Institute, Johns Hopkins Hospital

6499 — *A0085* **Incidence of Corneal Dystrophy and Degeneration in a Large Ocular Pathology Centre: A 10 Year Analysis.** *Ayman Aljohani, S. Bergeron, T. C. Figueiredo, D. Cheema, C. Mastromonaco, M. N. Burnier.* The MUHC-McGill University Ocular Pathology & Translational Research Laboratory

6500 — *A0086* **Herpes simplex virus keratitis in a tertiary corneal subspecialty referral center in Germany – clinical features and surgical approaches.** *Raul Alfaro, S. Lepper, A. Langenbucher, N. Szentmáry, B. Seitz.* Ophthalmology, University of Saarland

6501 — *A0087* **New insights from Phylogenetic analysis of *Pythium* keratitis isolates from India.** *Ram Rammohan[1], L. Mendoza[2], R. Vilela[4], A. Raghavan[3], N. Venkatapathy[5].* [1]Microbiology, Aravind Eye Hospital; [2]Microbiology, Michigan State University; [3]Cornea and Refractive Surgery, Aravind Eye Hospital; [4]Microbiology, Federal University Minas Gerais; [5]Aravind Eye Hospital

6502 — *A0088* **Trends in the indications for corneal transplantation in Brazil, 2012-2017.** *Marcia R. Libânio[4, 5], J. E. Queiroz[1], P. G. Libânio[2], R. R. Nothen[3].* [1]Ministry of Health; [2]Federal University of Minas Gerais; [3]Ministry of Health; [4]Ministry of Health; [5]Hemominas Foundation

6503 — *A0089* **Ocular chemical burns secondary to assault – a retrospective study in the UK.** *Charlotte Bruce[1], S. Pradhan[1], F. Figueiredo[1, 2].* [1]Ophthalmology, Royal Victoria Infirmary.; [2]Newcastle University

6504 — *A0090* **Left eye pterygium predilection in automobile drivers.** *Erich J. Berg, A. F. Buros, V. Yevseyenkov.* Midwestern University

6505 — *A0091* **Gender could play an important part in the onset of keratoconus-insights from characterizing an Australia keratoconus cohort.** *Chris Hodge[1, 2], A. Aggarwala[1], M. D'Souza[4, 5], G. Sutton[1, 2], J. You[1, 3].* [1]Save Sight Institute, The University of Sydney; [2]Vision Eye Institute; [3]University of New South Wales; [4]Central School of Medicine, The University of Sydney; [5]Sydney Local Health District

6506 — *A0092* **Overall and Cancer-Related Mortality in the Sjögren's International Collaborative Clinical Alliance (SICCA).** *John A. Gonzales[1, 2], J. Takhar[1], V. Y. Bunya[3], J. Rose-Nussbaumer[1, 2], A. Chou[4], L. Criswell[5], C. Shiboski[4], T. Lietman[1, 2].* [1]F.I. Proctor Foundation; [2]Department of Ophthalmology, University of California, San Francisco; [3]Scheie Eye Institute, Department of Ophthalmology, University of Pennsylvania; [4]Department of Orofacial Sciences, School of Dentistry, University of California, San Francisco; [5]Departments of Medicine and Orofacial Sciences, University of California, San Francisco **CR*

6507 — *A0093* **Corneal perforations related to rheumatoid arthritis.** *Juan Carlos Serna-Ojeda[2, 1], C. Cantu-Rosales[2], L. Flores-Suárez[3], E. O. Graue-Hernandez[2].* [1]Ophthalmology, Banco de Ojos y Tejidos de Aguascalientes; [2]Instituto de Oftalmologia Conde de Valenciana; [3]Instituto Nacional de Enfermedades Respiratorias

6508 — *A0094* **Demographic and temporal variation in incidence of herpes simplex virus keratitis in the United States.** *Nidhi Talwar, J. D. Stein, N. Shekhawat.* Department of Ophthalmology & Visual Sciences, University of Michigan

6509 — *A0095* **ALDEN based determination of culprit drugs in Stevens-Johnson syndrome: a 15-year single center review.** *Charles S. Bouchard[1], P. de Bustros[1], A. Baldea[2], A. Sanford[2], C. Joyce[3].* [1]Ophthalmology, Loyola Univ of Chicago; [2]Surgery, Loyola University of Chicago; [3]Public Health Sciences, Loyola University of Chicago

6510 — *A0096* **Clinical profile and age related risk factors in microbial keratitis in the elderly in a referral center in Mexico City.** *Leire Irusteta, E. O. Graue-Hernandez, A. J. Ramirez-Miranda, A. Navas, E. J. Polania.* Oftalmología, Instituto de Oftalmología Conde de Valenciana

6511 — *A0097* **Trend of Corneal Transplantation in South Korean: a nationwide population-based study.** *Kyoungyoon Shin[1], D. Lim[1], K. Han[2], J. Han[3], T. Chung[1].* [1]Samsung Medical Center; [2]Department of Biostatistics, Catholic Universitiy of Medicine; [3]Ophthalmology, Kangbuk Samsung Hospital

6512 — *A0098* **Association between Cogan Syndrome and Aortitis.** *Jimena Siordia[1], J. A. Siordia[2].* [1]Ophthalmology, Jamaica Hospital Medical Center; [2]Medicine, University of Arizona

West Exhibition Hall A0141-A0167

Thursday, May 02, 2019 10:15 AM-12:00 PM

Retina

543 Retinopathy of Prematurity, Detection and Clinical

Moderator: Cagri G. Besirli

6513 — *A0141* **Our experience with retinopathy of prematurity: a retrospective computerized database review.** *Sarah Chorfi[1], P. Hamel[1], F. Nicole[1], L. Ospina[1], C. Bélanger[1], R. Superstein[1, 2].* [1]University of Montreal; [2]McGill University

6514 — *A0142* **Mother's Own Milk and Retinopathy of Prematurity.** *Jennifer Rossen[1], J. Cohen[1], A. Patel[2], P. Meier[2], T. Johnson[2], R. Kimura[2], M. Schoeny[2], J. Silvestri[2], K. Rodriguez[2], W. Haufe[2], H. Phillips[2].* [1]Ophthalmology, Rush University Medical Center; [2]Rush University Medical Center

6515 — *A0143* **A Ten-year Epidemiology of Retinopathy of Prematurity Treatment in Taiwan.** *Wei-Chi Wu[1], Y. Kang[1], S. Chu[2], R. Lien[2].* [1]Ophthalmology, Chang Gung Memorial Hospital; [2]Pediatrics, Chang Gung Memorial Hospital

6516 — *A0144* **Refractive Status of Premature Infants with and without Retinopathy of Prematurity in the First 12 months of Life.** *Peter Clark, L. Kong.* Department of Ophthalmology and Visual Science, Texas Tech University Health Sciences Center

6517 — *A0145* **Evaluating the effect of prematurity and retinopathy of prematurity disease severity on change in axial length over time.** *Sasapin G. Prakalapakorn[1], N. Sarin[1], N. Sarin[1], B. McGeehan[2], S. F. Freedman[1], C. A. Toth[1].* [1]Ophthalmology, Duke Eye Center; [2]Center for Preventative Ophthalmology and Biostatistics **CR*, ↗

6518 — *A0146* **Characteristics of High Risk Infants That Do Not Develop Retinopathy of Prematurity.** *Alyssa Spiller[1], P. Donohue[2], Y. Yu[3], G. Ying[3], L. Tomlinson[1], G. Binenbaum[1, 3].* [1]The Children's Hospital of Philadelphia; [2]Johns Hopkins University; [3]Scheie Eye Institute, Perelman School of Medicine at the University of Pennsylvania

6519 — *A0147* **Estimate of incidence of ROP requiring treatment in extreme preterms and impact on service – 7 year review in tertiary unit.** *Shokufeh Tavassoli[1], R. Wach[2], R. Haynes[1], R. markham[1], C. Williams[1].* [1]University of Bristol, Bristol Eye Hospital; [2]Neonatal Unit Southmead Hospital, Bristol

Thursday Posters
10:15 am – 12:00 pm

6520 — *A0148* **Comparison of Trends in Risk Factors for Retinopathy of Prematurity Over 12 years in Colorado: How One Academic Medical Center Compares to Statewide Data.** *Lauren Mehner[1], B. D. Wagner[1], K. A. Bol[2], J. K. Singh[1], S. C. Oliver[1], E. A. McCourt[1], J. Patnaik[1], A. Palestine[1], N. Mandava[1], A. Lynch[1].* [1]Ophthalmology, University of Colorado; [2]Colorado Department of Public Health and Environment

6521 — *A0149* **Outcome and quality of ROP-screening in a nationwide survey in the Netherlands.** *Kasia Trzcionkowska[1], J. Termote[2], N. Schalij-Delfos[1].* [1]Departement of Ophthalmology, Leiden University Medical Center; [2]Departement of Pediatrics, Wilhelmina Children's Hospital

6522 — *A0150* **Retinopathy of Prematurity screening criteria based on the ROPE-SOS trial in India.** *Nita Valikodath[1, 4], R. V. Chan[1, 4], F. Beca[1, 4], M. Allaham[1, 4], E. Cole[1, 4], J. Hallak[1, 4], J. Campbell[2], M. F. Chiang[2], P. Shah[3], N. Venkatapathy[3].* [1]Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago; [2]Department of Ophthalmology, Oregon Health and Sciences University Hospital; [3]Department of Ophthalmology, Aravind Eye Institute; [4]Center for Global Health, College of Medicine, University of Illinois at Chicago **CR*

6523 — *A0151* **Oct findings in a ROP population with brain lesions.** *Lorenzo Orazi[1, 2], G. Amorelli[2], D. Ricci[1], F. Molle[2], D. Lepore[2].* [1]Polo Nazionale ipovisione IAPB Italia; [2]Ophthalmology, Università Cattolica del Sacro Cuore

6524 — *A0152* **Lateral Flow Immuno Assay for Point-of-care Screening of Retinopathy of Prematurity.** *Abilash Gangula[1], S. Ghoshdastidar[1], J. Kainth[1], A. Elangovan[1], K. Premkumar[1], P. John A.[2], B. Erica E.[3], A. Upendran[4, 5], R. Kannan[1, 6], D. P. Hainsworth[3].* [1]Radiology, University of Missouri; [2]Neonatology, University of Missouri; [3]Ophthalmology, University of Missouri; [4]Institute of Clinical and Translational Sciences, University of Missouri; [5]Medical Pharmacology and Physiology, University of Missouri; [6]Biological Engineering, University of Missouri

6525 — *A0153* **Higher ROP incidence in extremely preterm infants.** *Christina Gerth-Kahlert[1], A. Taner[1], S. Tekle[2], T. Hothorn[2], M. Adams[3].* [1]Dept of Ophthalmology, University of Zurich; [2]Department of Biostatistics, Institute for Epidemiology, Biostatistics, and Prevention; [3]Department of Neonatology, University Hospital and University of Zurich

6526 — *A0154* **Comparison of structural and visual outcomes in laser-treated vs. untreated eyes with retinopathy of prematurity.** *Robert Gunzenhauser, T. L. Lenis, D. Sarraf, S. S. Fung, S. L. Pineles, I. A. Tsui.* Stein Eye Institute, University of California Los Angeles **CR*

6527 — *A0155* **Late Onset Exudation and Fibrovascular Proliferation in Adolescents and Adults with Retinopathy of Prematurity.** *Ogul E. Uner[1], G. Hubbard[1, 2].* [1]Department of Ophthalmology, Emory University School of Medicine; [2]Retina Service, Emory Eye Center

6528 — *A0156* **Ten years of ROP-screening and treatment in Sweden - consideration of modified screening guidelines based on a national quality register.** *Gerd Holmstrom[1], L. Granse[2], A. Hellstrom[3], E. Larsson[1], M. Saric[4], B. Sunnqvist[5, 6], K. Tornqvist[6], A. Wallin[7].* [1]Ophthalmology, Neuroscience; [2]Ophthalmology, Department of Clinical Sciences; [3]Department of Clinical Neuroscience and rehabilitation, Institute of Neuroscience and Physiology, Sahlgrenska Academy, University of Gothenburg; [4]Ophthalmology, Department of Clinical Sciences, Umeå University; [5]Ophthalmology, Länssjukhuset Ryhov; [6]Department of Clinical Sciences, Ophthalmology, Skane University Hospital,; [7]Ophthalmology, St Erik Hospital, Stockholm

6529 — *A0157* **Insulin insensitivity in very preterm infants is associated with decreased levels of IGF-1 and increased risk for ROP.** *Bertan Cakir[1, 2], R. Liegl[1], I. Hansen-Pupp[3], G. Hellgren[4], Y. Tomita[1], A. Poblete[1], S. Cho[1], W. Britton[1], Z. Fu[1], Y. Sun[1], C. Lofqvist[4], A. Hellstrom[4], L. E. Smith[1].* [1]Boston Children's Hospital; [2]Eye Center, Medical Center, Faculty of Medicine, University of Freiburg, Germany; [3]Department of Pediatrics, Lund University and Skane University Hospital; [4]Department of Ophthalmology, Institute of Neuroscience and Physiology Sahlgrenska Academy **CR*

6530 — *A0158* **Retinal findings in neonates with congenital diaphragmatic hernia and extracorporeal membrane oxygenation.** *Petra P. Larsen[1], F. Kipfmueller[2], F. G. Holz[1], A. Müller[2], T. U. Krohne[1].* [1]Ophthalmology, University of Bonn; [2]Neonatology and Pediatric Critical Care Medicine, University Children's Hospital Bonn **CR*

6531 — *A0159* **Telemedicine for ROP Diagnosis in a Real-World System: Technical Description and Evaluation.** *Ian Danford[1], M. F. Greenwald[1], S. Ostmo[1], R. Schelonka[3], H. S. Cohen[2], J. Campbell[1], M. F. Chiang[1].* [1]Ophthalmology, Casey Eye Institute; [2]Salem Hospital; [3]Neonatology, Oregon Health and Science University **CR*

6532 — *A0160* **Telemedicine screening for retinopathy of prematurity (ROP) using digital retinal images: A pilot study.** *Alejandro Arias Gómez[1], R. García Franco[1], P. Ramírez Neria[1], D. Méndez Marín[1], V. Charles Lansingh[2], E. López Star[1], X. Mira Lorenzo[1], V. Romero Morales[1], M. García Roa[1], Y. Villalpando Gómez[1], M. Vazquez Membrillo[1].* [1]Retina and Vitreous, Instituto Mexicano de oftalmología I.A.P; [2]Dirección General, Instituto Mexicano de oftalmología I.A.P

6533 — *A0161* **Treatment of Retinopathy of Prematurity with Intravitreal Bevacizumab in Infants Weighing 500 Grams or Less at Birth.** *Elise Timtim[1], C. Peyton[3], M. Blair[2, 1], S. Hilkert Rodriguez[1].* [1]Ophthalmology, University of Chicago; [2]Retina Consultants, Ltd; [3]Physical Therapy and Human Movement Sciences, Northwestern University

6534 — *A0162* **Optical coherence tomography evaluation of early foveal structural changes after anti-VEGF treatment for type 1 ROP.** *Giulia Maria Amorelli[1], L. Orazi[2], C. Barresi[1], F. Molle[1], D. Lepore[1].* [1]Catholic University of Sacred Heart - Rome; [2]Polo Nazionale Riabilitazione visiva - IAPB Italia Onlus

6535 — *A0163* **Outcomes of intravitreal bevacizumab and laser photocoagulation for treatment of retinopathy of prematurity.** *Kamran Ahmed[1], A. Ali[2], N. Delwadia[3], M. Greven[1].* [1]Ophthalmology, Wake Forest; [2]Pediatrics, Wake Forest; [3]School of Medicine, Wake Forest

6536 — *A0164* **Functional Outcomes after Intravitreal Bevacizumab or Laser Photocoagulation or Combination of Both treatment for Retinopathy of Prematurity.** *Cheng Hsiu Wu.* Chang Gung Memorial Hospital Keelung branch

6537 — *A0165* **Pattern of retinal vascular changes before treatment for retinopathy of prematurity.** *Gloria J. Hong, J. C. Koerner, M. C. Weinert, S. F. Freedman, D. K. Wallace, J. W. Riggins, K. J. Gallaher, S. G. Prakalapakorn.* Ophthalmology, Duke University School of Medicine **CR*

6538 — *A0166* **Regression patterns of Retinopathy of Prematurity after intravitreal injection of Ranibizumab.** *Marco H. Ji[2, 1], D. Moshfeghi[2], R. A. Shields[2], Z. Bodnar[2], C. A. Ludwig[2], N. F. Callaway[2], T. Leng[2], S. Sanislo[2], L. Orazi[3], G. Amorelli[1], D. Lepore[1].* [1]Ophthalmology, Catholic University of Sacred Heart; [2]Ophthalmology, Stanford University; [3]Italian National Center of Services and Research for Prevention of Blindness and Rehabilitation of the Visually Impaired **CR*

6539 — *A0167* **Aggressive Posterior Retinopathy Of Prematurity: Functional Outcomes Following Intravitreal Bevacizumab.** *Shaina Rubino, P. Quiram.* VitreoRetinal Surgery

West Exhibition Hall A0168-A0190

Thursday, May 02, 2019 10:15 AM-12:00 PM

Retina

544 Diabetic Retinopathy and Surgery

Moderator: Esther M. Bowie

6540 — *A0168* **Degree of Capillary Nonperfusion Noted on Wide-angle Angiography Directly Correlate With Intravitreal VEGF Levels in Proliferative Vascular Retinopathies.** *K V Chalam[1], S. Gupta[2].* [1]Loma Linda University School of Medicine; [2]ophthalmology, Florida Atlantic University

6541 — *A0169* **The Role of Preoperative Bevacizumab in Patients Undergoing Pars Plana Vitrectomy for Proliferative Diabetic Retinopathy without Tractional Retinal Detachment.** *John McLaughlin[1], J. Alvarez[1], P. H. Scharper[2].* [1]Ophthalmology, Krieger Eye Institute/ Sinai Hospital; [2]Retina Specialists of Alabama

6542 — *A0170* **The efficacy of intravitreal bevacizumab in treating recurrent vitreous hemorrhage after pars plana vitrectomy for diabetic vitreous hemorrhage.** *Maram Abdalla-Elsayed[1], I. Taskintuna[2], P. Schatz[2, 3], I. Kozak[4].* [1]Saudi Ministry of Health; [2]King Khalid Eye Specialist Hospital; [3]Lund University; [4]Moorfields

6543 — *A0171* **Diabetic Vitrectomy: Evaluating the Impact of Lens Status in Recurrent Vitreous Hemorrhage.** *Jessica A. Scott, W. Bloom, L. Chou, M. Ohr.* Ophthalmology, The Ohio State University

6544 — *A0172* **Ranibizumab as the PrimaryTreament for Proliferative Diabetic Retinopathy in a "Real Life" Private Retina Office Setting.** *Itay Kazaz, M. J. Elman.* Elman Retina Group **CR*

6545 — *A0173* **The efficacy of intravitreal aflibercept injection in improvement of retinal nonperfusion in patients with diabetic retinopathy.** *Yoon Jeon Kim, J. Y. yjoonh@hanmail.net, G. Son, J. Lee, Y. Yoon.* Asan Medical Center **CR*

6546 — *A0174* **Aflibercept can reduce the severity of deep hemorrhages and IRMA but not venous beading.** *Liz Pearce[2], V. Chong[1], S. Sivaprasad[2].* [1]Boehringer Ingelheim International GmbH; [2]Moorfields Eye Hospital, NIHR Moorfields Biomedical Research Centre **CR*, ↗

6547 — *A0175* **Intravitreal Aflibercept for Retinal Non-Perfusion in Proliferative Diabetic Retinopathy: Primary Outcomes from the RECOVERY Study.** *Muneeswar Gupta Nittala[1], W. Fan[1], S. Velaga[1], B. Zhou[2], S. Lampen[2], A. M. Rusakevich[2], M. S. Ip[1], C. C. Wykoff[2], S. R. Sadda[1].* [1]Ophthalmology, Doheny Eye Institute; [2]Blanton Eye Institute & Houston Methodist Hospital, Retina Consultants of Houston **CR*, ↗

6548 — *A0176* **Metformin reduces inflammation in diabetic human vitreous by activating AMPK and inhibiting NFκB signaling pathway.** *Yue Li, T. Zhou, A. Hsu, P. A. Edwards, H. Gao, X. Qiao.* Ophthalmology, Henry Ford Health System

6549 — *A0177* **Clinical application of Retinal Biomarkers in Diabetic Retinopathy Patients.** *ida ceravolo, G. Oliverio, C. Trombetta.* University of Messina

6550 — *A0178* **Development of diabetic retinopathy and age-related macular degeneration in aged and metabolic dysregulated non-human primates.** *Kai Ming Zhang[1], J. Zhu[1], Q. Yang[1], R. Lin[2], Q. Lin[2], G. Jin[2], L. Yang[1], K. Wu[2], C. Zhang[2], T. Wang[1], R. Perez[1], S. Li[1], B. Zhang[1], Z. Jin[2].* [1]Ophthalmology, Kunming Biomed International; [2]Laboratory for Stem Cell & Retinal Regeneration (Jin Lab), Institute of Stem Cell Research, State Key Laboratory of Ophthalmology, Optometry and Vision Science, National Center for International Research in Regenerative Medicine and Neurogenetics, Wenzhou Medical University **CR*

6551 — *A0179* **Five-year progression to vision threatening complications of mild NPDR in patients with diabetes type 2.** *Ines Marques[4, 5], D. Alves[1], T. Santos[2], A. Santos[4, 5], M. Ribeiro[4], C. Lobo[1, 3], J. G. Cunha-Vaz[4, 3].* [1]4C, Association for Innovation and Biomedical Research on Light and Image; [2]CNTM, Association for Innovation and Biomedical Research on Light and Image; [3]Faculty of Medicine, University of Coimbra; [4]CEC, Association for Innovation and Biomedical Research on Light; [5]Coimbra Institute for Clinical and Biomedical Research (iCBR), Faculty of Medicine, University of Coimbra

6552 — *A0180* **Plasma and Vitreous Complement Levels in Humans with Proliferative Diabetic Retinopathy.** *Nikhil K. Mandava[1, 2], V. Tirado[2], M. D. Geiger[1], J. Patnaik[1], A. Frazer-Abel[1], A. Lynch[1], N. Mandava[1], A. Palestine[1], M. Holers[1], B. D. Wagner[1], I. Sanchez-Santos[2], D. Meizner[2], H. Quiroz-Mercado[2], J. Smith[1].* [1]Ophthalmology, University of Colorado Denver; [2]Retina, Asociación para Evitar la Ceguera en Mexico **CR*

6553 — *A0181* **Analysis of patient population presenting with proliferative diabetic retinopathy identified and referred from Irish National Screening Program, RetinaScreen.** *Sarah Powell[1, 2], L. Landi[2, 3], K. Blaaow[2, 3], N. Elseed[1], M. Abdelraham[3], D. Minasyan[1, 3], R. Pandey[1, 2], D. J. Keegan[2, 3].* [1]Mater Retinal Research Group,, Mater Misericordiae University Hospital, Dublin, Ireland; [2]Diabetic RetinaScreen National Screening Service, HSE; [3]Department of Ophthalmology, Mater Misericordiae University Hospital

6554 — *A0182* **The impact of additional laser photocoagulation on PRP evaluated by the simulation based on photoreceptor densities.** *Kentaro Nishida, H. Sakaguchi, S. SATO, A. Shiraki, Y. Fukushima, T. Wakabayashi, C. Hara, S. Sakimoto, K. Sayanagi, R. Kawasaki, K. Nishida.* Osaka University Graduate School of Medicine

6555 — *A0183* **Treatment response based on topography of retinal neovascularization in proliferative diabetic retinopathy.** *Sandra Halim[1, 2], A. A. Kirkwood[3], T. Peto[4], U. Chakravarthy[4], J. Ramu[1], P. G. Hykin[1], S. Sivaprasad[1, 2].* [1]NIHR Moorfields Biomedical Research Centre; [2]University College London; [3]Cancer Research UK and UCL Cancer Trials Centre, UCL Cancer Institute; [4]Queens University **CR*, ↗

6556 — *A0184* **Natural History of Visual Function Impairment in Patients Post-treatment with Pan-retinal Photocoagulation for Proliferative Diabetic Retinopathy.** *Xing Chen, A. Omari, M. Hwang, T. W. Gardner.* Department of Ophthalmology and Visual Sciences, Kellogg Eye Center University of Michigan **CR*

6557 — *A0185* **Practice Patterns Regarding Treatment of Vitreous Hemorrhage in Patients Following Pars Plana Vitrectomy.** *Effie Rahman[1], K. Beck[1], R. Diaz-Rohena[1, 2], M. Singer[1, 3].* [1]Ophthalmology, UT Health Science Center San Antonio; [2]Ophthalmology, South Texas VA Hospital; [3]Ophthalmology, Medical Center Ophthalmology Associates

6558 — *A0186* **Beneficial visual outcome of vitrectomy and delamination surgery in a cohort of black patients.** *Jason Ho, A. Laidlaw.* Ophthalmology, St Thomas' Hospital

6559 — *A0187* **Endolaserless Vitrectomy with Intravitreal Aflibercept Injection (IAI) for Proliferative Diabetic Retinopathy (PDR)-Related Vitreous Hemorrhage: LASER LESS TRIAL 1-Year Results.** *Davis C. Starnes[1], R. Lalane[1], H. Walia[1], A. Farooq[2], H. Frazier[1], W. Marcus[1], H. Singh[1], D. M. Marcus[1].* [1]Research, Southeast Retina Center; [2]Morehouse School of Medicine **CR*, ↗

6560 — *A0188* **Preoperative Treatment History as A Predictor for Change in Visual Acuity After Surgical Correction of Diabetic Traction Retinal Detachment.** *Zach Unruh, E. Ablah, H. Okut, D. M. Chacko.* University Kansas School of Medicine-Wichita

6561 — *A0189* **Intraoperative findings of posterior vitreous detachment and proliferative membranes in neovascular glaucoma associated with proliferative diabetic retinopathy.** *Koichi Nishitsuka, A. Sugano, K. Nishi, M. Okochi, T. Matsushita, S. Abe, Y. Takeda, h. namba, y. kaneko, H. Yamashita.* Ophthalmology/Vis Sci, Yamagata University Sch of Med **CR*

Thursday Posters
10:15 am – 12:00 pm

6562 — *A0190* **Risk and Prognostic Factors of Neovascular Glaucoma After 25-gage Vitrectomy for Proliferative Diabetic Retinopathy with Vitreous Hemorrhage: A Retrospective Multicenter Study.** *Kei Takayama[1], H. Someya[1], H. Yokoyama[2], Y. Takamura[3], M. Morioka[3], S. Sameshima[4], T. Ueda[7], S. Kitano[6], M. Tashiro[6], M. Sugimoto[5], M. Kondo[5], T. Sakamoto[4], M. Takeuchi[1].* [1]National Defense Medical College; [2]Hyogo College of Medicine; [3]University of Fukui Faculty of Medical Sciences; [4]Kagoshima University; [5]Mie University; [6]Tokyo Women's Medical University School of Medicine; [7]Nara Medical University

West Exhibition Hall A0262-A0313

Thursday, May 02, 2019 10:15 AM-12:00 PM

Retina

545 Retinal Detachment, Trauma and Repair

Moderators: Eduardo V. Navajas and Ajay Kuriyan

6563 — *A0262* **Pediatric retinal microvasculature mechanics during trauma.** *Brittany Coats, M. P. Byrne.* Mechanical Engineering, University of Utah

6564 — *A0263* **Modern Visual and Clinical Outcomes of Vitrectomy after Open Globe Injury.** *Anna Marmalidou, E. Rossin, L. A. Kim, D. M. Wu, J. B. Miller.* Retina Service, Department of Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School **CR*

6565 — *A0264* **Comparative analysis of the prognostic value between *the Pediatric Ocular Trauma Score* and the *Toddler/Infant Ocular Trauma Score* in Brazilian children..** *Gilvan Vilarinho da Silva-Filho, A. Moreno Morgan, N. Kasahara.* Oftalmologia, Irmandade da Santa Casa de Misericordia de Sao Paulo

6566 — *A0265* **Macula ON and OFF Retinal Detachment and Ocular Trauma: clinical features.** *Hae Jin Kim, j. aceves-velázquez, J. Ariza-Camacho.* Retina and Vitreous, Instituto de Oftalmologia Fundacion Conde de Valenciana

6567 — *A0266* **Surgical outcomes of fall-related open globe injuries.** *Risa Abe, F. Okamoto, S. Morikawa, Y. Okamoto, T. Oshika.* Ophthalmology, University of Tsukuba **CR*

6568 — *A0267* **Gender Differences in Surgical Intervention Rate and Timing for Rhegmatogenous Retinal Detachments Among US Commercially Insured Patients From 2007-2015.** *Natalia F. Callaway, D. Vail, S. Pershing, C. A. Ludwig, D. Moshfeghi.* Ophthalmology, Stanford University Byers Eye Institute **CR*

6569 — *A0268* **Morphological parameters and their prognostic value in SD-OCT in patients with center involving retinal detachment.** *Philip Rechl, J. Klaas, N. Feucht, C. Lohmann, M. Maier.* Technical University of Munich - Klinikum rechts der Isar

6570 — *A0269* **Visual acuity incompletely represents visual function in patients after successful repair of rhegmatogenous retinal detachment with macular involvement.** *Heijan Ng[1], K. A. Vermeer[1], J. van Meurs[2], E. La Heij[2].* [1]Rotterdam Ophthalmic Institute ; [2]The Rotterdam Eye Hospital

6571 — *A0270* **Higher Single Surgery Anatomic Success Rates in Retinal Detachment Repair with Meticulous Vitreous Removal.** *Tedi Begaj[1], A. Marmalidou[1], T. D. Papakostas[2], J. Diaz[1], L. A. Kim[1], D. M. Wu[1], J. B. Miller[1].* [1]Ophthalmology, Massachusetts Eye and Ear-Harvard Medical School; [2]Retina Service, Weill Cornell Medical College

6572 — *A0271* **Wide-angle B-mode evaluation of the shape of eyeballs in rhegmatogenous retinal detachment.** *Yoshiaki Shimada, R. Sakurai, T. Mizuguchi, R. Nomura, A. Tanikawa, M. Horiguchi.* fujita health university

6573 — *A0272* **The Effect of Scleral Buckle Selection, Corneal Thinning, and Scleral Compliance on Eye Morphology: a Biomechanical Model.** *Benjamin W. Botsford[1], A. F. Durrani[1], R. Aldhafeeri[2], P. Smolinski[2], T. R. Friberg[1].* [1]Ophthalmology/UPMC Eye Center, University of Pittsburgh Medical Center; [2]Mechanical Engineering, University of Pittsburgh

6574 — *A0273* **Intraocular silicone oil tamponade in rhegmatogenous retinal detachment.** *Katharina Eibenberger, S. Sacu, S. Rezar-Dreindl, U. Schmidt-Erfurth, M. Georgopooulos.* Ophthalmology and Optometry, Medical University of Vienna **CR*, ↗

6575 — *A0274* **Silicone Oil Removal: Timing and Retinal Detachment Recurrence.** *Katherine McCabe[1], M. E. Jansen[1], G. Cloud[2], R. Cheng He[3], A. Barash[1], R. B. Rosen[1], A. Deobhakta[1].* [1]Ophthalmology, New York Eye & Ear Infirmary of Mount Sinai; [2]New York University; [3]Icahn School of Medicine, Mount Sinai **CR*

6576 — *A0275* **Visual and anatomical outcomes from ultra-complex retinal detachment repair in a large county hospital.** *Christina Y. Weng[1, 2], A. Chen[4], R. E. Coffee[3], R. C. Date[1, 2], R. Channa[4, 2].* [1]Retina, Baylor College of Medicine-Cullen Eye Institute; [2]Ben Taub General Hospital; [3]Berkeley Eye Center; [4]Baylor College of Medicine **CR*

6577 — *A0276* **An analysis of the time to retinal detachment failure.** *Rohan W. Essex[2, 3], R. Heath-Jeffrey[1], W. Atkins[3], B. Young[1], M. Okada[3], P. J. Allen[3, 4].* [1]Ophthalmology, Canberra Hospital; [2]Medical School, Australian National University; [3]Vitreoretinal Surgery Unit, Royal Victorian Eye and Ear Hospital; [4]Centre for eye Research Australia, University of Melbourne

6578 — *A0277* **Investigating the use of trocar cannulas for pneumatic retinopexy.** *Michael Chua, J. V. Giovinazzo, A. Deobhakta, R. B. Rosen.* Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai **CR*

6579 — *A0278* **Long-term follow up of Analysing Foveal Avascular Zone Area and Vessel Density Changes Using OCT Angiography After Rhegmatogenous Retinal Detachment Surgery.** *Eung Suk Kim, K. Kim, S. Yu.* Ophthalmology, Kyunghee Univ Medical Center

6580 — *A0279* **Factors affecting persistent subfoveal fluid after rhegmatogenous retinal detachment surgery.** *Hyoung Seok Kim.* Kim's Eye Hospital

6581 — *A0280* **The efficacy of sutureless 27G+ axial vitrectomy for macular epiretinal membrane.** *Zhifeng Wu.* ophthalmology, WUXI NO.2 people's Hospital

6582 — *A0281* **Exploring the vitreoretinal interface: a key instigator of unique retinal hemorrhage patterns in abusive head trauma.** *Helen Song[1], J. Priluck[1, 2], B. Angle[1], D. A. Ghate[1], V. Gulati[1], D. W. Suh[1, 3].* [1]University of Nebraska Medical Center; [2]Retina Consultants of the Midlands; [3]Children's Hospital of Omaha

6583 — *A0282* **Outcomes of fellow-performed retinal detachment repairs at a large county hospital.** *Varun Reddy, H. Bhalli, Y. GoldenMerry, B. Winward, Z. Robertson.* Ophthalmology, UT Southwestern Medical Center

6584 — *A0283* **Morphological and functional assessment of photoreceptors after macula-off retinal detachment with adaptive-optics optical coherence tomography (AO-OCT) and microperimetry.** *Adrian Reumueller[1], L. Wassermann[1], M. Karantonis[1], M. Salas[2], S. Sacu[1], M. Georgopoulos[1], W. Drexler[2], M. Pircher[2], U. Schmidt-Erfurth[1], A. Pollreisz[1].* [1]Department of Ophthalmology and Optometry, Medical University of Vienna; [2]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna

6585 — *A0284* **Comparison of scleral buckle surgery with and without gas tamponade for the treatment of rhegmatogenous retinal detachment.** *Elinor Megiddo[2, 1], Y. Weinberger[2, 1], A. Sternfeld[2, 1], N. Hadar Cohen[2, 1], R. Ehrlich[2, 1], M. Tennant[3], A. Dotan[2, 3].* [1]Sackler Faculty of Medicine, Tel Aviv University; [2]Department of Ophthalmology, Rabin Medical Center, Beilinson Campus; [3]Department of Ophthalmology, Royal Alexandra Hospital, University of Alberta

6586 — *A0285* **Incidence of cystoid macula edema after primary rhegmatogenous retinal detachment surgery.** *Sebastian Bemme[1], M. Gebler[1], S. Pfeiffer[2], J. Callizo[1], H. Hoerauf[1], N. Feltgen[1].* [1]Department of Ophthalmology, University Medical Center Goettingen; [2]Department of Medical Statistics, University Medical Center Goettingen

Thursday Posters 10:15 am – 12:00 pm

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. **CR* Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

6587 — *A0286* **Long-term prognosis of eyes with tilted disc syndrome-associated serous retinal detachment.** *Soichiro Kuwayama[1], F. Kubota[1], A. Kato[1], F. Gomi[2, 3], S. Takagi[4, 5], T. Kinoshita[6], H. Ishikawa[2], Y. Mitamura[7], M. Kondo[8], C. Iwahashi[3], Y. Kurimoto[4], Y. Ogura[1], T. Yasukawa[1].* [1]Ophthalmology and Visual Science, Nagoya City University Graduate School of Medical Sciences; [2]Ophthalmology, Hyogo College of Medicine; [3]Ophthalmology, Sumitomo Hospital; [4]Ophthalmology, Kobe City Eye Hospital; [5]Ophthalmology, Teikyo University; [6]Ophthalmology, Sapporo City General Hospital; [7]Ophthalmology, Tokushima University; [8]Ophthalmology, Mie University Graduate School of Medicine

6588 — *A0287* **Retinal Detachment Repair Outcomes in Patients who Received Preoperative Evaluation with a Different Surgeon.** *Zack Oakey[1], I. Holmen[1], J. S. Chang[1], E. Downie[1], M. S. Ip[2], M. M. Altaweel[1], J. Gottlieb[1], T. Nork[1].* [1]University of Wisconsin; [2]UCLA/Doheny Eye Institute

6589 — *A0288* **Fortified barrier laser on the vitreous base in vitrectomy for rhegmatogenous retinal detachment.** *Sun Ho Park, J. LEE, H. Kwon, S. Park, J. E. Lee.* Department of Ophthalmology, Pusan National University Hospital

6590 — *A0289* **Demarcation Laser Photocoagulation for the Treatment of Large Retinal Breaks with Significant Subretinal Fluid.** *Collin Rozanski[1], A. Barash[1, 2], R. Kaplan[1, 2], J. Lo[1, 2], R. Chod[2].* [1]Icahn School of Medicine at Mount Sinai; [2]Ophthalmology - Retina, New York Eye and Ear Infirmary of Mount Sinai

6591 — *A0290* **Thickened choroid may associate with long-lasting macular serous retinal detachment after vitrectomy in cases with rhegmatogenous retinal detachment.** *Ryo Mukai, H. Matsumoto, H. Akiyama.* Ophthalmology, Gunma University Graduate School of Medicine

6592 — *A0291* **Predictive Factors in Patient History for Diagnosis of Acute Retinal Pathology.** *Meleha Ahmad[1], J. Sein[1], A. Scott[1], J. Ramroop[1], J. Wang[2], K. Jiramongkolchai[1], J. T. Handa[1], I. E. Zimmer-Galler[1], J. Arevalo[1].* [1]Wilmer Eye Institute, Johns Hopkins University School of Medicine; [2]Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health **CR*

6593 — *A0292* **Recurrent retinal detachment: Surgical practices and outcomes.** *Elaine Downie[1], Z. Oakey[1], I. Holmen[1], M. M. Altaweel[1], J. Gottlieb[1], M. S. Ip[2], T. Nork[1], J. S. Chang[1].* [1]Ophthalmology and Visual Sciences, University of Wisconsin - Madison; [2]Doheny Eye Center UCLA

6594 — *A0293* **Utilizing three-dimensional printing for the production of a scleral depressor: a technical assessment and primer for clinical integration.** *Paul Mallory, M. Najafi, D. D. Koozekanani.* Department of Ophthalmology and Visual Neurosciences, University of Minnesota

6595 — *A0294* **Visual outcome of multifocal intraocular lenses after retinal detachment surgery.** *Sigrid B. Freissinger, A. Wolf, I. Bayer, C. Kern, S. Priglinger, L. F. Keidel, M. Shajari, T. Kreutzer, E. Vounotrypidis.* LMU Eye Clinic Munich ↗

6596 — *A0295* **Macular Hole-Related Retinal Detachment in Children with Knobloch Syndrome.** *Sulaiman M. Alsulaiman, A. Al-Abdullah, H. Aldhibi, L. Engelbrecht, M. Mura.* King Khaled Eye Specialist Hospital

6597 — *A0296* **Clinical characteristics of proven acute intraocular toxicity by perfluorocarbon liquids (PFCL) used in retinal surgery.** *Jose-Carlos Pastor[1, 2], C. Andres_iglesias[1], G. K. Srivastava[1], I. Fernandez-Bueno[1], A. Dueñas-Laita[1, 3], F. Rull[4], J. Medina[5], J. García-Serna[6, 7], A. Garcia-Layana[8, 9], R. Coco-Martin[1].* [1]IOBA-Eye Institute, University of Valladolid; [2]Ophthalmology, Hospital Clinico Universitario; [3]Medicine and Toxicology, University of Valladolid; [4]Crystallography and Mineralogy, University of Valladolid; [5]Crystallography and Mineralogy, University of Valladolid; [6]High Pressure Processes Group, University of Valladolid; [7]Bioeconomy Institute, Department of Chemical Engineering and Environmental Technologies, University of Valladolid; [8]Ophthalmology, University of Navarra; [9]Oftared, Instituto de Salud Carlos III

6598 — *A0297* **Association of Baseline OCT Features with Visual Outcomes Following Retinal Detachment Repair: Post-Hoc Analysis of the PIVOT Trial.** *Carolina Francisconi[1], R. J. Hillier[2], V. Juncal[1], T. Felfeli[1], L. Giavedoni[1], D. T. Wong[1], A. R. Berger[1], F. Altomare[1], P. Kertes[3], R. Kohly[4], R. H. Muni[1].* [1]Ophthalmology, St**.** Michael's Hospital - University of Toronto; [2]Ophthalmology, The Newcastle Upon Tyne Hospitals; [3]Ophthalmology, Sunnybrook Hospital; [4]University of Toronto ↗

6599 — *A0298* **Real-World Evidence of Anatomical Success Rates and Visual Acuity Outcomes of Pneumatic Retinopexy in Patients with Primary Rhegmatogenous Retinal Detachment meeting PIVOT Trial Criteria..** *Rajeev H. Muni, M. Bamakrid, Q. Paracha, S. Jin, C. Francisconi, V. Juncal.* Department of Ophthalmology and Vision Sciences, St**.** MIchael's Hospital, University of Toronto

6600 — *A0299* **Prognostic value of subfoveal subretinal fluid optical density ratio in macula-involving shallow retinal detachment.** *Yong Kam[1], J. Luvisi[2], M. Champion[1], M. A. Mainster[1], R. Ajlan[1].* [1]Department of Ophthalmology, University of Kansas School of Medicine; [2]University of Kansas School of Medicine

6601 — *A0300* **Effect of Subretinal Fluid Drainage Method on Retinal Detachment Surgery Success in Vitrectomy and Combined Vitrectomy Scleral Buckle.** *Matthew A. Powers, T. Slingsby, S. C. Oliver.* Ophthalmology, University of Colorado School of Medicine

6602 — *A0301* **The functional effects of photoreceptor loss in patients with retinal detachment.** *Sana Rasool[1], R. Chaudhary[3], K. Blachford[4], R. Scott[3], A. Logan[3], R. J. Blanch[2, 3].* [1]University Hospital Coventry & Warwickshire; [2]Academic Department of Military Surgery & Trauma, Royal Centre for Defence Medicine; [3]Neuroscience & Ophthalmology, Institute of Inflammation and Ageing, University of Birmingham; [4]Research & Development, Sandwell & West Birmingham NHS Trust **CR*

6603 — *A0302* **The responses of cone photoreceptors to retinal detachment in the rat.** *Glyn Chidlow, W. Chan, J. P. Wood, R. J. Casson.* Ophthalmic Research Laboratories, University of Adelaide

6604 — *A0303* **Microglial regulation of inflammatory mediators following retinal detachment.** *Yoko Okunuki, S. Tabor, K. M. Connor.* Ophthalmology, Massachusetts Eye and Ear Infirmary

6605 — *A0304* **Microglia prevent photoreceptor from apoptosis in a rat model of retinal detachment.** *Quan Yan, M. Sun, X. Li, X. Sun.* Shanghai General Hospital

6606 — *A0305* **Protective role of mesencephalic astrocyte-derived neurotrophic factor (MANF) in photoreceptor death.** *Mercy D. Pawar, T. Suzuki, K. Toolan, C. G. Besirli.* Ophthalmology and Visual Science, University of Michigan

6607 — *A0306* **Molecular biological changes of the vitreous in different forms of retinal detachment.** *Aniko Balogh[2, 1], T. Milibák[1], Z. Z. Nagy[2], M. D. Resch[2].* [1]Ophthalmology, Uzsoki Hospital; [2]Ophthalmology, Semmelweis University

6608 — *A0307* **Thiolated cross-linked hydrogel as a vitreous substitute – a 6-month follow-up study.** *Lisa Pohl[1], N. Heider[1], J. Hurst[1], M. Prinz[2], C. Hohenadl[2], C. Reither[2], K. Januschowski[1, 3], S. Schnichels[1], M. Spitzer[4, 1].* [1]Center of Ophthalmology, University Hospital Tübingen; [2]Croma Pharma; [3]Eye Hospital Sulzbach; [4]University Medical Center Hamburg-Eppendorf **CR*

6609 — *A0308* **Hydrogel-based vitreous tamponade prevents proliferative vitreoretinopathy in an in-vitro model.** *Xinyi Su[1, 2], B. H. Parikh[1, 2], Z. Liu[1, 2], T. A. Blenkinsop[3].* [1]Ophthalmology, National University of Singapore ; [2]Institute of Cellular and Molecular Biology, A*STAR; [3]Mt Sinai, NY

6610 — *A0309* **Unexplained visual loss under silicone oil tamponade: Absorption of silicone oil droplets and proinflammatory response in retinal microglia cells.** *Johann Roider[1, 2], A. Harms[1], V. Waetzig[2], J. Tode[1], K. Purtskhvanidze[1], A. Klettner[1].* [1]Klinik fur Ophthalmologie, University of Kiel; [2]Pharmacology, University of Kiel

6611 — *A0310* **Cytotoxicity evaluation of toxic substances identified in recent reported toxic lots of perfluorocarbon liquids used in intraocular surgery in patients.** *Girish K. Srivastava[1, 2], C. Andrés-Iglesias[1], R. COCO[1], I. Fernandez-Bueno[1, 2], J. Medina[3], J. García-Serna[4], A. Dueñas-Laita[5], F. Rull[3], J. Pastor[1, 6].* [1]Retina Group, Instituto Universitario de Oftalmobiología Aplicada (IOBA), Eye Institute, University of Valladolid; [2]Centro en Red de Medicina Regenerativa y Terapia Celular, Junta de Castilla y León.; [3]Departament of Physics of Condensed Matter, Crystallography and Mineralogy, University of Valladolid,; [4]High Pressure Processes Group, Instituto de Bioeconomía, Departamento de Ingeniería Química y Tecnologías del Medio Ambiente, Universidad de Valladolid,; [5]Toxicology Department, University of Valladolid,; [6]Oftared, Instituto de Salud Carlos III,

6612 — *A0311* **Application of a nonhuman primate model of retinal detachment to evaluate neuroprotection efficacy.** *Matthew S. Lawrence[1], E. Demmons[1], M. Weed[1], V. Woodley[1], D. Vavvas[2].* [1]Research, RxGen; [2]Ophthalmology, Massachusetts Eye and Ear Infirmary **CR*

6613 — *A0312* **Quantitative method for testing toxicity of ocular endo-tamponades in human retina ex-vivo model.** *Jana D'Amato Tothova[1], B. Ferrari[2], L. Giurgola[1], C. Gatto[1].* [1]Research and Development, Alchilife Srl; [2]Fondazione Banca degli Occhi del Veneto Onlus (FBOV)

6614 — *A0313* **Loss of High-Mobility Group Box 1 (HMGB1) Protein Diminishes Photoreceptor Cell Response.** *Bing X. Ross, J. Yao, J. Choi, L. Jia, S. F. Abcouwer, D. N. Zacks.* Ophthalmology and Visual Science, Kellogg Eye Center, University of Michigan

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West Exhibition Hall B0070-B0111

Thursday, May 02, 2019 10:15 AM-12:00 PM

Glaucoma

546 Surgery and Wound Healing II

Moderators: Gordana Sunaric-Megevand and James D. Brandt

6615 — *B0070* **Combined iStent and Phacoemulsfication Outcomes in African American and Caucasian Glaucoma Patients.** *Michael Henry[1, 2], B. I. Gaynes[1, 2], M. Chaku[1, 2].* [1]Ophthalmology, Loyola University Medical Center; [2]Ophthalmology, Edward Hines, Jr**.** VA Hospital

6616 — *B0071* **XEN® Gel Stent glaucoma implant in phakic eyes vs combined with cataract surgery.** *Georgios Kontos, A. Shwe Tin, G. Jutley.* Oxford Eye Hospital

6617 — *B0072* **Analysis of bleb morphology and outcomes following sub-tenon's XEN Gel Stent implantation.** *Anna T. Do[1], S. Dangda[1], M. Mavrommatis[2], J. F. Panarelli[1].* [1]New York Eye and Ear Infirmary of Mount Sinai; [2]Mount Sinai Icahn School of Medicine

6618 — *B0073* **Comparing Refractive Outcomes of Three Minimally Invasive Glaucoma Surgery (MIGS) Implants.** *Jacob Diskin, J. Zeiter, N. Nassiri, S. Syeda, A. Shukairy, B. A. Hughes.* Kresge Eye Institute

6619 — *B0074* **The efficacy of trabecular microbypass stent (iStent) surgery in patients with secondary glaucoma.** *Kyoung Sub Lee[1], H. Yang[1], J. Park[1], Y. Kim[2].* [1]Seoul Shinsegae Eye Center; [2]Asan Medical Center

6620 — *B0075* **Comparative analysis of Cypass vs. iStent.** *Paul A. Zlojutro[1], S. Syeda[2], C. Kim[2], B. Hughes[2].* [1]Wayne State University School of Medicine; [2]Kresge Eye Institute

6621 — *B0076* **Comparison of Intraocular Pressure (IOP) Reduction of Xen vs. Cypass Stent.** *Caroline E. Aey, J. P. Aey.* Eye Care Assoc., Inc.

6622 — *B0077* **Comparison of 1 year effectiveness of trabecular microbypass stent implantation (iStent) among mild, moderate, and severe primary open angle glaucoma.** *Sunee Chansangpetch[1, 2], M. Ittarat[2, 3], S. Yang[3, 3], A. C. Fisher[3], K. Singh[3], S. C. Lin[1, 4], R. Chang[3].* [1]UCSF; [2]Chulalongkorn University and King Chulalongkorn Memorial Hospital; [3]Stanford University; [4]Glaucoma Center of San Francisco; [5]Beijing Chao Yang Hospital, Capital Medical University

6623 — *B0078* **Engineering a partially degradable glaucoma microshunt for controlled intraocular pressure reduction.** *Aditya Josyula[2, 1], J. Ahn[2, 3], S. Ramesh[2, 3], R. Omiadze[2, 4], J. Szeto[4], L. Ensign[2, 4], J. Hanes[2, 4], K. Parikh[2, 5], I. F. Pitha[2, 4].* [1]Chemical and Biomolecular Engineering, Johns Hopkins University; [2]Center for Nanomedicine, Johns Hopkins University, School of medicine; [3]Biomedical Engineering, Johns Hopkins University; [4]Ophthalmology, Johns Hopkins University, School of Medicine; [5]Center for Bioengineering Innovation & Design, Johns Hopkins University

6624 — *B0079* **Hybrid MIGS procedure combining Dual Blade Goniotomy and Direct Viscodilation of the Collector Channels with Cataract Surgery - Fifteen Months Follow-up.** *Linda L. Burk[1], J. Gilmore[2], L. Gilmore[3].* [1]Department of Ophthalmology, University of Texas Southwestern Medical Center; [2]School of Medicine, Texas Tech University Health Science Center; [3]St**.** Edwards University

6625 — *B0080* **Unique MIGS procedure combining Dual Blade goniotomy and Direct viscodilation of the collector channels combined with cataract surgery in Narrow angle glaucoma: One year follow-up.** *LINDA GILMORE[1], J. Gilmore[2], L. L. Burk[3].* [1]St**.** Edward's University ; [2]School of Medicine, Texas Tech University Health Science Center; [3]Department of Ophthalmology, University of Texas Southwestern Medical Center

6626 — *B0081* **Comparison of two glaucoma surgical techniques, Kahook Dual Blade goniotomy versus Trabectome ab-interno trabeculotomy, in combination with cataract surgery.** *Arjun J. Dirghangi, P. A. Netland, T. M. Roa.* Ophthalmology, University of Virginia School of Medicine

6627 — *B0082* **Evaluation of a second-generation trabecular micro-bypass stents in patients with primary open angle glaucoma: A retrospective consecutive case series review at a tertiary centre..** *Mohsin Patel, Y. Vaid, M. Parnell, J. Robins, a. kulkarni, S. Trikha.* Ophthalmology, Kings College

6628 — *B0083* **A Novel Modified Minimally Invasive Trabeculectomy : A Preliminary Study.** *Bennett Y. Hong[1], Y. Zhou[2], J. J. Mattingly[1], B. A. Bunag[2], G. Vizzeri[1].* [1]Ophthalmology, University of Texas Medical Branch; [2]University of Texas Medical Branch - School of Medicine

6629 — *B0084* **Ab Interno Canaloplasty after failed Trabeculectomy in uncontrolled Open-Angle Glaucoma.** *Katia Ruiz-Montenegro Villa, N. Agudelo, B. Rubio, L. Caiola, j. A. mejias smith, J. Camargo Acuña, M. CAMINO QUEZADA, J. Chauca, R. Zúñiga Iracheta, C. Maldonado, J. Izquierdo.* Lima, Instituto Oftalmosalud

6630 — *B0085* **Gonioscopy-Assisted Transluminal Trabeculotomy: A Retrospective Review of Cases with 6-month Follow-up.** *Geoffrey Law, G. Docherty, P. Crichton, C. Lee, N. Maes, L. Robinson, P. Mackenzie, S. Schendel.* Ophthalmology, University of British Columbia

6631 — *B0086* **Injected vs. topical mitomycin C in patients undergoing trabeculectomy; long-term outcomes.** *Sarah Syeda, R. Kherallah, C. Kim, B. Hughes.* Kresge Eye Institute

6632 — *B0087* **One-Year Results on Efficacy and Safety after Trabeculectomy Comparing Two Methods to Deliver Mitomycin-C. Sub-Tennon's Injection (STI) versus STI plus Impregnated Sponges..** *Andrea Orozco Garcia[1], J. A. Paczka[1, 2], S. García y Otero Sanchez[1], L. Giorgi-Sandoval[2, 4], J. Rodriguez-Lopez[2, 3].* [1]Instituto de Oftalmología y Ciencias Visuales, Universidad de Guadalajara; [2]Research & Development, Unidad de Diagnóstico Temprano del Glaucoma; [3]School of Medicine, Universidad Autónoma de Guadalajara; [4]Asistencia e Investigación en Glaucoma

6633 — *B0088* **Long-term Outcomes of Mitomycin C Trabeculectomy for Exfoliative Glaucoma in Phakic Eyes versus Pseudophakic Eyes.** *Sooncheol Cha, C. Moon, W. Gu, J. Son.* Ophthalmology, Yeungnam Univ. Hospital

6634 — *B0089* **The influence of ethnicity on adjunctive medical and surgical interventions following trabeculectomy.** *Jonathan Clarke, N. Srikantha.* Glaucoma Service, NIHR Biomedical Research Centre at Moorfields Eye Hospital and UCL Institute of Ophthalmology

6635 — *B0090* **Trabeculectomy followed by phacoemulsification versus trabeculectomy alone: The Collaborative Bleb-Related Infection Incidence and Treatment Study.** *Shogo Arimura, K. Iwasaki, Y. Takamura, M. Inatani.* Ophthalmology, University of Fukui

6636 — *B0091* **Incidence and risk factors for the ptosis after trabeculectomy.** *Jong Yeon Lee[1, 2], H. Park[2], M. Chi[1, 2], Y. Kim[3].* [1]Ophthalmology, Gachon University ; [2]Ophthalmology, Gachon Univ. Gil Medical Center; [3]Ophthalmology, Korea University

6637 — *B0092* **Prospective Cohort Study of Refractive Change After Trabeculectomy.** *Kentaro Iwasaki, S. Arimura, Y. Takamura, M. Inatani.* Department of Ophthalmology, University of Fukui

6638 — *B0093* **Using Ethnicity to Improve High Risk Trabeculectomy Outcome.** *Nishanthan Srikantha, J. Clarke.* Glaucoma, Moorfields Eye Hospital

6639 — *B0094* **Outcomes of combined Baerveldt glaucoma implant & trabeculectomy with mitomycin C in patients with advanced glaucoma with high risk of primary Trabeculectomy failure.** *Saurabh Goyal, H. Ho, J. Ho, S. Georgoulas, M. Parnell, R. Lim, C. Yu-Wai-Man.* Ophthalmology, St. Thomas' Hospital

6640 — *B0095* **Eleven year outcomes after Ahmed valve implantation in patients with neovascular glaucoma in an ophthalmology-specialized hospital in Mexico City.** *Regina Rodriguez-DeRiquer, M. F. Rebollo, R. I. Lozano Garza, A. Uriostegui, C. Hartleben, K. Dueñas.* Instituto de Oftalmologia FAP Conde de Valenciana

6641 — *B0096* **Outcomes of Ahmed glaucoma valve implantation modified with viscoelastic anterior chamber fill.** *Connor Dugan, M. Ustaoglu, C. X. Zheng, M. Lin, S. J. Moster, C. Sanvicente, M. R. Moster.* Glaucoma, Wills Eye Hospital **CR*

6642 — *B0097* **Ahmed valve implantation for secondary glaucoma in elderly uveitis patients.** *Nils S. Steinhorst, M. K. Casagrande, M. Spitzer, N. Stuebiger.* Ophthalmology, Universityhospital Hamburg

6643 — *B0098* **Ologen Implant over the Plate during Ahmed Glaucoma Implant Surgery and Early Intraocular Pressure (IOP)/Hypertensive Phase.** *Sandra M. Johnson[1, 2], K. Humphrey[1], K. Greenridge[2].* [1]Ophthalmology, Univeristy of South Florida ; [2]Ophthalmology, Eye Institute of West Florida

6644 — *B0099* **Baerveldt glaucoma drainage device: standard sutured technique versus free plate technique.** *Koenraad A. Vermeer, C. P. Jordaan-Kuip, H. G. Lemij, P. W. de Waard, E. Islamaj.* Rotterdam Ophthalmic Institute, Rotterdam Eye Hospital ↗

6645 — *B0100* **Short-term changes in corneal endothelial cell density after glaucoma drainage device.** *Ricardo I. Mata Hofmann, Y. Azses Halabe, R. Gonzalez-Salinas, J. Gamiochipi Arjona, J. Jiménez Román, G. Lazcano, M. Garcia Huerta.* Asociacion para Evitar la Ceguera en Mesxico

6646 — *B0101* **Clinical outcomes following the triple procedure.** *Obi Umunakwe, S. Wakil, A. C. Thompson, G. J. Jaffe, T. Kim, L. Herndon.* Duke University Eye Center

6647 — *B0102* **Comparison and efficacy of three surgical goniotomy techniques.** *Jang Hyun Kim[1], D. Hayes[2, 1], A. Angelilli[2, 1], R. Rothman[2, 1], A. Prywes[2, 1], C. Marcus[2, 1].* [1]Ophthalmology, Zucker School of Medicine at Hofstra/Northwell; [2]Eye Care Associates & Glaucoma Consultants of Long Island

6648 — *B0103* **Goniotomy for the childhood glaucomas: Where is it most useful?.haron Armarnik, Stephen Farrell, Christopher Lyons. niversity of British Columbia and BC Children's Hospital.** *CHRISTOPHER J. LYONS, S. Armarnik, S. Farrell.* Ophthalmology and Visual Sciences, University of British Columbia

6649 — *B0104* **Outcomes of microcatheter-assisted trabeculotomy in the treatment of juvenile open angle glaucoma.** *huaizhou wang.* Ophthalmology, Beijing Tongren Hospital ↗

6650 — *B0105* **Schlemm's Canal Examination with Swept-Source Anterior Segment OCT after Canaloplasty: a Pilot Study.** *Ioannis K. Petropoulos[1, 2], N. Mastorakos[1], A. N. Stangos[1, 3], G. Sunaric-Megevand[1, 3].* [1]Clinical Eye Research Center, Memorial A. de Rothschild; [2]Centre Ophtalmologique de Rive; [3]Centre Ophtalmologique de Florissant

6651 — *B0106* **KDB-Assisted Goniotomy Combined With Cataract Surgery: A Prospective Analysis Of Surgical Outcomes And Success Predictors.** *Lamylya F. Sá[1, 2], L. TERENZI[1, 2], C. CARVALHO[1, 2], A. VIEIRA[1, 2], D. T. Dias[2, 3], A. SCORALICK[2, 3], S. Dorairaj[4], F. Kanadani[1, 4], T. Prata[2, 3].* [1]Glaucoma, IOCM; [2]Glaucoma, HMO; [3]UNIFESP; [4]Mayo ↗

6652 — *B0107* **Primary Outcomes of Patients with Chronic Angle-closure Glaucoma Treated with Combined Phacoemulsification, Viscogoniosynechialysis and Endocyclophotocoagulation.** *Jorge Camargo Acuña, N. Agudelo, B. Rubio, L. Caiola, j. A. Mejias Smith, K. Ruiz-Montenegro Villa, M. CAMINO QUEZADA, R. Zúñiga Iracheta, J. Chauca, C. Maldonado, J. Izquierdo.* Instituto Oftalmosalud

6653 — *B0108* **Glaucoma drainage device implantation vs transcleral diode laser cyclophotocoagulation in blind painful eyes with neovascular glaucoma.** *Ann L. Thomas[1], G. H. Tanaka[2, 1].* [1]California Pacific Medical Center; [2]Glaucoma Specialists of San Francisco

6654 — *B0109* **Comparative effect on intraocular pressure reduction of phacoemulsification in primary open-angle glaucoma and pseudoexfoliation glaucoma patients.** *Jose A. Oyervides-Alvarado, C. Prado Larrea, L. M. Wheelock-Gutierrez, Y. Azses-Halabe, J. Jiménez Román, R. Gonzalez-Salinas.* Asociación para Evitar la Ceguera

6655 — *B0110* **Intraocular pressure reduction after Esnoper Clip Implantation during deep sklerectomy in 20 glaucoma patients.** *Stephanie V. Weissleder, M. Klemm.* University of Hamburg **CR*

6656 — *B0111* **Incidence of Surgical Glaucoma secondary to Anti-VEGF intravitreal injections in a 2 years study.** *Natalia Maes[1], S. Schendel[1], F. Mikelberg[1], C. Tadrous[2].* [1]Glaucoma, University of British Columbia ; [2]Ophthalmology, University of British Columbia

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West Exhibition Hall B0112-B0158

Thursday, May 02, 2019 10:15 AM-12:00 PM

Immunology/Microbiology

547 Uveitis / ocular inflammatory disease: Epidemiology, clinical characteristics and QoL

Moderator: Alastair K. Denniston

6657 — *B0112* **Race, sex and state affect Medicare utilization rates for infectious and inflammatory eye diseases in the United States.** *Krati Chauhan[1], J. T. Rosenbaum[2, 3].* [1]Rheumatology, Southern Illinois University School of Medicine; [2]Oregon Health and Science University- School of Medicine; [3]Legacy Devers Eye Institute **CR*

6658 — *B0113* **Measuring the Incidence and Prevalence of Uveitis and Scleritis in a National Medical Claims Database.** *Sarina Amin, S. A. Seabury, N. A. Rao, K. Ipapo, B. C. Toy.* University of Southern California Roski Eye Institute **CR*

6659 — *B0114* **Frequency of uveitis in Central Tokyo area (2016-2018).** *Takafumi Suzuki, T. Kaburaki, R. Tanaka, H. Nakahara, S. Shirahama, K. Komae, J. Tanaka, H. Izawa, M. Takamoto, A. Karakawa, M. Aihara.* The University of Tokyo hosiptal

6660 — *B0115* **Detailed analysis of seasonal variation of ocular attack in Japanese patients with Behçet's disease.** *Takahiro Yamane[1], A. Meguro[1], M. Takeuchi[1], T. Sakono[1], T. Kato[2], S. Ohno[3], N. Mizuki[1].* [1]Department of Ophthalmology and Visual Science, Yokohama City University Graduate School of Medicine; [2]Department of Ophthalmology, Yokohama Rosai Hospital; [3]Department of Ophthalmology, Faculty of Medicine and Graduate School of Medicine, Hokkaido University

6661 — *B0116* **Evolving demographics, risk factors, and treatment strategies for uveitis at a tertiary care hospital over a decade: 2008-2018.** *Jong Park[1], M. Halim[1], M. S. Ormaechea[1, 2], M. Hassan[1], A. N. Tran[1], Q. D. Nguyen[1].* [1]Ophthalmology, Byers Eye Institute, Stanford University School of Medicine; [2]Hospital Universitario Austral

6662 — *B0117* **Impact of inflammation and treatment on quality of life (QoL) in patients with Vogt-Koyanagi-Harada disease (VKHD).** *Fernanda Maria Silveira Souto, R. F. Missaka, J. T. Takiuti, B. M. Magalhães, V. M. Caetano, M. M. Lavezzo, M. Oyamada, C. Hirata, J. H. Yamamoto.* Ophthalmology, Universidade de Sao Paulo

6663 — *B0118* **Contrast sensitivity in patients with Vogt-Koyanagi-Harada disease.** *Yumi Hasegawa, F. Okamoto, T. Oshika.* Tsukuba University ***CR**

6664 — *B0119* **Outcomes of Vogt Koyanagi-Harada Disease Among At-Risk Native Americans.** *Finny T. John, K. Ding, A. Reddy.* Ophthalmology, University of Oklahoma Health Sciences Center - Dean McGee Eye Institute

6665 — *B0120* **Identifying the Risk of Development of Macular Edema in Patients with Vogt-Koyanagi-Harada Disease.** *Maria S. Ormaechea[1, 2], M. Hassan[1], S. Mahajan[1], A. Tran[1], M. Halim[1], G. Uludağ[1], J. Bae[1], K. Y. Al-Kirwi[1], R. Afridi[1], Y. Sepah[1], Q. D. Nguyen[1], A. Schlaen[2].* [1]Ophthalmology, Byers Eye Institute ; [2]Ophthalmology, Hospital Universitario Austral

6666 — *B0121* **Sympathetic Ophthalmia – Then to Now and the Effect of Multiple Trigger Events.** *Evgenia Anikina[1, 2], S. K. Wagner[1], S. Liyanage[3], P. Sullivan[1], C. Pavesio[1], N. Okhravi[1].* [1]Moorfields Eye Hospital; [2]UCL Institute of Ophthalmology; [3]Bristol Eye Hospital

6667 — *B0122* **Presenting features of patients with Birdshot chorioretinopathy in the United Kingdom: findings from a nationwide incidence study..** *Mark C. Westcott[1, 2], R. Khalil[3], H. Petrushkin[1], A. Rees[1], C. Pavesio[1, 2].* [1]Moorfields Eye Hospital; [2]UCL Institute of Ophthalmology; [3]Trinity College Dublin

6668 — *B0123* **Clinical and epidemiological description of multiple evanescent white dot syndrome in Mexican population.** *Felipe Prado Vásquez, D. N. Delgado Arellano, M. Pedroza Seres, R. Y. Bobadilla, H. Kim.* Instituto de Oftalmología FAP Conde de Valenciana

6669 — *B0124* **Multifocal evanescent white dot syndrome following inflammatory and myopic choroidal neovascularization.** *Tomas Burke[2, 1], P. Addison[2], C. Pavesio[2].* [1]Ophthalmology, University Hospitals Bristol NHS Foundation Trust; [2]Moorfields Eye Hospital

6670 — *B0125* **Multiple evanescent white dot syndrome with overlapping white dot syndrome.** *Christopher S. Lee, H. G. Kang, E. Choi, S. Lee.* Ophthalmology, Yonsei University College of Medicine

6671 — *B0126* **White dot syndrome: incidence, clinical findings and management in ophthalmology reference center during the last 17 years.** *Valery Ascuna, M. Pedroza Seres, F. Prado Vásquez, D. N. Delgado Arellano.* uvea, institute of ophthalmology private assistance foundation conde de valenciana

6672 — *B0127* **Clinical and epidemiological description of Serpinginous Choroiditis.** *Deisy N. Delgado Arellano, F. Prado Vásquez, M. Pedroza Seres, R. Y. Bobadilla, H. Kim.* Intituto de Oftalmologia Conde de Valenciana IAP

6673 — *B0128* **Evaluation of different fundus autofluorescence imaging modalities for assessment of inflammatory lesions in posterior or panuveitis.** *Robert P. Finger, M. W. Wintergerst, F. G. Holz.* University of Bonn ***CR**

6674 — *B0129* **Prevalence of Retinal Gene Mutations in Patients Undergoing Evaluation for Autoimmune Retinopathy with Antiretinal Antibodies.** *Jila Noorikolouri, J. L. Davis.* Bascom Palmer Eye Institute ***CR**

6675 — *B0130* **Clinical, Electrophysiological and Immunological Features of Patients with Autoimmune Retinopathy.** *RADGONDE AMER, K. Safadi, E. Banin, B. Rosin, I. Chowers.* Department of Ophthalmology, Hadassah Medical Center

6676 — *B0131* **Correlation of immunohistochemical markers with disease and clinical outcome measures in patients with autoimmune retinopathy.** *Weilin Chan[1], L. Stanwyck[1], A. Sood[1], J. Romano[1], M. Pefkianaki[1], T. Jayasundera[2], J. R. Heckenlively[2], S. K. Lundy[2], L. Sobrin[1].* [1]Harvard Department of Ophthalmology, Masachusetts Eye and Ear; [2]University of Michigan

6677 — *B0132* **Frequency of anti-*Toxoplasma gondii* serology, ocular lesions and associated risk factors in Cássia dos Coqueiros, Brazil.** *Joao M. Furtado[1], R. De Angelis[1], J. de Paula[1], V. Bollela[2], M. Simões[1], B. Vieira[1], M. Lucena[1], T. Moralles[1], R. Jorge[1], A. C. Passos[3], M. Rodrigues[1].* [1]Division of Ophthalmology, Ribeirão Preto Medical School, University of São Paulo; [2]Internal Medicine, Ribeirão Preto Medical School, University of São Paulo; [3]Social Medicine, Ribeirão Preto Medical School, University of São Paulo

6678 — *B0133* **Relationship of Epiretinal Membrane Formation and Macular Edema Development in Uveitic Eyes.** *DEBARSHI MUSTAFI, B. K. Do, N. A. Rao.* Ophthalmology, USC Roski Eye Institute

6679 — *B0134* **Epidemiology of epiretinal membrane and macular edema in a large cohort of patients with uveitis.** *Chihiro Yanagida, Y. Usui, R. Mitsuhashi, K. Tsubota, n. nezu, T. Kezuka, H. Goto.* Tokyo Medical University

6680 — *B0135* **Characteristics of Glaucoma in Uveitis Patients.** *James M. Samson[1], D. Parikh[1], M. Fabrykowski[1], B. Wong[2], C. Samson[1].* [1]Ophthalmology, Manhattan Eye, Ear, and Throat Hospital; [2]Medicine, Donald and Barbara Zucker School of Medicine at Hofstra

6681 — *B0136* **Comparison of unilateral granulomatous anterior uveitis by causative diseases.** *Haruna Shimazaki, K. Takayama, S. Sugaoka, M. Takeuchi.* Ophthalmology, National Defense Medical College

6682 — *B0137* **Trimestral And Meteorological Variations In Associated-HLA-B27 and Idiopathic Acute Anterior Uveitis: 45 Months Results.** *Bernardo Villanueva, S. Voorduin Ramos, M. Valdez, E. González Rubio Medina, I. Peñaloza Roman.* Enfermedades Inflamatorias Oculares, Hospital de la Luz

6683 — *B0138* **Factors Predictive of Remission of Chronic Anterior Uveitis.** *Lucia Sobrin[2, 11], M. Pistilli[1], S. Kothari[2, 12], N. Khachatryan[1, 3], P. Artornsombudh[1, 3], S. Pujari[1, 3], C. S. Foster[3, 2], D. A. Jabs[4, 13], J. T. Rosenbaum[5, 14], G. Levy-Clarke[6, 7], H. Sen[7], E. B. Suhler[8, 15], J. E. Thorne[9, 13], N. P. Bhatt[1], J. H. Kempen[2, 10].* [1]Ophthalmology, University of Pennsylvania; [2]Ophthalmology, Harvard Medical School; [3]Massachusetts Eye Research and Surgery Institute; [4]Ophthalmology and Medicine, Icahn School of Medicine at Mount Sinai; [5]Ophthalmology and Medicine, Oregon Health and Science University; [6]The Tampa Bay Uveitis Center; [7]Laboratory of Immunology, National Eye Institute; [8]Ophthalmology, Oregon Health and Science University; [9]Ophthalmology, The Johns Hopkins School of Medicine; [10]MCM Eye Unit, MyungSung Christian Medical Center and College; [11]Ophthalmology, Massachusetts Eye and Ear Infirmary; [12]Ophthalmology, Boston Children's Hospital; [13]Epidemiology, Johns Hopkins Bloomberg School of Public Health; [14]Devers Eye Institute; [15]Ophthalmology, Portland Veterans Affairs Medical Center ***CR**

6684 — *B0139* **Biomorphological findings in CMV-associated anterior uveitis.** *Uwe Pleyer, T. Walla, M. Lenglinger.* Ophthalmology, Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin, Humboldt-Universität zu Berlin and Berlin Institute of Health

6685 — *B0140* **A Forty Years Follow-Up Study of Patients with Uveitis Associated with Juvenile Idiopathic Arthritis (JIA).** *Angelika Skarin, O. Rauer, E. Bengtsson-Stigmar.* Department of Clinical Sciences Lund, Opthalmology Lund, Sweden, Lund University, Skåne University Hospital

6686 — *B0141* **Ophthalmologic screening intervals in patients with juvenile idiopathic arthritis: Data from the Inception Cohort of Newly diagnosed patients with juvenile idiopathic arthritis (ICON-JIA).** *Karoline Walscheid[1, 2], J. Klotsche[3, 4], C. Tappeiner[3, 5], M. Niewerth[3], D. Foell[7], K. Minden[3, 6], A. Heiligenhaus[1, 8].* [1]Department of Ophthalmology and Ophtha-Lab at St**.** Franziskus-Hospital; [2]Department of Ophthalmology, University Hospital Essen; [3]German Rheumatism Research Center (DRFZ), a Leibniz Institute; [4]Institute for Social Medicine, Epidemiology and Health Economics, Charité Universitätsmedizin Berlin; [5]Department of Ophthalmology, Inselspital, University of Bern; [6]Department of Rheumatology and Clinical Immunology, Charité Universitätsmedizin Berlin; [7]Department of Pediatric Rheumatology and Immunology, University Hospital Muenster; [8]University Duisburg-Essen

6687 — *B0142* **Objective quantification of intraocular inflammation in anterior uveitis using standard optical coherence tomography macular scans.** *Jon Roger Eidet, M. Akopian.* Department of ophthalmology, Oslo University Hospital

6688 — *B0143* **Aqueous flare in uveitis: Measurements with an enhanced spot fluorometer.** *Sangly P. Srinivas[1], M. Rathore[2], S. Murugan[2], S. Rachapalle[2], P. Padmanabhan[2], A. Jain[3], A. Hasheem[3], R. Babu[3], J. biswas[2].* [1]Optometry, Indiana University; [2]Optometry, Indiana University; [3]Computer Science, DSCE College

6689 — *B0144* **Cost effectiveness of the analysis of intraocular samples in the diagnosis of uveitis.** *Lidia Cocho[1, 2], S. Peña[1], R. Reinoso[1], J. Herreras[1, 2], M. Calonge[1].* [1]IOBA; [2]Clinic University Hospital

6690 — *B0145* **Chest X-ray and Uveitis Evaluation in the Western United States.** *Richard W. Yemm[1], P. E. Pecen[1], G. Fliney[2], A. Palestine[1].* [1]Ophthalmology, University of Colorado; [2]School of Medicine, University of Colorado

6691 — *B0146* **Resident Grading of Uveitis Parameters.** *Nicholas Shokoohi.* Ophthalmology, Kresge Eye Institute ↗

6692 — *B0147* **Association Between Axial Length and Uveitis.** *Marina Ogawa, Y. Usui, K. Tsubota, J. Sakai, H. Goto.* Tokyo Medical University Hospital

6693 — *B0148* **Development and validation of decision trees for predicting systemic diseases associated with uveitis.** *Zhenyu Zhong[1, 2], P. Yang[1, 2].* [1]The First Affiliated Hospital of Chongqing Medical University; [2]Chongqing Key Laboratory of Ophthalmology and Chongqing Eye Institute

6694 — *B0149* **Association of low vitamin D with active phase of non-infectious uveitis in a cross-sectional study.** *Samaneh Davoudi, Y. Islam, S. Iyer.* Ophthalmology, University of Florida

6695 — *B0150* **The Incidence of Depression and Correlation to Visual Function in Active Uveitis Patients.** *Kimberly Baynes, S. Sharma, E. Fisher, A. Balascoe, S. K. Srivastava.* Cole Eye Institute, Cleveland Clinic Foundation ***CR**

6696 — *B0151* **Outcomes important to patients with Posterior Segment-Involving Uveitis.** *Mohammad Tallouzi[1, 2], J. M. Mathers[1], D. J. Moore[1], P. I. Murray[2], m. Calvert[1], A. K. Denniston[3].* [1]Institute of Applied Health Research, University of Birmingham; [2]Academic unity of ophthalmology, Sandwell and West Birmingham NHS trust; [3]Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham NHS Foundation Trus, Department of Ophthalmology

6697 — *B0152* **Health Literacy, Adherence, and Quality of Life in Uveitis Patients.** *Claire Mueller[1], G. O'Keefe[2].* [1]Emory University School of Medicine; [2]Ophthalmology, Emory University School of Medicine

6698 — *B0153* **Migration related ocular tuberculosis (TB) in a TB low incidence country.** *Talin Barisani-Asenbauer, K. Beqiri, H. Chalabi.* Specific prophylaxis & Tropical Medicine, Medical University of Vienna

6699 — *B0154* **Ocular and orbital involvement in IgG4-related disease.** *Thomas Ness, M. Daniel, W. Lagreze, S. Heinzelmann-Mink.* Eye Center, University of Freiburg

6700 — *B0155* **Visual morbidity and outcomes in patients with scleritis associated with intraocular inflammation.** *Caroline Vasseneix, G. O'Keefe, J. Shantha, S. Yeh.* Ophthalmology, Emory University Hospital

6701 — *B0156* **Ocular complications in herpes zoster ophthalmicus.** *Dana Darwish, J. Sugar, E. Tu, J. de la Cruz, A. Lobo.* Illinois Eye and Ear Infirmary

6702 — *B0157* **Ocular surface disease in patients with panuveitis: incidence and characteristics.** *Maryam Tahvildari, M. Akhter, S. Syeda, X. Lin.* Kresge Eye Institute

6703 — *B0158* **Differences in treatment outcomes is related to degree of peripapillary retinal thickness in patients with POEMS syndrome.** *Katsuya Yagisawa, H. Yokouchi, T. Iwase, T. Baba, S. Yamamoto.* Chiba University Graduate School of Medecine

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West Exhibition Hall B0159-B0183

Thursday, May 02, 2019 10:15 AM-12:00 PM

Immunology/Microbiology

548 Non-infectious anterior segment / orbital inflammation and allergy

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Moderator: Carlos R. De Figueiredo

6704 — *B0159* **Genetic mutations in archival ocular biopsies from histiocytic orbital disease lesions.** *Tammy M. Martin[1, 3], K. Ogle[1, 3], H. Stiefel[1, 3], t. Neff[2], D. M. Albert[1, 3], M. Lee[1, 3], S. R. Planck[1, 3], C. Corless[2], J. T. Rosenbaum[1, 3].* [1]Ophthalmology, Oregon Health & Science University; [2]Knight Diagnostic Laboratories, Oregon Health & Science University; [3]Casey Eye Institute ***CR**

6705 — *B0160* **CDCP1 as a novel regulator of corneal epithelial wound healing.** *Lingjun Zhang[1], Y. Beck[2], P. Huang[1], K. Tam[2], F. Lin[1, 2].* [1]Department of Inflammation and Immunity, Lerner Research Institute, Cleveland Clinic; [2]Department of Ophthalmic Research, Cole Eye Institute, Cleveland Clinic

6706 — *B0161* **The essential role of gene GALC and CASC16-CHD9 in the pathogenesis of Ocular mucous membrane pemphigoid (OcMMP).** *Yuan Tian[1, 2], K. Tsang[1], G. F. Butt[1], J. Dart[3], S. Ibrahim[4], M. Hirose[4], S. Rauz[1].* [1]Academic Unit of Ophthalmology, University of Birmingham, Birmingham,UK; [2]Ophthalmology department, The First Affiliated Hospital of Chongqing Medical University; [3]Moorfields Eye Hospital; [4]Lübeck Institute of Experimental Dermatology, University of Lübeck

6707 — *B0162* **Disease Relapse after Drug-Free Remission in Mucous Membrane Pemphigoid.** *Amde Selassie Shifera[1], G. H. Hong[4], I. Khan[3], C. Okeagu[2], J. E. Thorne[1].* [1]Ophthalmology, Johns Hopkins University; [2]NIH; [3]University of Virginia; [4]Johns Hopkins University ***CR**

6708 — *B0163* **Conjunctival Inflammation Measured by Confocal Microscopy to Evaluate New Therapeutic Agents.** *Paul J. Gomes, M. J. Chapin, D. A. Hollander, M. B. Abelson.* ORA ***CR**,↗

6709 — *B0164* **Influence of presenting features of atopic keratoconjunctivitis on course of the disease.** *Marina Peskina, C. Foster.* Massachusetts Eye Research and Surgery Institute

Thursday Posters
10:15 am – 12:00 pm

6710 — *B0165* **Safety and Tolerability of Topical Cyclosporine A Cationic Emulsion in Patients With Active Severe Vernal Keratoconjunctivitis (VKC) in Pediatric Patients: Pooled Results of the NOVATIVE and VEKTIS Trials.** *Dominique Bremond-Gignac[1, 2], P. Aragona[3], S. Doan[4], M. Amrane[5], D. ISMAIL[5], J. Montero[6], J. Németh[7], A. Leonardi[8].* [1]University Hospital Necker Enfants Malades, APHP; [2]CNRS Unit FR 3636, Paris V Descartes University; [3]Department of Biomedical Science, University of Messina; [4]Bichat Hospital and Foundation A**.** de Rothschild; [5]Santen SAS; [6]Universidad de Sevilla; [7]Department of Ophthalmology, Semmelweis University; [8]Department of Neuroscience, Ophthalmology Unit, University of Padua **CR*, ↗

6711 — *B0166* **Seven Common Allergen Groups of Eyelid Dermatitis: Education and Avoidance Strategies.** *Crystal Huang[1], J. Yiannias[3], J. Killian[4], J. F. Shen[2].* [1]Mayo Clinic Alix School of Medicine; [2]Ophthalmology, Mayo Clinic in Arizona; [3]Dermatology, Mayo Clinic in Arizona; [4]Health Sciences Research, Mayo Clinic in Minnesota **CR*

6712 — *B0167* **Conjunctivitis due to Dupilumab Treatment in Atopic Dermatitis: Clinical features and impact on gut microbiome.** *Robert J. Barry[1, 2], L. Low[1, 2], M. Shamdas[2], K. Suleiman[1], M. Murad[1], K. Molloy[3], S. Velangi[3], P. I. Murray[1, 2], G. R. Wallace[1, 2], S. Rauz[1, 2].* [1]Academic Unit of Ophthalmology, Institute of Inflammation and Ageing University of Birmingham; [2]Inflammatory Eye Disease Service, Birmingham & Midland Eye Centre; [3]Department of Dermatology, Queen Elizabeth Hospital Birmingham

6713 — *B0168* **The Treatment Effect of 0.1% Tacrolimus Eye Drops in Young and Elder Vernal Keratoconjunctivitis Patients.** *Keiko Yokoi, N. Yokoi, M. Ueta, C. Sotozono.* Ophtalmology, Kyoto Prefectural University of Medicin

6714 — *B0169* **Analysis of relationship between exacerbation of vernal keratoconjunctivitis and atmospheric PM 2.5 concentration.** *Kazuhiro Harada.* Fukuoka university

6715 — *B0170* **Clinical Trial Evaluating the Reduction of Itch with a Novel Contact Lens and Antihistamine Combination Product.** *Brian Pall[2], P. J. Gomes[1], F. Yi[2].* [1]Ora, Inc; [2]Johnson & Johnson Vision **CR*, ↗

6716 — *B0171* **Therapeutic Potential of Biodegradable Hydrogel Contact lens in Treatment of Ocular Inflammation.** *Anka Hu[1], R. Liu[2].* [1]The Forsyth Institute; [2]Chongqing University

6717 — *B0172* **Usefulness of eyewash solution on allergic conjunctivitis.** *Megumi Yamamoto[1], T. Mimura[1], A. Mizota[1], K. Fukagawa[2], E. Uchio[3], R. Ko[3], H. Fujishima[4].* [1]Opthalmology, Teikyo University Hospital; [2]Ryougoku Eye Clinic; [3]Fukuoka University; [4]Tsurumi University

6718 — *B0173* **Novel Degradable Eyedrop Formulations for Treatment of Allergic Conjunctivitis.** *Mitchell S. Ross, T. Rambarran, H. Sheardown.* Chemical Engineering, McMaster

6719 — *B0174* **Tacrosolv: A novel aqueous tacrolimus eye drop formulation for the treatment of immune mediated eye diseases.** *Cornelia Siegl[1], M. Koenig-Schuster[1], S. Nakowitsch[1], C. Koller[1], P. Graf[1], W. Sipos[2], E. Prieschl-Grassauer[1].* [1]Marinomed Biotech AG; [2]Clinical Department for Farm Animals and Herd Management, University of Veterinary Medicine Vienna **CR*

6720 — *B0175* **Ocular eye drop preparations inhibit neutrophil extracellular trap formation.** *Graham R. Wallace, M. Davidson, M. Murad, M. Shamdas, S. Rauz.* Institute of Inflammation and Ageing, University of Birmingham

6721 — *B0176* **FcεRI-stimulated human cord blood mast cell (CBMC) responses: decrease in chemokine secretion and MAPkinase inhibition by cyclosporine and glucocorticoids.** *Virginia L. Calder[1], G. Galatowicz[1], M. E. Stern[2].* [1]UCL Institute of Ophthalmology; [2]ImmunEyez

6722 — *B0177* **IL-27 Signaling Deficiency Develops Th17-enhanced Allergic Inflammation.** *Yun Zhang[1, 2], X. Chen[1, 2], R. Deng[1, 2], W. Chi[1], S. C. Pflugfelder[1], D. Li[1].* [1]Ocular Surface Center, Cullen Eye Institute, Department of Ophthalmology, Baylor College of Medicine; [2]School of Optometry and Ophthalmology, Wenzhou Medical University

6723 — *B0178* **The role of LTB_4 in the allergic conjunctivitis mouse model.** *Toshiaki Hirakata[1, 2], H. Lee[2], K. Yasukawa[2], K. ADACHI[1, 2], K. Saeki[2], T. Okuno[2], A. Murakami[1], A. Matsuda[1], T. Yokomizo[2].* [1]Ophthalmology, Juntendo University Graduate School of Medicine; [2]Biochemistry, Juntendo University Graduate School of Medicine

6724 — *B0179* **Genomewide gene expression analysis of ragweed-induced mouse conjunctivitis model.** *Yosuke Asada[1], S. Iwamoto[1], T. Hirakata[1], N. Ebihara[2], A. Matsuda[1].* [1]Ophthalmology, Juntendo University Graduate School of Medicine; [2]Ophthalmology, Juntendo Urayasu Hospital

6725 — *B0180* **5 Lipoxygenase Mediates Sex-Specific Protective Responses in Dry Eye Disease.** *Becca A. Flitter, N. M. Rossi, A. Modi, C. Cheung, R. Li, K. Gronert.* Vision Science Program, School of Optometry, University of California, Berkeley

6726 — *B0181* **Interleukin-23 is Required for the In Vivo Generation of Memory T Helper-17 Cells.** *Yihe Chen, C. Shao, T. Nakao, S. Chauhan, R. Dana.* Schepens Eye Research Ins /MEEI

6727 — *B0182* **A novel and effective oral antibiotics treatment to the graft-versus-host disease model mouse.** *Eisuke Shimizu[1], Y. Ogawa[1], H. YAZU[1], M. Fukui[1], S. Fukuda[2], Y. Kawakami[3], K. Tsubota[1].* [1]Ophthalmology, Keio University; [2]Institute for Advanced Biosciences, Keio University; [3]Division of Celluar Signaling, Institute for Advanced Medical Research Keio University School of Medicine

6728 — *B0183* **Expression of TLT-2 on T cells and macrophages in corneal allografts.** *Kazuho Isamu.* Ophthalmology, Nippon Medical School Tamanagayama Hospital

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West Exhibition Hall B0253-B0284

Thursday, May 02, 2019 10:15 AM-12:00 PM

Cornea

549 Cornea Dry Eye Clinical Treatment

Moderators: Sayan Basu and Jennifer Rose-Nussbaumer

6729 — *B0253* **DREAM Extension Study - Comparison of placebo and omega-3 fatty acid supplement groups on OSDI, 4 key signs of DED and adverse events.** *Munira Hussain[1], R. M. Shtein[1], M. Pistilli[2], M. G. Maguire[2], P. A. Asbell[3].* [1]Ophthalmology and Visual Sciences, University of Michigan; [2]Ophthalmology, University of Pennsylvania; [3]Ophthalmology, University of Tennessee Health Science Center **CR*, ↗

6730 — *B0254* **Effect of lid margin debridement on MGD and inflammatory marker MMP-9.** *Charles G. Connor, S. Narayanan, S. Fortenberry, N. Kasraie, K. Sayani, E. Pelfrey, W. L. Miller.* Rosenberg School of Optometry, University of the Incarnate Word

6731 — *B0255* **Clinical effects of preseravative free diquafosol eyedrops after phacoemulsification of preexisting dry eye patients.** *Ikhyun Jun[1], S. Park[2], S. Choi[1], H. Lee[1], E. Kim[1], K. Seo[1], T. Kim[1].* [1]Yonsei University College of Medicine; [2]Eyereum Eye Clinic ↗

6732 — *B0256* **Comparison of 0.1% Cyclosporine A, 3% Diquafosol, and 0.1% Hyaluronic acid eye drops.n the treatment of dry eye after cataract surgery by evaluating the changes in noninvasive assessment of tear film and corneal wavefront.** *Bae Jeong Bum, B. Choi.* Lee eye clinic

6733 — *B0257* **Intense pulsed light therapy with meibomian gland expression vs meibomian gland expression for treatment of dry eye in ocular rosacea.** *Samantha Sagaser[1], R. Butterfield[4], H. Kosiorek[4], Y. Kusne[3], W. M. Bourne[2], M. Fautsch[2], D. Patel[3], J. F. Shen[3].* [1]Mayo Clinic Alix School of Medicine; [2]Ophthalmology, Mayo Clinic; [3]Ophthalmology, Mayo Clinic; [4]Research Biostatistics, Mayo Clinic ↗

6734 — *B0258* **Autologous Blood in the treatment of Severe Dry Eyes and Ocular Surface Disease.** *Ore-oluwa C. Erikitola[1, 2], O. A. Williams[1, 2], D. Lyall[2], A. Fern[2].* [1]Ophthalmology, NHS Greater Glasgow and Clyde; [2]Ophthalmology, NHS Lanarkshire ↗

6735 — *B0259* **Tear cytokines and conjunctival microvascular alterations in dry eye patients in responses to anti-inflammation treatment.** *YUQING DENG[1], J. Wang[2], H. Jiang[3, 2], J. Yuan[1].* [1]Zhongshan Ophthalmic Centre, Sun Yat-sen University; [2]Department of Ophthalmology, Bascom Palmer Eye Institute,, University of Miami Miller School of Medicine; [3]Department of Neurology, University of Miami Miller School of Medicine ↗

6736 — *B0260* **Efficacy and safety of OTX-101, a novel nanomicellar cyclosporine formulation, in patients with keratoconjunctivitis sicca: Results of a pooled analysis.** *Melissa Toyos[1], D. F. Goldberg[2, 3], J. Tauber[4], R. Malhotra[5], C. Darby[6], A. Ogundele[7], J. Luchs[8].* [1]Toyos Clinic; [2]Jules Stein Eye Institute; [3]Wolstan & Goldberg Eye Associates; [4]Tauber Eye Center; [5]Ophthalmology Associates; [6]Sun Pharma Advanced Research Company Ltd; [7]Sun Pharmaceuticals Industries, Inc.; [8]Hofstra Northwell School of Medicine **CR*, ↗

6737 — *B0261* **Influence of Intense Regulated Pulse Light on Tear Film Lipid Layer.** *Taeyoung Gil, S. SHIN.* Department of Ophthalmology, SahmYook Medical Cente

6738 — *B0262* **Clinical Results of tivanisiran, a siRNA for the treatment of dry eye disease.** *Veronica Ruz[1], V. Gonzalez[2], A. Bleau[2], B. Vargas[2], A. Jimenez[2].* [1]Regulatory Affairs, Sylentis; [2]Sylentis **CR*, ↗

6739 — *B0263* **The effect of Manuka eye drops on tear film properties.** *Jacqueline Tan, T. Jia, R. Liao, F. Stapleton.* School of Optometry and Vision Science, University of New South Wales ↗

6740 — *B0264* **Dry eye patients report improvement in symptoms with hypochlorous acid use over 30 days.** *Jami R. Kern[1], A. M. Fahmy[2].* [1]Kern Consulting; [2]Minnesota Eye Consultants **CR*

6741 — *B0265* **Novel Okra Polysaccharide Approach to Inflammation Control for Dry Eye.** *Scott Schachter, D. Becerra.* Vision Source-Pismo Beach **CR*

6742 — *B0266* **Comparison between homologous serum eye drops and platelet-rich plasma eye drops as treatment for dry eye disease.** *Mattia Passilongo[1], L. Bergamo[1], F. Romanelli[1], A. Lovisi[2], M. Colosio[2].* [1]APSS - Provincia Autonoma di Trento - Clinica Oculistica; [2]APSS - Provincia Autonoma di Trento - Centro trasfusionale e di immunoematologia

6743 — *B0267* **Evaluation of eyelid cleansing products for meibomian glands dysfunction management in dry eye symptomatic patients through two parallel clinical studies.** *Camille Guerin, L. Chauchat, M. CLARET, C. Claret.* Horus Pharma **CR*

6744 — *B0268* ***MC2-03, an innovative ciclosporin eyedrop, shows favorable safety and tolerability after 6 months of treatment in moderate-to-severe DED patients.*** *Morten Prastegaard[1], F. Gomez[1], J. Selmer[1], S. Heegaard[2].* [1]MC2 Therapeutics; [2]Rigshospitalet **CR*, ↗

6745 — *B0269* **Ocular Pain Response to Treatment in Dry Eye Patients.** *Andrew N. Siedlecki[1, 2], S. Smith[1, 3], R. R. Sayegh[1, 3].* [1]Ophthalmology, Case Western Reserve University; [2]Ophthalmology, University Hospitals of Cleveland; [3]Ophthalmology, Cleveland Clinic

6746 — *B0270* **Safety & effect of tivanisiran eye drops on ocular surface: corneal sensitivity, mucin production and proinflammatory mediator's expression.** *Victoria Gonzalez[1], B. Vargas[2], T. Martinez[2], A. Guerra[2], V. Ruz[2], A. Jimenez[2].* [1]Clinical, Sylentis; [2]Sylentis **CR*

6747 — *B0271* **Determinants of Ocular Discomfort Severity Among Participants in the Dry Eye Assessment and Management (DREAM) Study.** *Rony R. Sayegh[1, 2], M. G. Maguire[3], Y. Yu[3], J. Farrar[3], R. M. Shtein[4], E. Kuklinski[5], P. A. Asbell[6].* [1]Ophthalmology, Case Western Reserve University; [2]Ophthalmology, Cleveland Clinic Abu Dhabi; [3]Ophthalmology, University of Pennsylvania; [4]Ophthalmology, University of Michigan; [5]Ophthalmology, Icahn School of Medicine at Mount Sinai; [6]Ophthalmology, University of Tennessee Health Science Center **CR*, ↗

6748 — *B0272* **Evaluation of Clinical Practice Guidelines for Management of Dry Eye.** *Jessica Chen, B. K. Young, N. Apostolopoulos, R. Yusuf, J. Chow.* Ophthalmology, Yale School of Medicine

6749 — *B0273* **Innovative high-frequency electrotherapy device Rexon-Eye successfully treats Meibomian gland disease patients.** *Alfredo Ruggeri[2, 1], A. Colucci[3], M. Barbariga[3], P. Rama[3], G. Ferrari[3].* [1]Dept of Information Engineering, University of Padua; [2]Resono Ophthalmic; [3]Ospedale San Raffaele **CR*

6750 — *B0274* **Safety and Efficacy of First-in-Class mtROS scavenger SkQ1 for the Treatment of Dry Eye Disease: A Phase 3 Clinical Trial.** *Lawrence T. Friedhoff[1], A. Petrov[1], G. W. Ousler[2], M. Watson[2], Q. Xue[3], M. Ngiam[3].* [1]Mitotech, SA; [2]Ora, Inc; [3]Essex Bio-Technology **CR*, ↗

6751 — *B0275* **Clinical Efficacy of Immediate Manual Meibomian Gland Expression after Thermal Pulsation (LipiFlow) for Obstructive Meibomian Gland Obstruction: Comparison with Thermal Pulsation.** *Jin Hyoung Park[1, 2].* [1]Ophthalmology, Miso Eye Clinic; [2]Research Institute for Biomacromolecules, University of Ulsan College of Medicine, Asan Medical Center

6752 — *B0276* **Safety and Efficacy of Intense Pulsed Light Treatment with Expression for Severe Meibomian Gland Dysfunction of the Upper Eyelids Using a Novel Lightguide.** *Rolando Toyos, M. Toyos.* Toyos Clinic **CR*

6753 — *B0277* **Patients Enrichment for Increased Dendritiform Cells using in Vivo Confocal Microscopy Results in Improved Response to Topical Steroids in Dry Eye Disease: Results of the Therapeutic Response to Anti-inflammatory agents in the Corneal Epithelium (TRACE) study.** *Anam Akhlaq[1, 2], A. Kheirkhah[3, 4], S. Aggarwal[3], B. Cavalcanti[3], R. Mueller[3], A. Abbouda[1, 2], Z. Salem[1, 2], R. Dana[4], P. Hamrah[1, 2].* [1]Center for Translational Ocular Immunology, Tufts Medical Center; [2]Cornea Service, Department of Ophthalmology, New England Eye Center, Tufts Medical Center; [3]Ocular Surface Imaging Center, Massachusetts Eye & Ear Infirmary, Department of Ophthalmology, Harvard Medical School; [4]Cornea Service, Massachusetts Eye & Ear Infirmary, Department of Ophthalmology, Harvard Medical School **CR*, ↗

6754 — *B0278* **Dehydrated Extracellular Membranes in the Treatment of Severe Dry Eye.** *Ankur A. Parikh[1], S. Yalamanchili[1], D. Gemmel[3], S. Erzurum[1, 2].* [1]Northeast Ohio Medical University; [2]Eye Care Associates; [3]Mercy Health - St. Elizabeth Youngstown Hospital

6755 — *B0279* **Preclinical Evaluation of NCX 4251, a Novel Steroid Therapy for Blepharitis, Targeted Directly to the Eyelid Margin to Reduce the Potential for IOP Elevations.** *Tomas Navratil, J. Bukowski, F. Pilotaz, A. Graves, A. Nadkarni, A. Allen, B. Duquesroix, E. Bastia, L. Storoni, A. Kothe, M. V. Bergamini, J. Pennell, B. G. Short, T. Walters, R. D. Fechtner, D. L. Budenz.* Nicox Ophthalmics, Inc. **CR*

6756 — *B0280* **Safety and efficacy of a novel ocular comfort agent: Interim analysis.** *Judith Flanagan[1, 2], N. Yeotikar[1], J. Diec[1], D. Tilia[1].* [1]Brien Holden Vision Institute, Brien Holden Vision Institute; [2]School of Optometry and Vision Science, University of New South Wales ↗

6757 — *B0281* **Onabotulinum toxin A improves photophobia and sensations of dryness independent of ocular surface parameters.** *Nandini Venkateswaran[1], J. Hwang[2], A. Rong[1, 3], A. Levitt[1], R. Levitt[2], W. Lee[1], A. Galor[1, 3].* [1]Bascom Palmer Eye Institute; [2]University of Miami Miller School of Medicine; [3]Miami Veterans Administration Medical Center **CR*

6758 — *B0282* **A review of the artificial tears marketed in the US for their preservative composition, label information and cost per application.** *Avani Kathuria, A. Sharma.* School of Pharmacy, Chapman University

Thursday Posters
10:15 am – 12:00 pm

6759 — *B0283* **Recombinant Deoxyribonuclease (DNase) Eye Drops Use in Patients with Dry Eye Disease: Results of a Randomized Clinical Trial.** *Christine Mun[1], S. Tibrewal[1], A. Ahn[1], A. Lopez[1], N. Atassi[1], B. Surenkhuu[1], M. Buwick[1], H. Shah[1, 2], S. Shukla[1], J. Mun[1], A. Pradeep[1], I. Raju[1], S. Jain[1].* [1]Ophthalmology, University of Illinois at Chicago; [2]Midwestern University Chicago College of Osteopathic Medicine **CR*, ↗

6760 — *B0284* **Transplantation of mesenchymal stem cells for lacrimal gland regeneration in a dry eye mouse model.** *Jana Dietrich[1], L. Ott[2], M. Roth[2], J. Witt[2], G. Geerling[2], S. Mertsch[1], S. Schrader[1].* [1]Department of Ophthalmology, Pius Hospital, University of Oldenburg; [2]Department of Ophthalmology, University Hospital of Duesseldorf

West Exhibition Hall B0285-B0322

Thursday, May 02, 2019 10:15 AM-12:00 PM

Cornea

550 Cornea Dry Eye Clinical I Diagnostics

Moderators: Vatinee Y. Bunya and .ambi Nallasamy

6761 — *B0285* **Evaluation of Partial Blink Rate as a Measurement of Dry Eye Disease.** *Ruti Sella[1], Y. Jie[2], J. Feng[2], L. M. Gomez[1], N. A. Afshari[1].* [1]OPHTHALMOLOGY, Shiley Eye Institute; [2]Ophthalmology, Beijing Tongren Eye Center

6762 — *B0286* **Meibomian gland dropout in non-proliferative diabetic retinopathy patients.** *Karim Mohamed-Noriega, C. González-Arocha, F. Morales-Wong, J. Mohamed-Noriega, B. Velazco-Sepulveda, C. Fernandez-De Luna, A. Martinez-Lopez Portillo, J. Mohamed-Hamsho.* Universidad Autónoma de Nuevo León, Hospital Universitario "Dr. José Eleuterio González", Facultad de Medicina, Departamento de Oftalmología

6763 — *B0287* **Intensity of lid wiper epitheliopathy staining with alterations of dye amounts and timing of observation.** *Christopher Lievens[1], Y. Norgett[2], N. Briggs[3], M. Vianya-Estopa[2].* [1]Southern College of Optometry; [2]Anglia Ruskin University; [3]University of New South Wales

6764 — *B0288* **LIGHT Protein is a Potential Biomarker for Ocular Graft-VS-Host Disease (oGVHD).** *Bayasgalan Surenkhuu, I. Raju, S. AN, J. Kwon, A. Pradeep, N. Atassi, C. Mun, S. Jain.* University of Illinois at Chicago **CR*

6765 — *B0289* **Fornix depth in ocular graft-versus-host disease and cicatricial pemphigoid using a novel fornix scale.** *Manuel M. Hermann[1], K. Czubkowski[3], S. Wittig[1], P. Steven[1, 2].* [1]Department of Ophthalmology, University of Cologne; [2]Division of Dry eye and ocular GvHD, University of Cologne; [3]Centrum Mikrochirurgii Oka Laser

6766 — *B0290* **Is the Schirmer test associated with local and systemic medication? Results of the German population-based Gutenberg Health Study (GHS).** *Ulrike Hampel[1], A. Schuster[1], S. Nickels[1], A. Schulz[2], K. Lackner[3], T. Münzel[4], P. Wild[2], M. Beutel[5], I. Schmidtmann[6], N. Pfeiffer[1].* [1]Department of Ophthalmology, University Medical Center of the Johannes Gutenberg-University Mainz; [2]Preventive Cardiology and Preventive Medicine, Center for Cardiology, University Medical Center of the Johannes Gutenberg-University Mainz; [3]Institute for Clinical Chemistry and Laboratory Medicine, University Medical Center of the Johannes Gutenberg-University Mainz; [4]Center for Cardiology I, University Medical Center of the Johannes Gutenberg-University Mainz; [5]Department of Psychosomatic Medicine and Psychotherapy, University Medical Center of the Johannes Gutenberg-University Mainz; [6]Institute for Medical Biostatistics, Epidemiology and Informatics, University Medical Center of the Johannes Gutenberg-University Mainz

6767 — *B0291* **Changes in tear meniscus and ocular surface after absorbable punctal plug insertion.** *Byung Yi Ko, S. Song, Y. Lee.* Ophthalmology, Konyang University Hospital

6768 — *B0292* **Characteristics of tear matrix metalloproteinase-9 point-of-care test.** *JongHwa Jun.* Ophthalmology, Keimyung University Dongsan medical center

6769 — *B0293* **Blink dynamics in healthy versus dry eye subjects as assessed by a novel device.** *Anat Galor[1, 2], Y. Cohen[3], Y. Arieli[4], S. Epshtin[3], R. Gefen[3], A. Harris[5].* [1]Ophthalmology, Bascom Palmer; [2]Ophthalmology, Miami VAMC; [3]ADOM; [4]The Jerusalem College of Technology; [5]Indiana University **CR*

6770 — *B0294* **The correlation between the tear MMP-9 concentration and the clinical findings in patients with dry eye disease.** *Hyokyung Lee, J. Na.* Ophthalmology, Inje Univ.

6771 — *B0295* **The effects of MMP-9 (Preform and active form) concentration and loading volume on the positive results of InflammaDry® Test.** *Jungah Huh, B. Lee, S. Choi, Y. Eom, H. Kim, J. Song.* Ophthalmology, Korea University College of Medicine

6772 — *B0296* **Relationship between the meniscus parameters evaluated by different methods.** *Yukiko Sonomura[1, 2], N. Yokoi[2], R. Sakai[2], H. Kato[2], A. Komuro[2], C. Sotozono[2].* [1]Kyoto Yamashiro general medical center; [2]Kyoto prefectural university of medicine

6773 — *B0297* **Evaluation of tear film osmolarity using Tearlab® and I-Pen® osmometry.** *Elisabeth M. Messmer, M. M. Schaumberger, S. Priglinger, S. F. Koenig.* Dept. Ophthalmology, LMU, Ludwig Maximilians University **CR*

6774 — *B0298* **Changes of tear eicosanoids in cohort of trabeculectomy patients.** *Louis Tong[2, 3], Y. Ambaw[1], M. R. Wenk[1], T. Wong[2].* [1]National University Of Singapore; [2]Singapore National Eye Center; [3]Singapore Eye Research Institute

6775 — *B0299* **Investigation of the difference of clinical manifestation of dry-eye subtype classified by breakup pattern.** *Norihiko Yokoi, H. Kato, R. Sakai, A. Komuro, Y. Sonomura, Y. Koike, C. Sotozono.* Ophthalmology, Kyoto Prefectural Univ of Med

6776 — *B0300* **The Ocular Surface Frailty Index as a predictor of dry eye onset after cataract surgery.** *Edoardo Villani[1, 2], L. Marelli[1, 2], S. Lucentini[1, 2], E. Ruggiero[1, 2], P. Nucci[1, 2].* [1]Clinical Science and Community Health, University of Milan; [2]Eye Clinic, San Giuseppe Hospital

6777 — *B0301* **A Brief Questionnaire to Screen Dry Eye Patients for Sjogren's Syndrome.** *Vatinee Y. Bunya[1], M. Massaro-Giordano[1], F. B. Vivino[2], E. Akpek[3], A. Baer[4], J. A. Gonzales[5], T. Lietman[5], G. Ying[1].* [1]Ophthalmology, Scheie Eye Institute; [2]Rheumatology, University of Pennsylvania; [3]Ophthalmology, Wilmer Eye Institute; [4]Rheumatology, Johns Hopkins University; [5]Ophthalmology, F.I. Proctor Foundation **CR*

6778 — *B0302* **Comparison of Clinical and Reading Center Assessments of Meibomian Glands in the Dry Eye Assessment and Management (DREAM) Study.** *Maxwell Pistilli[1], M. G. Maguire[1], E. Daniel[1], V. Y. Bunya[1], M. Massaro-Giordano[1], E. Smith[1], P. Kadakia[2], P. A. Asbell[3].* [1]Ophthalmology, University of Pennsylvania; [2]University of the Sciences; [3]Ophthalmology, University of Tennessee Health Science Center **CR*, ↗

6779 — *B0303* **Newly-developed Ocular Surface Tribometer can measure frictional coefficient of human ocular surface in vivo.** *Masahiko Yamaguchi[1, 2], Y. Sakane[2], A. Shiraishi[2], S. Pranoto[3], S. Okamoto[3], R. Kataoka[3], J. H. Lee[3], Y. Ohashi[2].* [1]Ophthalmology, Ehime Prefectural Central Hospital; [2]Ophthalmology, Ehime Graduated School of Medicine; [3]Mechanical Engineering, Ehime Graduated School of Science and Engineering

6780 — *B0304* **A new hyperspectral imaging method to evaluate dry eye disease – 3D-WLT study results.** *Raanan Gefen[1], F. Segev[2, 4], N. Geffen[3], A. Galor[5], Y. Cohen[1], Y. Arieli[7], S. Epshtin[1], A. Harris[6].* [1]AdOM advance optical technologies; [2]Ophthalmology, Meir Medical Center; [3]Ophthalmology, Rabin Medical Center; [4]Ophthalmology, Tel Aviv University; [5]Bascom Palmer; [6]Indiana University; [7]The Jerusalem College of Technology **CR*, ↗

6781 — *B0305* **The Pain Response during Tear Breakup (TBU).** *Deborah Antwi[1], C. G. Begley[1], R. J. Braun[2], R. A. Luke[2], P. Situ[1].* [1]indiana university, school of optometry; [2]University of Delaware

6782 — *B0306* **Repeatability of Modified Schirmer Strip Wetted Lengths and Basal Tear Production Rates.** *Young Hyun Kim[1, 3], A. D. Graham[3], W. Li[3], C. J. Radke[2, 1], M. C. Lin[3, 1].* [1]Vision Science Graduate Group, University of California, Berkeley; [2]Chemical and Biomolecular Engineering, University of California, Berkeley; [3]Clinical Research Center, School of Optometry, University of California, Berkeley

6783 — *B0307* **Grading and Baseline Characteristics of Meibomian Glands using Meibography images in the Dry Eye Assessment and Management (DREAM) Trial.** *Ebenezer Daniel[1], M. G. Maguire[1], M. Pistilli[1], V. Y. Bunya[1], G. Massaro-giordano[1], E. Smith[1], P. Kadakia[2], P. A. Asbell[3].* [1]Ophthalmology, University of Pennsylvania; [2]University of the Sciences in Philadelphia; [3]Ophthalmology, University of Tennessee Heath Science Center **CR*, ↗

6784 — *B0308* **Tear lipid profile in evaporative and non-evaporative dry eye.** *Mark Willcox[1], J. Tan[1], K. Wong[1], F. Stapleton[1], H. Liu[2], S. Masoudi[1].* [1]Optometry and Vision Science, University of New South Wales; [2]Allergan Plc **CR*, ↗

6785 — *B0309* **Patients with neuropathic corneal pain demonstrate decrease in their relative centralized component of pain with therapy.** *Stephanie Cox[1, 2], R. Rashad[1, 3], R. Paracha[1, 3], M. C. Ozmen[1, 2], Z. Salem[1, 2], A. Akhlaq[1, 2], P. Hamrah[1, 2].* [1]Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine; [2]Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine; [3]Tufts University School of Medicine

6786 — *B0310* **Anti-Citrullinated Protein Antibodies (ACPA) are Present in Tear Fluid of Dry Eye Disease (DED) Patients: Diagnostic and Therapeutic Implications.** *Sandeep Jain, S. AN, J. Kwon, B. Surenkhuu, I. Raju, N. Atassi, A. Pradeep, C. Mun.* Ophthalmology, Univ of Illinois Eye and Ear Infirmary **CR*

6787 — *B0311* **A simple and useful clinical method for evaluating the severity of dry eye.** *Aoi Komuro, N. Yokoi, H. Kato, Y. Sonomura, C. Sotozono.* Department of Ophthalmology, Kyoto Prefectural University of Medicine

6788 — *B0312* **Test efficacy of the fluorescein breakup time test in the diagnosis of dry eye – a re-examination.** *Jerry R. Paugh[1], E. Chen[1], J. Tse[6], T. Nguyen[7], A. Sasai[1], M. Thomas DeJesus[8], J. Kwan[6], A. Nguyen[2], M. Farid[3], S. Garg[3], J. V. Jester[4, 5].* [1]SCCO at Marshall B**.** Ketchum University; [2]Mathematics, California State University; [3]Ophthalmology, University of California at Irvine; [4]Biomedical Engineering, University of California at Irvine; [5]Gavin Herbert Eye Institute, University of California at Irvine; [6]Private Practice ; [7]Private Practice; [8]Private Practice **CR*

6789 — *B0313* **Tear Film Lipid Layer Spread - A Possible Indicator for Evaluating the Severest Form of Aqueous Tear Deficient Dry Eye.** *Yamato Yoshikawa[1, 2], N. Yokoi[2], H. Kato[2], A. Komuro[2], Y. Sonomura[2], T. Ikeda[1], C. Sotozono[2].* [1]Osaka Medical College; [2]Kyoto Prefectural Univ of Medcine

6790 — *B0314* **Morphological alterations in corneal nerves of dry eye patients.** *Yuichi Uchino[2, 1], M. Miki[2, 1], M. Uchino[2, 1], Y. shigeno[2, 1], J. Shimazaki[2, 3].* [1]Keio University School of Medicine; [2]COSMOS Study Group; [3]Tokyo Dental College **CR*, ↗

6791 — *B0315* **TearLab Discovery Quantification of MMP-9 Levels in Patients With Significant Inflammatory Eye Disease and Concordance with InflammaDry.** *Benjamin Sullivan[1], C. B. Garcia[2], T. Hovington[2], M. S. Berg[1], D. Cohen[1], V. L. Perez[2].* [1]TearLab, Corp.; [2]Ophthalmology, Duke University **CR*

6792 — *B0316* **Histatin-1 is present in normal human tears and reduced in aqueous deficient dry eye disease.** *Kyung-No Son[1], S. Kalmodia[1], D. Cao[1], B. Lee[1], D. Shah[1], M. Ali[1], A. Balasubramaniam[1], S. Jain[1], V. K. Aakalu[1, 2].* [1]University of Illinois at Chicago; [2]Surgery, Jesse Brown Veterans Affairs Hospital **CR*

6793 — *B0317* **Correlation between meibomian gland appearance and tear breakup time using a slit scanning ophthalmoscope.** *Angelina Covita, M. H. Chen, C. Leahy.* Carl Zeiss Meditec, Inc**.** **CR*

6794 — *B0318* **Improved Demodex diagnosis and grading using a novel in situ technique.** *Alex Muntz[1], C. Purslow[2], J. S. Wolffsohn[3], J. P. Craig[1].* [1]Ophthalmology, University of Auckland; [2]School of Health Professions, University of Plymouth; [3]School of Life and Health Sciences, Aston University **CR*

6795 — *B0319* **Frictional coefficient of soft contact lenses on ocular surface measured with ocular surface tribometer.** *Ryosuke Tachibana[1], Y. Sakane[1], M. Yamaguchi[2], A. Shiraishi[1], S. Pranoto[1], S. Okamoto[1], R. Kataoka[1], J. H. Lee[1], Y. Ohashi[1].* [1]Ehime university; [2]Ehime Prefectual Central Hospital

6796 — *B0320* **Development of a New Scale for Ocular Surface Staining Based on Psychophysical Principles.** *Carolyn Begley[1], P. Situ[1], S. Butterworth Connell[4], B. Caffery[5], J. Nelson[2, 3], C. Springs[7, 8], T. L. Simpson[6].* [1]School of Optometry, Indiana University; [2]Department of Ophthalmology, HealthPartners Medical Group; [3]Department of Ophthalmology External Eye & Corneal Disease, HealthPartners Eye Care; [4]Consultant; [5]Toronto Eye Care; [6]School of Optometry, University of Waterloo; [7]Department of Ophthalmology, Indiana University; [8]Eye Specialists of Indiana **CR*

6797 — *B0321* **Correlation between ocular surface disease index and dry eye functional parameters using a non-invasive method.** *Nallely R. Morales-Mancillas, J. C. Hernandez, G. Castrejón-Perez, J. E. Valdez.* Cornea and Refractive Surgery, Tecnológico de Monterrey School of Medicine

6798 — *B0322* **Assessment of a preclinical dry eye model using ultrahigh-resolution optical coherence tomography.** *Martin Pfister[1, 3], A. Messner[1], C. Fischak[1, 2], F. Garreis[4], F. P. Paulsen[4], K. Schutzenberger[1, 2], V. Aranha dos Santos[1], H. Stegmann[1, 2], G. Garhofer[5], L. Schmetterer[1, 6], R. M. Werkmeister[1, 2].* [1]Center for Medical Physics and Biomedical Engineering, Medical University of Vienna; [2]Christian Doppler Laboratory of Ocular and Dermal Effects of Thiomers, Medical University of Vienna; [3]Institute of Applied Physics, Vienna University of Technology; [4]Department of Functional and Clinical Anatomy, Friedrich Alexander University Erlangen–Nürnberg (FAU); [5]Department of Clinical Pharmacology, Medical University of Vienna; [6]Singapore Eye Research Institute

West Exhibition Hall B0377-B0413

Thursday, May 02, 2019 10:15 AM-12:00 PM

Cornea

551 Corneal biomechanics

Moderators: Bryn Brazile and Vishal Jhanji

6799 — *B0377* **Measuring Real-Time Corneal Elasticity Standardized to Intraocular Pressure.** *Sean J. McCafferty[1, 2].* [1]Arizona Eye Consultants; [2]ophthalmology, university of Arizona **CR*,↗

6800 — *B0378* **Ocular pulse induced corneal deformation in healthy subjects.** *Jun Liu[1, 2], T. Sandwisch[1], K. Clayson[1, 3], Y. Ma[1], S. Kwok[1], E. Pavlatos[1], X. Pan[4].* [1]Biomedical Engineering, Ohio State University; [2]Ophthalmology and Visual Science, Ohio State University; [3]Biophysics graduate program, Ohio State University; [4]Bioinformatics, Ohio State University

6801 — *B0379* **Comparison of long-term changes in corneal biomechanical properties after laser in situ keratomileusis and photorefractive keratectomy.** *Sami Saad[1, 2], R. Saad[1, 2], M. Delbarre[2], F. Froussart[2].* [1]Ophthalmology, Centre Hospitalier National d'Ophtalmologie; [2]Ophthalmology, Percy Military Hospital

6802 — *B0380* **Factors influencing corneal biomechanics in diabetes mellitus.** *Lisa Ramm, R. Herber, N. Terai, L. E. Pillunat.* University Hospital Carl Gustav Carus TU Dresden

Thursday Posters
10:15 am – 12:00 pm

6803 — *B0381* **Recovery of corneal hysteresis and tangent modulus from long-term overnight orthokeratology.** *Andrew K. Lam[1, 3], S. Hon[1], S. K. Lee[2], S. Lu[2], J. Chong[2], D. Lam[2].* [1]School of Optometry, The Hong Kong Polytechnic University; [2]Department of Mechanical and Aerospace Engineering, The Hong Kong University of Science and Technology; [3]Department of Biomedical Engineering, The Hong Kong Polytechnic University **CR*, ↗

6804 — *B0382* **Corneal hydration control and effect on whole eye inflation.** *Keyton Clayson[1], Y. Ma[1], X. Pan[3], E. Pavlatos[1], J. Liu[1, 2].* [1]Biomedical Engineering, The Ohio State University; [2]Ophthalmology & Visual Science, The Ohio State University; [3]Center for Biostatistics, The Ohio State University **CR*

6805 — *B0383* **Distribution and measurement of corneal thickness in rabbits.** *Muhammad Ahmad Khan[1, 2].* [1]Aier School of Ophthalmology, C.S.U.; [2]Refractive surgery, Changsha Aier Eye Hospital

6806 — *B0384* **Biomechanical changes and intraocular pressure measurement of the cornea after Femtosecond laser-assisted Descemet stripping endtothelial keratoplasty.** *Huiyu Chen.* Department of Ophthalmology, Eye, Ear, Nose, and Throat Hospital, Fudan University, Shanghai

6807 — *B0385* **Elevation matrix data in the evaluation of normal and keratoconus corneas.** *Jaime Tejedor[1, 2], F. J. Gutiérrez-Carmona[1].* [1]Ophthalmology, Hospital Ramon y Cajal; [2]Neuroscience, Universidad Autónoma de Madrid

6808 — *B0386* **The relevance of Bowman's layer in corneal biomechanics.** *Emilio A. Torres-Netto[1, 2], S. Kling[3], B. Spiru[4], W. Sekundo[4], F. Hafezi[5].* [1]University of Zurich; [2]Ophthalmology, Federal University of Sao Paulo - Paulista School of Medicine; [3]Computer Vision Laboratory, Swiss Federal Institute of Technology; [4]Ophthalmology, Phillips University of Marburg; [5]Ophthalmology, University of Geneva

6809 — *B0387* **Assessment of asymmetries in biomechanical properties from corneal deformation imaging.** *Judith Birkenfeld, J. A. Germann, A. De Castro, A. De la Hoz, A. Curatolo, S. Marcos.* IO-CSIC

6810 — *B0388* **Ocular Graft Versus-host Disease Patients Exhibit Impaired Corneal Biomechanics.** *Giuseppe Giannaccare[1], M. Pellegrini[1], L. Taroni[1], F. Bernabei[1], C. Senni[1], A. Grendele[1], F. Moscardelli[1], M. Arpinati[2], F. Bonifazi[2], M. Sessa[2], P. Versura[1], E. C. Campos[1].* [1]Ophthalmology Unit, DIMES Dept, Alma Mater Studiorum University of Bologna; [2]Haematology Institute "L.A**.** Seragnoli", S.Orsola-Malpighi University Hospital, Bologna, University of Bologna

6811 — *B0389* **A biomechanical and tomographical analysis of the "healthy" partner eye in unilateral keratoconus.** *Doris Fraenkel[1], L. Hamon[1], A. Abdin[1], S. Suffo[1], L. Daas[1], T. Eppig[1, 2], B. Seitz[1].* [1]Department of Ophthalmology, Saarland University Medical Center UKS ; [2]Department of Ophthalmology, Institute of Experimental Ophthalmology, Saarland University

6812 — *B0390* **Quantitative assessment of corneal viscoelasticity using elastic wave optic coherence elastography.** *Yuanyuan Wang, Z. Jin, S. Chen, D. Zhu, M. Shen, F. Lu.* School of Opthalmology and Optometry, Wenzhou Medical University

6813 — *B0391* **Non-contact Acoustic Micro-Tapping Optical Coherence Elastography (AuT-OCE) for Human Cornea.** *Mitchell Kirby[1], R. Wallace[3], L. Gao[1], S. SONG[1], I. Pelivanov[1], K. Zhou[4], R. K. Wang[1, 2], M. O'Donnell[1], T. Shen[1, 2].* [1]Bioengineering, University of Washington; [2]Ophthalmology, University of Washington; [3]School of Medicine, University of Washington; [4]School of Science and Engineering, University of Dundee

6814 — *B0392* **Biomechanical changes among healthy, subclinical keratoconic and keratoconic corneas-before/after cross-linking.** *Qingyan Zeng.* Hankou Aier Eye Hospital

6815 — *B0393* **The effect of corneal cross-linking on biomechanical properties in human eye-banked corneas using nano-indentation microscopy.** *Bandar Alenezi[1, 2], C. Hillarby[1, 2], A. Kazaili[3], R. Akhtar[3], H. Radhakrishnan[1, 2].* [1]School of Health Sciences, Faculty of Biology, Medicine and Health, University of Manchester; [2]Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester Academic Health Science Centre; [3]Department of Mechanical, Materials and Aerospace Engineering, School of Engineering, University of Liverpool

6816 — *B0394* **Brillouin Microscopy measurement of the anisotropic properties of the cornea.** *Joshua N. Webb, G. Scarcelli.* University of Maryland

6817 — *B0395* **Application of Optical Coherence Tomography and Optical Path Length Measurement to Monitor Corneal Thinning and Refractive Index Change During UVA-Riboflavin Corneal Cross-Linking.** *(Sofia) Xin Tan, A. Agrawal, D. Hammer, i. ilev.* Center for Devices and Radiological Health, FDA

6818 — *B0396* **Assessing Corneal Elasticity as a Function of Hydration with Optical Coherence Elastography.** *Salavat Aglyamov[1, 2], M. Singh[3], Z. Han[4], J. Li[3], S. Vantipalli[7], K. Larin[3, 5], M. D. Twa[6].* [1]Mechanical Engineering, University of Houston; [2]Biomedical Engineering, University of Texas at Austin; [3]Biomedical Engineering, University of Houston; [4]Ocean and Civil Engineering, The School of Naval Architecture, Shanghai Jiao Tong University; [5]Molecular Physiology and Biophysics, Baylor College of Medicine; [6]School of Optometry, University of Alabama at Birmingham; [7]College of Optometry, University of Houston

6819 — *B0397* **Can corneal viscoelasticity be determined from in vivo air-puff applanation?** *Abhijit Sinha Roy[1], M. Francis[1], R. Shetty[2].* [1]Narayana Nethralaya Foundation; [2]Narayana Nethralaya Eye Hospital **CR*

6820 — *B0398* **Stiffening effects of collagen crosslinking procedure on posterior and anterior corneal flaps.** *Hamed Hatami-Marbini.* University of Illinois at Chicago

6821 — *B0399* **Assessing the biomechanical properties of cross-linked cornea in vivo with optical coherence elastography.** *Dexi Zhu, Y. Zhou, Z. Jin, M. Shen.* School of Ophthalmology & Optometry, Wenzhou Medical University

6822 — *B0400* **Air-puff induced eye retraction and crystalline lens wobbling measured with long depth range swept source optical coherence tomography.** *Alfonso Jimenez-Villar[1], E. Maczynska[1], J. Rzeszewska[2], M. Wojtkowski[1, 3], B. J. Kaluzny[2], I. Grulkowski[1].* [1]Institute of Physics, Nicolaus Copernicus University; [2]Collegium Medicum, Nicolaus Copernicus University; [3]Institute of Physical Chemistry, Polish Academy of Sciences

6823 — *B0401* **Corneal Biomechanical Enhancement by Femtosecond Laser Irradiation Induced Collagen Crosslinks.** *CHAO WANG, M. Fomovsky, J. FAN, S. Vukelic.* Mechanical Engineering, Columbia University

6824 — *B0402* **Evaluation of biomechanical changes and corneal stiffening after corneal cross-linking in progressive keratoconus: A prospective follow-up study using an air-puff applanation Scheimpflug analyzer.** *Robert Herber[1], M. Francis[2], E. Spoerl[1], L. E. Pillunat[1], F. Raiskup[1], A. Sinha Roy[2].* [1]Department of Ophthalmology - Univ**.** Dresden; [2]Narayana Nethralaya Foundation↗

6825 — *B0403* **Preliminary study on biomechanical properties of normal human corneal stroma.** *Yan Wang[1], c. xue[1], y. xiang[2], m. shen[2].* [1]Refractive & Vis Correction Ctr, Tianjin Eye Hospital & Eye Institute; [2]School of Mechanical Engineering, Tianjin University

6826 — *B0404* **In vivo characterization of corneal natural frequency using optical coherence elastography.** *Gongpu Lan[1, 2], K. Larin[3, 4], M. D. Twa[2].* [1]Department of Photoelectric Technology, Foshan University; [2]School of Optometry, University of Alabama at Birmingham; [3]Department of Biomedical Engineering, University of Houston; [4]Department of Molecular Physiology and Biophysics, Baylor College of Medicine

6827 — *B0405* **Precise Nonlinear Optical Corneal Crosslinking (NLO CXL), Mechanical Stiffening, and Corneal Flattening Using Amplified Femtosecond Pulses.** *Samantha Bradford[1, 2], e. mikula[1, 2], T. Juhasz[1, 2], D. Brown[1], J. V. Jester[1, 2].* [1]Ophthalmology, University of California, Irvine; [2]Biomedical Engineering, University of California, Irvine

6828 — *B0406* **Clinical Application of Optical Coherence Elastography for Corneal Biomechanics.** *Michael D. Twa[1], G. Lan[1, 2], S. Aglyamov[5, 3], K. Larin[3, 4].* [1]Optometry and Vision Science, University of Alabama at Birmingham; [2]Photoelectric Technology, Foshan University; [3]Biomedical Engineering, University of Houston; [4]Molecular Physiology and Biophysics, Baylor College of Medicine; [5]Mechanical Engineering, University of Houston

6829 — *B0407* **A new method for individualized characterization of the distribution of collagen fibril dispersion using corneal aberrations.** *Mengchen Xu[1, 3], M. A. Ramirez-Garcia[2], H. Narang[4], M. Buckley[2], A. L. Lerner[2, 1], G. Yoon[3, 2].* [1]Department of Mechanical Engineering, University of Rochester; [2]Department of Biomedical Engineering, University of Rochester; [3]Flaum Eye Institute, University of Rochester; [4]Department of Biomedical Engineering, Willerson Center for Cardiovascular Modeling and Simulation

6830 — *B0408* ***In vivo keratometric changes in rabbit eye induced by topical 17β-estradiol.*** *Ari Leshno[1, 2], N. Avni[1, 2], K. Prokai-Tatrai[3], Y. Rotenstreich[1, 2], A. Magid[2], E. Bubis[1, 2], A. Barak[4, 2].* [1]The Goldschleger Eye Institute, Sheba Medical Center; [2]Sackler faculty of medicine, Tel-Aviv University; [3]Department of Pharmacology and Neuroscience, and the Institute for Healthy Aging, University of North Texas Health Science Center; [4]Ophthalmology department, Tel-Aviv Medical Center

6831 — *B0409* **Time-resolved detection of corneal UV Collagen Cross-linking (CXL) using Non-contact Optical Coherence Elastography (OCE).** *Ryan Wallace[4], M. Kirby[1], L. Gao[1], S. SONG[1], I. Pelivanov[1], K. Zhou[2], R. K. Wang[1, 3], M. O'Donnell[1], T. Shen[1, 3].* [1]Bioengineering, University of Washington; [2]Science and Engineering, University of Dundee; [3]Ophthalmology, University of Washington; [4]School of Medicine, University of Washington

6832 — *B0410* **The Effect of Proteoglycan Digestion on the Viscoelastic Shear Properties of the Cornea.** *Anna Olsen[1], A. Goyal[1], M. Ramirez Garcia[1], Y. M. Khalifa[2], M. Buckley[1].* [1]Biomedical Engineering, University of Rochester; [2]Ophthalmology, Emory University

6833 — *B0411* **A nonlinear viscoelastic model of corneal and whole-eye motion of prostaglandin-analog treated subjects under loading by dynamic Scheimpflug analyzer.** *B. Audrey Nguyen[1], M. A. Reilly[1, 2], C. J. Roberts[2, 1].* [1]Biomedical Engineering, The Ohio State University; [2]Ophthalmology & Visual Sciences, The Ohio State University **CR*

6834 — *B0412* **Keratoconus Recognition Using A Parameter Set Determined from IOP-Matched Scenario.** *tian lei[1], Y. Zhou[2].* [1]Beijing Institute of Ophthalmology; [2]Shenzhen University, Health Science Center

6835 — *B0413* **3D Patient-Specific Finite Element Model (FEM) of Intracorneal Ring Segment (ICRS) Implantation.** *Ibrahim Seven[1], R. Grytz[2], W. J. Dupps[1].* [1]Ophthalmic Research, Cleveland Clinic; [2]Ophthalmic Research, University of Alabama at Birmingham **CR*.

East 1

Thursday, May 02, 2019 12:15 PM-1:45 PM

Retina / Clinical/Epidemiologic Research / Immunology/Microbiology / Physiology/Pharmacology

552 The implications of immune response in ocular gene therapy - SIG

Recently there have been a number of landmarks in the treatment of inherited retinal diseases (IRDs) which include the approval of the first gene therapy treatment for an IRD. The increasing number of clinical trials promise new treatments for a wider number of IRDs. However, there are a number of barriers to the long term success of gene therapy. One of these is the development of an immune response following treatment. This SIG gathers together a panel of experts who will discuss gene therapy and vector design considerations, provide an update on the immune response and detail the findings from clinical trials. This will be followed by a discussion on recommendations for identifying, preventing and treating the immune response in gene therapy.

Moderator: Shyamanga Borooah

Panelist. *Andrew D. Dick.* [1]Institute of Ophthalmology, University College London, London, United Kingdom; [2]Faculty of Health Sciences, University of Bristol, Bristol, United Kingdom

Panelist. *John G. Flannery.* The School of Optometry, The University of California, Berkeley, CA

Panelist. *Alessandro Iannaccone.* Duke Eye Center, Duke University, NC **CR*

Panelist. *Paul A. Sieving.* National Eye Institute, National Institutes of Health, MD

Organizer. *Shyamanga Borooah.* Shiley eye Institute, University of California San Diego, CA

East 8&15

Thursday, May 02, 2019 12:15 PM-1:45 PM

Glaucoma / Low Vision / Retina / Visual Neuroscience / Visual Psychophysics/ Physiological Optics

553 Re-Engineering Clinical Perimetry - SIG

Static automated perimetry, a clinical reference standard for functional assessment of the visual system, relies on stimuli and technology that were developed 70 years ago. Testing is time and space consuming; the test is not intuitive for most patients-many of whom fail in their initial attempts; and it is not particularly adaptable to specific disease or patient-related conditions. Advances in vision science and technology have paved the way for new approaches to perimetry including head mounted, virtual reality and tablet devices each of which brings new possibilities in addition to new obstacles. This SIG will provide a forum to discuss the scientific underpinnings of alternative perimetric paradigms including alternative and adaptable stimulus profiles and patterns; novel approaches to the patient interface; and the potential for applications of this technology remote from a clinical setting and with indirect clinical supervision.

Moderator: Mitchell W. Dul

Panelist. *Mitchell W. Dul.* Clinical Sciences, SUNY College of Optometry, New York, NY

Panelist.anelist. *Allison M. McKendrick.* Optometry and Vision Sciences, University of Melbourne, Melbourne, Victoria, Australia **CR.*

Panelist. *Chris A. Johnson.* Institute for Vision Research, University of Iowa, Iowa City, IA **CR*

Panelist. *Chota Matsumoto.* Ophthalmology, Kindai University, Osaka, Kansai, Japan **CR*

East Ballroom A

Thursday, May 02, 2019 12:15 PM-1:45 PM

Retinal Cell Biology / Retina

554 Exploring Controversial Issues in BEST1-related Retinal Disease - SIG

Mutations in *Bestrophin-1* (*BEST1*) cause retinopathies varying in age of onset, inheritance patterns, rate of progression and presence of single versus multiple lesions. BEST1 protein is localized to the basolateral plasma membrane of RPE. Consensus as to the function of the BEST1 protein has been complicated by mouse models that do not replicate the disease. Panelists and attendees will discuss evidence pointing to BEST1 as the channel responsible for a calcium-activated chloride current in human RPE, how this function is reflected in the disease mechanisms, and influence of disease causing mutations on BEST1 channel activity. Information gleaned from the canine and *in vitro* patient-specific disease models will be presented. Consideration will be given to fundus autofluorescence and SD-OCT findings as they relate to the natural history of the disease. Also to be discussed will be long-standing issues such as the current views of the role played by impaired phagocytosis and RPE lipofuscin in the disease process and the source of the hyper-autofluorescence that characterizes the vitelliform lesion. Prospects for gene and cell-based therapies will be reviewed.

Moderators: Janet R. Sparrow and Stephen H. Tsang

Introduction to Discussion. *Janet R. Sparrow.* Department of Ophthalmology, Columbia University, New York, NY

Introduction to Discussion. *Stephen Tsang.* Department of Ophthalmology, Columbia University, New York, NY

Clinical Characterization of BEST1 Disease. *Anthony Moore.* Department of Ophthalmology & Visual Sciences, UCSF, San Francisco, NY

A Multidisciplinary platform to study bestrophin1. *Tingting Yang.* Department of Pharmacology and Physiology, University of Rochester, Rochester, NY

Treatment approaches in dominant-negative diseases as exemplified in BEST1-related autosomal dominant disease. *Bernhard H. Weber.* Institute of Human Genetics, University of Regensburg, Germany

A Mutation-centered approach to the treatment of Best disease. *David M. Gamm.* Department of Ophthalmology & Visual Sciences, University of WIsconsin, Madison, WI

Ca2+ signaling and Best's disease. *Olaf Strauss.* Department of Ophthalmology, Charite University Medicine Berlin, Germany

East Ballroom B

Thursday, May 02, 2019 12:15 PM-1:45 PM

Multidisciplinary Ophthalmic Imaging Group / Glaucoma / Retina

555 Optical Coherence Tomographic Angiography of the Eye - SIG

OCT angiography is a novel non-invasively imaging technology with rapidly broadening indications in the management of retinal and optic nerve diseases. This forum seeks to join technological advances with clinical applications. The following recent advances will be discussed: (1) Identifying retinal ischemic areas, with emphasis on the fovea; (2) Detecting choriocapillaris loss in age-related macular degeneration; (3) Using wide-field OCTA to detection neovascularization in proliferative diabetic retinopathy; (4) Correlating retinal perfusion changes with visual field loss and structural thinning in glaucoma. The emphasis will be on improving the detection of ocular pathologies and performing measurements that are not possible with conventional fundus photography, dye-based angiography, and structural OCT.

Moderators: Amani A. Fawzi and Ursula Schmidt-Erfurth

Glaucoma Applications. *David Huang.* Casey Eye Institute, Oregon Health & Science Univ, Portland, OR **CR*

Choriocapillaris Ischemia. *Philip J. Rosenfeld.* Bascom Palmer Eye Institute, University of Miami, Miami, FL **CR*

Wide-Field OCTA for Diabetic Retinopathy. *Yali Jia.* Casey Eye Institute, Oregon Health & Science Univ, Portland, OR **CR*

Glaucoma Applications. *Linda M. Zangwill.* Shiley Eye Institute, University of California at San Diego, San Diego, CA **CR*

West 211

Thursday, May 02, 2019 12:15 PM-1:45 PM

556 EVER/ARVO workshop: The breadcrumb trail in glaucoma: From biology to the patient

The aim of this workshop is to appraise the current stage of knowledge in experimental and clinical glaucoma research. It will cover topics ranging from the fundamental pathophysiology of the disease through to clinical translation of future therapies.

Moderators: Alain M. Bron and Balwantray C. Chauhan

— 12:15 **The BAX activation mechanism (BAM) in damaged retinal ganglion cells: prospects for future intervention**. *Robert W. Nickells.* Ophthalmology & Visual Science, Univ of Wisconsin-Madison

— 12:15 **Microvascular and dendritic pathology in glaucoma: is there a link?** *Adriana Di Polo.* Department of Neuroscience, University of Montreal

— 12:30 **Genetics in the Glaucoma Clinic: genetic testing and risk prediction**. *Janey L. Wiggs.* Ophthalmology-Harvard Med Sch, Mass Eye & Ear Infirmary

— 12:45 **The BAX activation mechanism (BAM) in damaged retinal ganglion cells: the prospect for future intervention.** *Balwantray C. Chauhan.* Ophthalmology & Visual Sciences, Dalhousie University-DAL-11762 **CR*

— 1:00 **Translating laboratory research: clinical trials for new therapies**. *David F. Garway-Heath.* NIHR Biomedical Research Centre, Moorfields Eye Hospital and UCL Institute of Ophthalmology **CR*

West 212-214

Thursday, May 02, 2019 12:15 PM-1:45 PM

Biochemistry/Molecular Biology / Retinal Cell Biology

557 Lipids and Eye Diseases- where should we focus? - SIG

Lipids are essential components of every cell; they are diverse in their structure and function. Modern day vision research have identified lipid pathways in various ocular disease mechanisms and as novel therapeutic targets; lipid molecules are emerging as novel therapies, and lipid signatures are being discovered as disease biomarkers. As there are many novel discoveries around lipid biology, many controversies are also arising regarding the use of lipids as potential therapy for eye diseases. This SIG will gather a panel of world experts of lipids and eye and discuss the past present and future of lipid science in eye diseases.

Moderator: Steven J. Fliesler

Lipids in eye diseases- an update with Sphingolipids. *Nawajes A. Mandal.* Ophthalmology, Univ of Tennessee, Health Science Center, Memphis, TN

Lipids in RPE and AMD. *James T. Handa.* Johns Hopkins Wilmer Eye Inst, MD

Elovanoids act as epigenetic regulators in cell survival/senescence decisions in photoreceptors. *Nicolas G. Bazan.* LSU Health Sciences Center, MD **CR*

Bioactive inflammatory lipids for ocular surface disease. *Karsten Gronert.* University of California, Berkeley, CA

West 217-219

Thursday, May 02, 2019 12:15 PM-1:45 PM

Visual Neuroscience / Anatomy and Pathology/ Oncology / Biochemistry/Molecular Biology / Genetics / Retina / Retinal Cell Biology

558 Emerging Biological Functions of Non-canonical Photodetection - SIG

Light broadly impacts our physiology and wellbeing and is sensed by specialized proteins known as opsins. This most well described opsin expressing cells, rods and cones, transmit light encoded signals to the brain to enable vision. Intriguingly, however, opsin expression is not restricted to these cells. Rather, atypical opsins (Opsins 3, 4, and 5) are found in subsets of ganglions cells within the retina and are also expressed outside of the eye in diverse regions of the body. These include fat, skin, and the brain itself. In this Special Interest Group, we will discuss the emerging biologic roles for atypical opsins in eye development, retina circadian rhythm, and regulation of whole-body physiology. We will also discuss the exciting potential for 'photoreceptors' in other organs systems and inside the brain parenchyma and cover emerging technologies for investigating the functions of these unique cells.

Moderators: Melanie Samuel and Richard A. Lang

Organizer and Panelist. *Melanie Samuel.* Baylor College of Medicine, Houston, TX

Co-Organizer and Panelist. *Richard A. Lang.* Cincinnati Children's Hospital Medical Center, OH

Panelist. *Russell N. Van Gelder.* University of Washington School of Medicine, WA

Panelist. *Ethan Buhr.* University of Washington School of Medicine, WA

West 220

Thursday, May 02, 2019 12:15 PM-1:45 PM

Glaucoma / Biochemistry/Molecular Biology / Genetics / Immunology/Microbiology / Physiology/Pharmacology / Retina

559 Are there alternatives to in vivo models in eye research? - SIG

Not only regulatory, but also ethical concerns and several downsides of animal research, foster the need for alternative models for eye research.. herefore, the pressure from all sides (politics, media, society, science, and regulatory bodies) for alternatives in animal research is extremely high worldwide. Especially in Europe, several governments plan to stop animal research in the next decades. On one hand, this SIG discusses the need for excellent and relevant models for future eye research, on the other also the pros and cons of animal models in eye research are debated. In addition, novel model systems for glaucoma and retina research as well as drug-delivery testing will be introduced. Regulations regarding research involving animal and alternative models as well as the university and industry perspective on different model systems will be presented and discussed.

Moderators: Stephanie C. Joachim and Sven Schnichels

Human organotypic retinal cultures as a retinal ganglion cell degeneration model. *Julie Sanderson.* Pharmacology, University of East Anglia, United Kingdom

Value of animal models in drug testing. *Christoph Ullmer.* Roche Pharma Research & Early Development, F. Hoffmann-La Roche Ltd., Switzerland **CR*

Ex vivo bovine retinal explants to study drug delivery into the retina. *Katrien Remaut.* General Biochemistry and Physical Pharmacy, Ghent University, Belgium

Organizer. *Stephanie C. Joachim.* Experimental Eye Research Institute, Ruhr-University Bochum, Bochum, Germany

West 221/222

Thursday, May 02, 2019 12:15 PM-1:45 PM

560 Addressing global blindness through international research collaborations – Next frontier for 2020

As much as 90 percent of the global burden of eye disease is shouldered by developing countries, where many treatable diseases often go undiagnosed. About 39 million people around the world are blind and a further 246 million are visually impaired, according to the WHO. Eighty percent of blindness is considered preventable; however, development of effective screening and treatment strategies require sustained research efforts that would benefit from international research collaborations. Several international research collaborative programs have been successful in bringing international colleagues to make significant contributions to vision research. However, a wider participation of researchers is needed to advance the high-quality science in many areas of vision research. A coordinated strategy for basic science and health services research will help in reducing the global burden of eye diseases and implementation of research findings. This ARVO session will focus on several current and planned international research programs and will discuss the strategies and challenges in building international collaborations in vision research. The ARVO session will stimulate discussion on forming new research partnerships and address the current issues and challenges in international research collaborations.

Moderators: Gyan "John" Prakash and Janey L. Wiggs

— 12:15 **Welcome & Introductions**

— 12:25 **International Research Collaborations and Global Initiatives in Eye Research**. *Gyan "John" Prakash.* National Eye Institute, National Institute of Health

— 12:33 **International Glaucoma Genetics Consortium: Advances in Primary Open Angle Glaucoma Genetics**. *Janey L. Wiggs.* Ophthalmology-Harvard Med Sch, Mass Eye & Ear Infirmary

— 12:41 **Current Trends in International Eye Research – What do the data tell us?** *Pamela C. Sieving.* Sieving Information Solutions

— 12:53 **Global Eye Genetics Consortium: International Research Platform for Genetic Eye Diseases.** *Takeshi Iwata.* National Inst of Sensory Organs, Tokyo Medical Center, Natl Hospital Organization

— 12:59 **Global Eye Genetics Consortium: International Research Platform for Genetic Eye Diseases.** *Paul N. Baird.* Ctr for Eye Res-Australia, University of Melbourne

— 1:05 **Collaborative Research for Eye Care between East and West**. *Calvin C. Pang.* Ophthalmology & Visual Sciences, The Chinese University of Hong Kong

— 1:13 **A Tale of Two Nations: US-Indo Collaborative Research Program in Diabetic Retinopathy**. *Sudha K. Iyengar.* Epidemiology & Biostatistics, Case Western Reserve University

— 1:21 **A Tale of Two Nations: US-Indo Collaborative Research Program in Diabetic Retinopathy**. *Sinnakaruppan Mathavan.* SN ONGC Department of Genetics & Molecular Biology, Vision Research Foundation, Sankara Nethralaya

— 1:29 **Reaching the Unreachable: Unique Patient Populations for Eye Research**. *Sundaram Natarajan.* Vitreo Retina, Aditya Jyot Foundation for Twinkling Little Eyes

— 1:37 **Close remarks**

West 223/224

Thursday, May 02, 2019 12:15 PM-1:45 PM

561 Chinese Ophthalmology Society (COS) workshop: Cell biology and stem cells

This topic focuses on the pathological changes of various types of cells in common eye diseases and their role in the occurrence of eye diseases. It also introduces the research progress and clinical problems of stem cells in the treatment of common eye diseases. Special focus and introduction to the latest research progress of Chinese ophthalmology research experts. It provides a platform for understanding the latest developments and promoting exchanges and cooperation in China.

Moderators: Ningli Wang and Xing-Huai Sun

— 12:15 **Welcome and Introductions**

— 12:23 **Study on the protective effect of human fetal RPE transplantation on retinal degeneration**. *Ningli Wang.* Ophthalmology, Beijing Tongren Eye Center ↗

— 12:35 **AAV mediated Gene Therapy Approaches in a Transgenic P23H Swine Model of RP**. *Maureen A. McCall.* Ophth. & Visual Sciences, University of Louisville **CR*

— 12:47 **Mitochondrial dysfunction contributes to the progressive loss of RGCs in glaucoma**. *Xing-Huai Sun.* Opthalmology, EENT hospital of Fudan University

— 12:59 **Novel insights into the genetics of Macular Telangiectasia Type 2 (MacTel)**. *Paul S. Bernstein.* Ophthal and Visual Sciences, Univ of Utah/Moran Eye Center

— *1:11* **Doing early phases of clinical trials in Australia and Asian Pacific countries**. *Meidong Zhu*[1, 2]. [1]New South Wales Tissue Bank, New South Wales Organ and Tissue Donation Service; [2]Greenlight Clinical Pty Ltd, Australia **CR*

— *1:23* **Scleral hypoxia is a target for myopia control**. *Xiangtian Zhou.* School of Ophthalmology and Optometry, Wenzhou Medical University

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Harbour Ballroom

Thursday, May 02, 2019 12:15 PM-1:45 PM

562 NEI grants Workshop: New NIH regulations concerning human subject and animal research

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Whether you are new to the NIH grant process, or established NEI investigators seeking information to successfully navigate your NEI grant applications and research protocols through human research protections review or Institutional Animal Care and Use Committee assurance, join this session to meet with the NEI Extramural Staff. During this session, you will learn about new regulations concerning Human Subject and Animal Models research and how it applies to extramural grants and how to ensure your institution is meeting the requirements or the policy and the law. There will be short presentations, Q&A, and roundtable discussion with the staff.

Moderator: Michael A. Steinmetz

— *12:15* **Human Subjects Research: Revised HHS Regulations and Related NIH Policies**. *Maryann Redford.* National Eye Institute

— *12:30* **Clinical Trial: What You Need to Know**. *Cheri Wiggs.* National Eye Institute

— *12:45* **Human Subjects and Inclusion: NIH Current Requirements and Beyond**. *Donald Everett.* National Eye Institute

— *1:00* **Research Involving Animals: Policies and Regulations**. *Brian Hoshaw.* National Eye Institute

— *1:15* **Post-Review to Award**. *Grace Shen.* National Eye Institute

— *1:30* **After the Award is Made: How to Manage Your Award**. *Karen R. Smith.* National Eye Institute.

West Exhibition Hall

Thursday, May 02, 2019 2:00 PM-3:00 PM

563 All Posters and Networking

ARVO Ballroom

Thursday, May 02, 2019 3:15 PM-4:15 PM

564 Beckman-Argyros Award in Vision Research

The Arnold and Mabel Beckman Foundation supports cutting-edge research through their generous Beckman-Argyros Award in Vision Research. The Award recognizes an individual who has made significant, transformative breakthroughs in vision research. The fifth award has been presented to Mark F. Bear, PhD, of the Massachusetts Institute of Technology. Dr. Bear is the Picower Professor of Neuroscience in The Picower Institute for Learning and Memory and the Department of Brain and Cognitive Sciences at MIT. The award will help Bear's lab further advance their research harnessing synaptic plasticity to promote recovery from amblyopia.

— *3:15* **Synaptic Plasticity and Amblyopia - Mark F. Bear, PhD, of the Massachusetts**

ARVO Ballroom

Thursday, May 02, 2019 4:30 PM-6:00 PM

565 ARVO/Alcon Closing Keynote: Models of translational science to span innovation gaps in academia

Dr. Gleave's research demonstrates how science can successfully move from the lab bench to a therapeutic intervention for patients. His studies have centered around characterizing the molecular mechanisms that mediate treatment resistance in cancer, focusing on stress-activated adaptive responses that drive acquired treatment resistance and designing rational combination co-targeting strategies to abrogate the stress response to create conditional lethality and improve cancer control. He has patented several anti-cancer drugs and, in 2001, founded OncoGenex Technologies, for which he serves as chief scientific officer.

— *4:30* **Models of translational science to span innovation gaps in academia: Martin Gleave, CM, MD, FRCSC, FACS, The Vancouver Prostate Centre**

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See **arvo.org/program-summary** for:

- ARVO Commercial Relationships Policy
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Author Index

This Author Index provides access to the titles of abstracts via program numbers. Because only first and sometimes middle initials are used in the index, some entries may include program numbers for the abstracts of several authors with the same last name as well as the same first name and middle initials. The program number/poster board number for a first author is listed in boldface print. Program numbers for participants in the symposia and minisymposia are indicated in boldface and italic print. Poster board numbers are provided where applicable; numbers indicate Exhibit/Poster Hall location; A = Poster Area A, B = Poster Area B.

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The Association for Research
in Vision and Ophthalmology

1801 Rockville Pike, Suite 400
Rockville, MD 20852-5622
Tel: +1.240.221.2900

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