

ARVO News

The Association for Research in Vision and Ophthalmology

www.arvo.org

ARVO 2011: Annual Meeting continues to grow, exceed expectations



Above: Poster sessions
Below: ARVO Trustee Justine Smith introduces the Friedenwald Award lecturer



Above: Networking at the ARVO Social
Center: ARVO Karaoke
Below: ORA exhibitors



For a look back at the 2011 ARVO Annual Meeting, see page 10

Check out your 2012 Annual Meeting Call for Abstracts



Emerging trends for contract research organizations

Special Advertising Report

How one researcher influences Congress

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ARVO co-hosts student/trainee receptions

ARVO's Members-in-Training Committee is partnering with the American Academy of Ophthalmology's Young Ophthalmologists Committee and the American Academy of Optometry's student members to organize happy hours at their upcoming meetings.

American Academy of Optometry

Student/Trainee Reception

Friday, October 14, 2011, 6 – 7pm
Room 101
Hynes Convention Center
Boston, Mass.

American Academy of Ophthalmology

YO ARVO! Exploring careers in research Happy Hour

Monday, October 24, 2011, 4 – 6pm
YO Lounge, Room 208
Orange County Convention Center
Orlando, Fla. ■

2011 – 2012

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President's Message

Found in translation



Jeffrey H. Boatright,
PhD, FARVO

These are exciting — if not frustrating — times in translational research, which is the theme of the 2012 Annual Meeting. Interest in and support for applying scientific discoveries to disease treatment and prevention has never been

higher, but impact on the clinic remains relatively static.

According to several of our members, the approach of promoting translation by fostering “bench-to-bedside” collaborations between research scientists and clinician-scientists is receiving newfound and expanded support in many countries.

France: A new initiative supports development of proof-of-concept hypotheses derived from bedside observations, tested in collaboration with researchers in the laboratory, and then returned to the clinic for trials.

Switzerland: New funding for cooperative projects must include basic scientists, clinical scientists and clinicians.

U.K.: New translation research centers are supported with several hundred million pounds a year, possibly to the detriment of discovery research.

Australia: The success rate for grants favors basic science compared with clinical research, but focus is increasing on translational research. For instance, several recent grants support bionic eye research.

China: Friends say there is concern that in the recent past, basic research became an end unto itself. To address this, central and local governments are providing substantial, stable funding specifically for research projects that address clinical needs.

Thus, enormous effort continues to bring the research and clinical worlds together. But like the blind men examining and describing an elephant, getting members of the two groups together may not *ipso facto* translate knowledge into treatments.

There is a bottleneck, called by many the “valley of death,” that arguably has little to do with whether research scientists and clinicians speak the same language.

This “valley” occurs after discovery of disease mechanisms, but prior to clinical trials, and includes activities such as preclinical development and assessment of candidate approaches, addressing complex regulatory and patent issues, and obtaining funding for and starting initial clinical trials.

Patient-driven organizations have recognized this bottleneck for some time and have pressed for solutions. The National Neurovision Research Institute created by the Foundation Fighting Blindness is an exemplar approach to this in vision research. Similarly, medical research institutions have established technology transfer resources to encourage translation. Recently, agencies in the U.K. and U.S. have enacted or proposed initiatives that focus on bridging the “valley of death.”

In the U.K., the new Developmental Pathway Funding Scheme supports translation of research discoveries towards patient benefit. It does not fund discoveries, but uses these as starting points for their application to healthcare needs, including through to Phase III trials if warranted. ARVO members who are participating in this scheme tell me that “it has been life-changing in terms of actually helping us translate,” largely due to having access to professionals who specifically manage translation issues.

In the U.S., NIH Director Francis Collins proposes establishing an entirely new institute, the National Center for Advancement of Translational Science (NCATS). Collins notes that “little focused effort has been devoted to the translational process itself as a scientific problem amenable to innovation” and thus sets the goal of NCATS as researching and reengineering translation itself. Collins envisions an approach radically different from current “benchtop-to-bedside” collaborations. It of course remains to be seen whether the U.S. Congress shares his vision and votes to fund NCATS.

Will the study of translation per se accelerate the movement of laboratory discoveries to clinical uses? Early results from the U.K. experiment are encouraging. ARVO members may want to keep an eye on their progress. ■

Get ready for the 2012 ARVO Trustee elections!

The following candidates have been nominated to stand for election in 2012:

Biochemistry/Molecular Biology Section



Paul S. Bernstein, MD, PhD, FARVO

Mary Boesche professor of ophthalmology and visual sciences at the Moran Eye Center of the University of Utah



Alison Hardcastle, PhD

Professor of molecular genetics at University College London, Institute of Ophthalmology

Clinical/Epidemiological Research Section



Emily Y. Chew, MD, PhD

Deputy director, Division of Epidemiology and Clinical Applications; chief, Clinical Trials Branch, National Eye Institute/National Institutes of Health (NEI/NIH)



Tien Yin Wong, FRCS, PhD

Professor and director, Singapore Eye Research Institute; chairman, Department of Ophthalmology, National

University of Singapore

Visual Neurophysiology Section



Peter D. Lukasiewicz, PhD

Professor and director of research, Department of Ophthalmology and Visual Sciences; professor, Department of Anatomy and

Neurobiology, Washington University School of Medicine



Samuel Miao-Sin Wu, PhD

Professor of ophthalmology, neuroscience and molecular physiology and biophysics; Camille and Raymond Hankamer Chair

in Ophthalmology, Baylor College of Medicine, Houston, Texas ■



See www.arvo.org/elections to learn more about the 2012 Trustee candidates.

New low vision group to boost communication across fields

The ARVO Board of Trustees approved the creation of a low vision cross-sectional group at its May 4 meeting. The Low Vision Group's goal is to facilitate interdisciplinary communication among researchers in the disparate areas of low vision.

These include:

- Epidemiology of vision impairment
- Quality of life measures of low vision
- Electrophysiological and brain-imaging evaluations of visual pathways in low vision
- Psychophysical performance measures of functional vision
- Development and validation of outcome measures
- Conduct of clinical trials evaluating rehabilitation approaches

- Development and evaluation of adaptive technologies for people with low vision

The Low Vision Group joins the other three ARVO cross-sectional groups in genetics, imaging and nanotechnology and regenerative medicine that are addressing interdisciplinary science in ophthalmic and vision research.

Each cross-sectional group organizes a platform session, a paper session and poster sessions at the ARVO Annual Meeting. Recently, a low vision section of IOVS was established and manuscripts are being accepted. See Low Vision at

www.iovs.org. ■



Learn more at www.arvo.org/csgroups.

Committees in action 2011 – 2012 Committee Chairs

Advocacy Committee

J. Mark Petrash, PhD, FARVO

Animals in Research Committee

Brian C. Gilger, DVM

Annual Meeting Program Committee

Sally S. Atherton, PhD, FARVO

Awards Committee

Sarah E. Coupland, MBBS, PhD

Commercial Relationships Committee

William J. Foster, MD, PhD

Continuing Medical Education Committee

Arun D. Singh, MD

Diversity Issues Committee

Andrew T.C. Tsin, PhD, FARVO

Ethics and Regulations in Human Research Committee

Leonard A. Levin, MD, PhD, FARVO

Finance Committee

David Williams, PhD, FARVO

International Members Committee

János Németh, MD, PhD, DSc

Long Range Planning Committee

Frederick L. Ferris, III, MD, FARVO

Members-in-Training Committee

Joseph Carroll, PhD

Professional Development and Education Committee

Arup Das, MD, PhD, FARVO

Publications Committee

Maureen A. McCall, PhD

International Chapter Affiliates

ARVO-NED

Chapter Affiliate since April 25, 2008
Nijmegen, the Netherlands
www.oogheelkunde.org

Asociación de Investigación en Visión y Oftalmología (AIVO)

Chapter Affiliate since May 5, 2007
Buenos Aires, Argentina
<http://aivo.com.ar>

Austrian Association for Research in Vision and Ophthalmology (AARVO)

Chapter Affiliate since May 2, 2009
Vienna, Austria

Brazilian Research Association of Vision and Ophthalmology (BRAVO)

Chapter Affiliate since
October 21, 2006
São Paulo, Brazil



Chinese Congress of Research in Vision and Ophthalmology (CCRVO)

Chapter affiliate since May 1, 2010
Beijing, P.R. China

Colegio Nacional de Investigación en Ciencias Visuales (MARVO)

Chapter Affiliate since May 1, 2010
Mexico City, D.F., Mexico
www.mexarvo.org

Hungarian Association for Research in Vision and Ophthalmology (HARVO)

Chapter Affiliate since
November 14, 2007
Budapest, Hungary
www.harvo.org

India Eye Research Group – ARVO (IERG-ARVO)

Chapter Affiliate since April 30, 2011
Hyderabad, India

Israel Society for Vision and Eye Research (ISVER)

Chapter Affiliate since April 29, 2006
Jerusalem, Israel
www.isver.org.il



ARVO Italy (IT-ARVO)

Chapter Affiliate since
April 30, 2011
Catania, Italy

South-East European Association for Research in Vision and Ophthalmology (SEE-ARVO)

Chapter Affiliate since
October 29, 2009
Sofia, Bulgaria ■



See www.arvo.org/affiliates.

Thank you to outgoing committee chairs and volunteers

ARVO is grateful to all members who served on committees this past year. Special thanks go out to chairs that completed their terms this year: Laura J. Frishman, PhD (Awards); Russell N. Van Gelder, MD, PhD (Commercial Relationships); David G. Hunter, MD, PhD, FARVO (Finance), Jeffrey J. Walline, OD, PhD (Diversity Issues), and Steven E. Wilson, MD, FARVO (Publications).

We also thank outgoing Annual Meeting Program Committee Chairs: Ronald H. Silverman, PhD; Sarah E. Coupland, MBBS, PhD; Paul S. Bernstein, MD, PhD; Christopher J. Hammond, MD; Shukti Chakravarti, PhD; Shigeto Shimmura, MD; Agnes M.F. Wong, MD, PhD; Neeru Gupta, MD, PhD; Junko Hori, MD, PhD; Kirsten J. Lampi, MS, PhD; Leopold Schmetterer, PhD; Franco M. Recchia, MD; Giovanni Staurenghi, MD; John D. Ash, PhD; Marilyn E. Schneck, PhD and Maarten Kamermans, PhD. ■

Hungarian PhD student extends ARVO experience in Colorado

A key feature of the International Chapter Affiliate program is that chapter affiliates send young vision scientists to the ARVO Annual Meeting each year.

This year, Anna Enzsoly, MD, represented the Hungarian affiliate (HARVO). Enzsoly is a PhD student at the Semmelweis University Department of Ophthalmology, working under the supervision of János Németh, MD, PhD, DSc. To further her training after the ARVO Annual Meeting, she visited the laboratory of Mark Petrash, PhD, FARVO, in the Department of Ophthalmology at the University of Colorado School of Medicine.

She spent approximately one month evaluating ocular abnormalities in a series of animal models developed in the Petrash laboratory. During this time, Enzsoly became a part of the laboratory team by conducting her own experiments and by participating in lab meetings and discussions.

She said: “Working with this group had an important scientific impact on me. Our discussions provided new ideas for my research, which I will continue in Hungary.”

In addition to strengthening their scientific collaboration, Enzsoly’s visit cemented the cultural ties between her home laboratory in Budapest and Petrash’s laboratory in Denver. “It was a pleasure to have Anna come to my laboratory and share the skills she developed in her thesis work at Semmelweis,” says Petrash. “This is a great example of how ARVO is living its mission to enhance vision research on a global scale.” ■



Climbing high: Anna Enzsoly, MD, spent time at the University of Colorado lab of Mark Petrash, PhD, FARVO.

International chapters: Overwhelming enthusiasm



By Martine J. Jager, MD, PhD, FARVO, past president of ARVO, Chairman of the ARVO International Chapter Affiliate Council

This year, I was invited to attend meetings by several of ARVO's international chapter affiliates, which was (again) an exhilarating experience.

When I started to discuss the possibility of having a Chinese ARVO chapter with Dr. Li Xiaoxin, then president of the Chinese Society of Ophthalmology, she was already considering having a basic science meeting. This meeting has been developed in association with ARVO, in order to develop a scientific meeting that is educational for young researchers.

China

In April 2011, I attended the third Chinese Congress of Research in Vision and Ophthalmology in Chongqing and was flabbergasted. Several superb international speakers such as Steve Ryan, MD, FARVO, of the Doheny Eye Institute in Los Angeles and James Morgan, DPhil, of the University of Cardiff had been invited, and the leaders of ophthalmology in China presented educational lectures. These included titles such as "Innovative thinking results in technological advances," or discussed new developments in amblyopia, myopia or diabetic retinopathy.

But the best was the presence of hundreds of young eye researchers who presented their own work. I had the pleasure of organizing a workshop about getting one's paper published. The energy and enthusiasm that effused from the young researchers was amazing.

My only problem was that my lack of Chinese regrettably did not allow me to follow the presentations, and I hope that next time, more presentations will have the slides showing data with English captions so that visitors can also understand. This would also be very good practice for these researchers if they attend meetings outside China.

The Netherlands

Soon after, we had the Netherlands chapter meeting, ARVO-NED, with an educational meeting on pathology and anatomy. It was our good fortune to have Greg Hageman, PhD, FARVO, of the John Moran Eye Center in Salt Lake City open the meeting with a great lecture about inflammation and age-related macular degeneration. Other subjects were stem cell



SEE-ARVO President Petja Vasileva, MD (third from left) with residents at SEE-ARVO resident's day in Bulgaria.



HARVO Chapter President János Németh (center) with other attendees at the joint Austrian-Hungarian ARVO Chapter meeting in Mayrhofen, Austria.

research and imaging, suitable for any young Dutch researcher working on an ophthalmological problem.

Bulgaria

Subsequently, I attended the South-East European (SEE-ARVO) chapter meeting held in association with the annual meeting of the Union of Bulgarian Ophthalmologists in Borovets, Bulgaria. A very nice international symposium was put together by the SEE-ARVO president, Petja Vassileva, MD, and was followed by an educational day for residents.

The quality of the meeting was very high, and it was great that — thanks to the support

International chapters, continued from page 5

of Allergan for the residents day and Alcon for the ARVO-Chapter educational grant — many young people could attend.

Austria

Another approach was taken at the collaborative meeting of the Hungarian and Austrian chapters: youngsters from the two different countries gave presentations on their research projects, in the style of an ARVO symposium.

These presentations were in English, and I want to compliment Suzanne Binder, PhD (Rudolf Eye Center in Vienna); Guenther Grabner, MD (University Eye Clinic, Salzburg) and János Németh, MD, PhD, DSc (Semmelweis University) on a very good meeting.

These different meetings show the variety of ARVO-related activities happening around the world. But the thing they have in common is that they stimulate eye research by young investigators locally.

It is fascinating to see these meetings' common characteristic: the enthusiasm for research from supervisors and students alike, and the great desire of the youngsters to produce excel-

lent work that will allow them to go to international meetings such as ARVO and EVER. Several students won travel grants to ARVO or EVER, but the competition was tough.

Mayrhofen

The meeting in Austria ended literally on a high note, as it was held in the city of Mayrhofen in the Zillertal of Tyrol, and we had a chance to take a hike in the Alps. It was beautiful spring weather, with flowers everywhere and the first overenthusiastic cows on the mountains. To me, the scene was symbolic of the hopes and bright futures of young eye researchers. ■

India and Italy establish International Chapter Affiliates

India

The India Eye Research Group (IERG) was formed as part of the Hyderabad Eye Research Foundation and began meeting in 1992. The annual meeting (typically held in July) brings together 200 scientists in India that are involved in different areas of basic and clinical eye research. As an ARVO International Chapter Affiliate, IERG will now be able to provide opportunities for investigators in India to keep up with research in their field at an international level and build new collaborations. IERG researchers hope to work with investigators in various scientific disciplines across the world, and with those that have practical relevance in the realm of visual health and blindness in India and other countries.

Italy

In March 2011, ophthalmic and vision researchers in Catania, Italy formed an independent organization, ARVO-Italy (IT-ARVO). The organization became an ARVO international chapter affiliate this past May. IT-ARVO's goal is to establish scientific collaborations with neighboring ARVO international chapter affiliates in Austria, Hungary and Israel, particularly in the areas of basic and translational research. IT-ARVO will host its first meeting in February 2012. ■



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Argentina chapter celebrates 8th annual meeting at PAAO

The Association for Research in Vision and Ophthalmology of Argentina (AIVO), an ARVO International Chapter Affiliate, celebrated its eighth annual meeting on July 6 in Buenos Aires, Argentina. This meeting took place as a pre-meeting of the 29th Pan-American Congress of Ophthalmology, held by the Pan-American Association of Ophthalmology (PAAO) at the Centro de Convenciones Costa Salguero.

The AIVO meeting attracted more than 100 local ophthalmologists and academic researchers. In addition, several ophthalmologists and researchers from neighboring Latin American countries, such as Brazil, Chile, México, Paraguay and Uruguay, also participated.

Joanne Angle, ARVO executive director, together with Juan Gallo, MD, AIVO vice president and meeting chairman, opened the meeting by welcoming the attendees and emphasizing ARVO's support for international chapter affiliate activities.

The speakers at the two keynote lectures were Rubens Belfort, MD, PhD, from the Vision Institute, Federal University of São Paulo, Brazil, an ARVO member and international renowned clinical scientist, and Lucia Policastro from Argentina's National Council of Science and Technology (CONICET).

Belfort's lecture was on "Education of clinical and basic researchers in visual sciences: A challenging task for Latino America." Policastro talked about "New trends in the use of nanoparticles for medical diagnosis and treatment."

Participants at the meeting presented their latest research in over 30 scientific presentations. A special session, "Stem cell therapy in patients," was coordinated by Marta Barone, president of the Ethical Committee

of the National Institute for the Coordination of Transplantations (INCUCAI).

As a closing activity, a panel convened to discuss vision research in Latin America, including networking, funding and patents. Panelists, who were from Brazil, México, Chile, Argentina and Uruguay, spoke about how their respective countries addressed these issues.

ARVO booth at PAAO

For the first time, ARVO exhibited at the main PAAO meeting. Members of the Argentina, Brazil and Mexico chapters spent time at the ARVO exhibit booth with Angle to talk to attendees and hand out materials that were prepared in English and in Spanish.

AIVO officers and Angle were also interviewed by a reporter from *Diario Clarin* (a local Buenos Aires newspaper) on the benefits of AIVO's research efforts in nanotechnology.

Angle also attended an International Council of Ophthalmology (ICO) sponsored workshop aimed at helping researchers in Latin America become advocates and work with the ICO to increase support for eye care and prevention of vision loss in their countries. ■



Raising the profile of eye research in the Argentinian press: AIVO vice president Juan Gallo, MD; *Diario Clarin* reporter Valeria Roman; ARVO executive director Joanne Angle; AIVO secretary Nora Rotstein, PhD and AIVO treasurer Cecilia Sanchez, PhD.



Retina Ciliopathies: From Genes to Mechanisms and Treatment

14th VISION RESEARCH CONFERENCE
4-5 May 2012 Convention Center, Fort Lauderdale, Florida, USA

Two day satellite meeting prior to 2012 ARVO

Organizers:

Wolfgang Baehr, *University of Utah, USA*

Hemant Khanna, *University of Massachusetts Medical School, USA*

Marius Ueffing, *University of Tübingen, Germany*

Samuel M. Wu, *Baylor College of Medicine, USA*

For further information please contact:
customerservice-vision12@elsevier.com

This meeting is co-sponsored by *Vision Research*, Elsevier and ARVO





www.visionresearch-conference.elsevier.com



ARVO Awards

2013 Call for Nominations

For young investigators

- **Cogan Award** — Recognizes contributions to research in ophthalmology or visual science that are directly related to disorders of the human eye or visual system, by a promising individual 40 years of age or younger.
- **AFER/Pfizer Ophthalmics/Carl Camras Translational Research Awards** — Recognizes excellence in research, scientific discoveries, concepts and technologies that have led to, or have the promise of leading to, clinical applications, by an individual no more than 45 years old. Awards are worth \$10,000.

For career achievement

- **Proctor Medal** — Honors outstanding research in the basic or clinical sciences as applied to ophthalmology.
- **Friedenwald Award** — Honors outstanding research in the basic or clinical sciences as applied to ophthalmology.
- **Weisenfeld Award for Excellence in Ophthalmology** — Honors distinguished scholarly contributions to the clinical practice of ophthalmology.
- **Kupfer Award** — Honors distinguished public service on behalf of eye and vision research.
- **Special Recognition Award** — Honors outstanding service to ARVO or the vision research community.

Deadline is March 1, 2012.

Nominations must include a detailed nomination letter, a CV and three brief letters from colleagues who support the nomination. Nominations must be completed online at www.arvo.org/awards.

 **ARVO**
www.arvo.org/awards

Congratulations: 2012 ARVO Annual Awards recipients

ARVO is pleased to announce the recipients of the 2012 ARVO Annual Awards. All awards and lectures will be presented at the 2012 ARVO Annual Meeting, May 6 – 10, 2012, in Fort Lauderdale, Fla.

Proctor Medal



Peter Sterling, PhD
University of Pennsylvania School of Medicine

Presented to Sterling for his distinguished career in vision research, touching on a broad range of fundamental topics and providing great insight into the relation between structure and function in visual information processing.

Friedenwald Award



Josh Wallman, PhD, FARVO
City University of New York City College

Presented to Wallman for championing the chick as an animal model for myopia. His research contributed to the acceptance that myopia is not purely genetic, with the demonstration that eye growth is locally regulated and sensitive to the visual environment. Two other key findings include choroidal “accommodation,” an alternative way of adjusting ocular defocus and diurnal rhythms in eye growth, perturbation of which have been linked to abnormal eye growth.

Weisenfeld Award



John V. Forrester, FARVO
University of Aberdeen

Presented to Forrester for his academic publications relating to clinical ophthalmology, basic eye research, immunology and cell biology. He created from nothing one of the U.K.’s finest academic ophthalmology departments

and has trained over 36 PhDs/MDs and mentored many colleagues.

Cogan Award



Jeffrey L. Goldberg, MD, PhD
University of Miami Bascom Palmer Eye Institute

Presented to Goldberg for laboratory research directed at neuroprotection and regeneration of retinal ganglion cells, and for contributing significant discoveries about the failure of optic nerve regeneration.

Distinguished Service Awards

The Distinguished Service Award is presented to elected ARVO officers and editors-in-chief upon completion of their terms, in appreciation for dedicated service to ARVO.



J. Mark Petrash, PhD, FARVO
University of Colorado — Denver



David G. Hunter, MD, PhD
Children’s Hospital Boston



Shigeru Kinoshita, MD, PhD, FARVO
University of Kyoto Prefectural Medicine, Japan ■

UCL vision researcher gains £1 million award



Matteo Carandini, PhD

Matteo Carandini, PhD, is one of two vision researchers among the first group of recipients of the new Wellcome Trust Investigator Awards. The 27 awards this year totaled £56 million and will support investigators in biomedical research and medical humanities.

Carandini is a professor at University College London seeking to understand neural responses in the visual system. He received his PhD in neural science from New York University and continued as a postdoctoral fellow at Northwestern University. He has held prior positions in Zurich and San Francisco. He also serves on the editorial board of ARVO's *Journal of Vision (JOV)*.

Christiana Ruhrberg, PhD, MSc, is the other Investigator Award vision research recipient, also from University College London.

Here Carandini shares future plans made possible by the award.

Q. What was your reaction when you learned you won?

Carandini: I was of course extremely pleased. These are indeed new awards that fund investigators rather than individual projects, and they give us substantial latitude to pursue our research. An additional nice feature is that they allow joint awards. That's the award I went for, together with Kenneth Harris, PhD, at Imperial College London.

Q: Briefly describe your research and how this award will enhance your work.

Carandini: The main interest of my group is to understand the function of the early visual system, which includes the eye, the visual thalamus and the early visual areas of the cerebral cortex. My laboratory and those of various colleagues have been quite successful in this respect, but the degree of success decreases as we go from the eye through the visual thalamus to the visual cortex.

"The main interest of my group is to understand the function of the early visual system, which includes the eye, the visual thalamus and the early visual areas of the cerebral cortex."

For the eye and the visual thalamus, we have nice quantitative models for what is going on, which predict up to 80% of the responses, including responses to complicated stimuli such as natural movies. This means that we could (in principle!) replace the eye and visual thalamus with a machine that does similar operations.

As we get to primary visual cortex and beyond, however, we encounter a major problem: the responses seem to be due as much to visual stimuli as to other signals that are generated endogenously in the brain. From the point of view of image processing, these signals constitute unwanted "noise." However, in the brain they most likely carry important information, e.g., information about the interpretation of a visual scene.

The collaboration with Kenneth Harris centers on understanding these internal signals and how they interact with visual signals to determine responses.

Q. What inspired your interest in the early visual system?

Carandini: The early visual system (retina, visual thalamus and primary visual cortex) is a fascinating portion

of the brain for someone like me who has a mathematical background, because the computations that it performs on its inputs (images) are close to being fully understood. One can then devise simple arithmetical descriptions of these computations and use them to guide research in the underlying circuits or to help relate neural activity to sensory perception.

Q. Have you made any specific changes or embarked on any new directions in your work because of the Investigator Award?

Carandini: The award from the Wellcome Trust allows us to pursue this research and to create a truly merged laboratory. We are finding that we can run a tightly integrated operation even if we are in two different universities, and this is very much thanks to the Wellcome Award. ■

National Advisory Eye Council

The group's 13 appointed members are leaders in the fields of ophthalmology, optometry and basic sciences, as well as public policy, law, health policy, economics and management. The names in bold are ARVO members. The year their terms is in parentheses.

Joseph Bonanno, OD, PhD, FARVO (2012)
Indiana University

James Chodosh, MD, FARVO (2012)
Harvard Medical School

David R. Copenhagen, PhD (2013)
University of California

Scott W. Cousins, MD, FARVO (2011)
Duke University Eye Center

Ronald J. Gardner, JD (2011)
National Federation for the Blind

Charles D. Gilbert, MD, PhD (2011)
Department of Neurobiology
Rockefeller University

Bernard F. Godley, MD, PhD (2013)
University of Texas Medical Branch

John C. Morrison, MD, FARVO (2014)
Oregon Health & Science University

Alberta Orr (2012)
New York City Coalition on Vision and Aging

K. Krishna Sharma, PhD (2014)
University of Missouri

Sheila K. West, PhD, FARVO (2014)
Wilmer Eye Institute,
Johns Hopkins University

Ex Officio

Marco A. Zarbin, MD, PhD, FARVO
UMDNJ-New Jersey Medical School

Donald A. Gagliano, MD (Colonel)
Vision Center of Excellence ■

ARVO 2011: In review

ARVO set another record with 11,800 attendees at the 2011 ARVO Annual Meeting, Visionary Genomics, May 1 – 5 in Fort Lauderdale, Fla.

Attendees representing all ARVO scientific sections responded to ARVO's post-Meeting survey and provided feedback about the scientific program, publications and services. They consistently rank their experience positively — 94% of respondents indicated that the Annual Meeting met or exceeded their expectations.

The Annual Meeting Program Committee (AMPC) and ARVO staff carefully read all comments and will continue to pursue improvements in all aspects of the Meeting.

Attendees are talking about ... photography

Photography was a major issue at ARVO 2011, as more attendees are using smart phones to photograph and record slides and posters. ARVO policy prohibits photography.

The AMPC and the ARVO Board of Trustees take this very seriously, and will more strictly enforce the no-photography policy starting in 2012. It is critical to protect each author's unpublished work. Unauthorized photography and recording constitutes copyright infringement; anyone caught taking photos in any scientific session, including the poster hall, risks expulsion from the Meeting. ■



ARVO 2010-2011 Board of Trustees. Back row, from left: William Mieler, MD; Robert Miller, MD; Peng Khaw, MD, PhD, FARVO; Paul Mitchell, MD, PhD, FARVO; Jacob Pe'er, MD, FARVO; Justine Smith, MBBS, PhD, FARVO; Carol Toris, PhD, FARVO; ARVO Executive Director Joanne Angle; John Penn, PhD, FARVO and David Williams, PhD, FARVO. Front row, from left: Vice President Shigeru Kinoshita, MD, PhD, FARVO; President-elect Jeffrey Boatright, PhD, FARVO; President J. Mark Petrash, PhD, FARVO; Executive Vice President, Sally Atherton, PhD, FARVO; Past President Nicholas Delamere, PhD, FARVO and Vice President David G. Hunter, MD, PhD.

A first-time international attendee learns the ropes

By Anke Tomaszewski, PhD, University Hospital Essen, Essen, Germany



Anke Tomaszewski, PhD

This year I attended the ARVO meeting for the first time ever. I had been told by my supervisor that this would be the biggest ophthalmologic meeting I had ever seen and I was really excited about it.

Mostly I had attended conferences ... in Germany and some regional meetings with the focus on clinical procedures — but I had never been to an international meeting this size. I looked forward to getting the opportunity to learn more about topical scientific developments in ophthalmology and to being able to discuss my own results with scientists from all over the world.

When I arrived at the ARVO site, having used the convenient and well organized ARVO shuttle service, I was simply overwhelmed by the sheer size of the convention center. The greatest challenge upon arrival was figuring out what was presented and where. I was grateful for the support offered at the help desk, especially for first-time attendees like myself.

The ARVO newsletters sent daily to offer information about the most important sessions or events of the day were a great help as well.

So during the meeting I took part in various sessions with informative oral presentations and met many interesting people from all over the world during the poster presentations.

I was happy to be given the opportunity to present my own scientific work. Since my own poster session was on the penultimate day of the meeting I had a good idea of what to expect and felt quite confident about my presentation — and it went quite well. As I had hoped, I was able to discuss my work with various scientists and got useful advice and interesting ideas for the future.

I am already looking forward to the ARVO meeting in 2012 and hope that all first-timers will have as great a time there as I did. ■

ARVO/Alcon Keynote Session



The keynote opened the Meeting on Sunday, May 1 with an exciting video montage of ARVO members around the world and a compelling talk about “Genomic medicine and the future of eye research” by Roderick R. McInnes, MD, PhD. The session was sponsored by the ARVO Foundation for Eye Research through a donation from Alcon. McInnes’ presentation is available online at www.arvo.org/videos.

VSS/ARVO host symposium

The Vision Sciences Society Meeting, May 6 – 11, 2011 in Naples, Fla., included a joint VSS/ARVO Symposium on May 6, “What the retina tells us about central visual processing.” This symposium was designed in conjunction with David Williams, PhD, FARVO (University of Rochester), and Maarten Kamermans, PhD (Netherlands Institute of Neuroscience), as part of the continuing series of exchange symposia that highlight the shared areas of interest of VSS and ARVO. ■

One giant networking opportunity

A note from the chair of the Members-in-Training Committee



Joseph Carroll, PhD

Dear Students/Members-in-Training:

I am writing this sitting at the Pizza with the Experts event at the 2011 ARVO Annual Meeting. As the chair of the Members-in-Training committee, it gives me

great pride to see how generous the experts have been with their time — when there never seems to be enough time at the ARVO Annual Meeting.

ARVO, while an outstanding scientific forum, is also one giant networking opportunity. I remember at my first ARVO Annual Meeting, Pizza with the Experts was called “Pizza with a Prof,” but the goal was the same: to provide ARVO students, residents, postdocs and fellows an opportunity to meet those who have “made it” and to get valuable advice from those who have struggled and triumphed.

I was hooked. I came back year after year until eventually I got the opportunity to get involved in the event as one of the “experts.” I cannot overstate how central this one event has been to the development of my own scientific career, and I suspect for many others as well.

My advice to all those ARVO members-in-training out there: take full advantage of events like this. Whether you attend the YO! ARVO social held at the American Academy of Ophthalmology meeting, the students/trainees reception at the American Academy of Optometry (both in October this year), the ARVO social, the travel grant reception or various workshops, you will find your peer network steadily growing.

Volunteering to help organize one or more of these events is an efficient way to network and an incredibly rewarding way to give back to ARVO. ■

— Joseph Carroll, PhD
Chair, Members-in-Training Committee
Associate Professor, Department of Ophthalmology,
Medical College of Wisconsin

ARVO/Champalimaud Lecture



The Champalimaud Foundation’s €1 million 2010 Vision Award recognized the work of Anthony Movshon, PhD, FARVO, of New York University (left), and William Newsome, PhD, of Stanford University School of Medicine over the last 30 years. The ARVO/Champalimaud Lecture is available free online at www.arvo.org/videos.



A look back at ARVO 2011

2011 ARVO Awards Lectures

View the Friedenwald, Weisenfeld or Cogan lectures free online at www.arvo.org/videos.



Cogan Award
Andrew J. Fischer, PhD
Retina-guided Ocular Growth,
Müller Glia, Stem Cells and Little
Serendipity



Mildred Weisenfeld Award
Paulus TVM deJong, MD, PhD,
FEBOpht, FARVO
Reflections On "Hot" Blind Spots.
Lessons from Research in Aging
Macula Disorder and Glaucoma



Friedenwald Award
James T. Rosenbaum, MD, FARVO
Why HLA-B27? A Three-decade
Quest

ARVO-savvy: How well do you know ARVO?

We invited Members-in-Training to take the first-ever "Get to know ARVO" quiz in ARVO Central during the 2011



Ning Li

Annual Meeting. Ning Li from China (pictured) and TH Van Essen, MD,

from the Netherlands were the 2011 winners (their entries were the first two complete and correct quizzes randomly drawn by staff). Each receives free Annual Meeting registration and five nights' hotel stay in Fort Lauderdale for the 2012 Annual Meeting. Congratulations and enjoy your time at ARVO 2012! ■



Above: Fellows Coffee honoring FARVO members
Right: Shopping at the ARVO gift shop



ARVO Travel Grant Reception



Partying at ARVO Rocks!



ARVO President Jeffrey Boatright, PhD, FARVO, leads a discussion at Pizza with the Experts.

Looking for an abstract?

All ARVO Annual Meeting abstracts from 2002 – 2011 are available online at www.iovs.org.

The 2011 Annual Meeting abstracts are also still available through the online Abstract Search. Search for and print individual abstracts, or create your own abstract book by downloading and/or printing abstracts by session (PDF) through the Print Abstracts link. ■



Having a blast at the photo spot in ARVO Central, Hall B/C.

CME credit is free

Continuing Medical Education (CME) Certificates, as well as Certificates of Attendance, are now available at www.arvo.org/cme. There is no charge for this service. Certificates can be updated/printed at any time.

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

designates the 2011 ARVO Annual Meeting for a maximum of 27 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity. The AMA has determined that physicians not licensed in the U.S. who participate in this CME activity are eligible for AMA PRA Category 1 Credits™. ■

TFOS Travel Grants



The Tear Film & Ocular Surface Society (TFOS) awarded six travel grants to ARVO 2011. Pictured from left to right: Mindy Call, PhD; Osama Ibrahim, MD; Wendy Kam and Lili Zhang with TFOS governing board member Pablo Argueso. Not pictured: Javier Belmonte, MD, and Shubha Tiwari.

Recognizing American Academy of Optometry grantees

ARVO joins the American Academy of Optometry in congratulating its 2011 ARVO Student Fellowship (STF) grantees as well as its 2011 Ezell Fellowship recipients. The ARVO student travel fellowships were sponsored by the Vision Care Institute. The event where student travel fellowships were given out was sponsored by the American Academy of Optometry and the American Optometric Association.



Ezell Fellows at ARVO 2011 are back row, from left: Mark Bullimore (American Academy of Optometry Foundation development director), Nimesh Patel, Patrick Scott, Nicole Carnt, Ava Bittner and Karla Zadnik (AAOptom president). Front row, from left: Juan Huang, Padmapriya Ramamoorthy, Maria Markoulli, Vidhyapriya Sreenivasan and Nicole Putnam.



ARVO Student Fellowship grantees are, back row, from left: Amit Jinabhai B.Sc. (Hons), MCOptom; Cristina Schnider (senior director, Medical Affairs, Vistakon); Jean-Marie Hanssens, MSc, OD; Bradley Dougherty, BS, MS, OD; Naveen K Yadav, MSc; Ronan Rogers, MSc and Joseph Manarang, MD. Front row, from left: Sheila Hickson-Curran, OD, MS, FAO (director, Medical Affairs, Vistakon); Holly Lorentz, MSc; Judith Renaud, OD, MSc; Giovanna Olivares and Xiaofeng Tao, MD.

Bazan assumes chair of AFER

Nicolas G. Bazan, MD, PhD, FARVO, of Louisiana State University (LSU) Health Sciences Center in New Orleans is the new chair of AFER. He has been a member of ARVO since 1984 and has served on the AFER Board of Governors since 2008.

Earlier in 2011, he organized AFER's first Investors Seminar, "Emerging Frontiers in Ophthalmic Science" and the AFER and Dowling

Society Gala awards ceremony and dinner, which honored key researchers in the field.

Bazan, highly regarded worldwide for his significant contributions to brain and eye research, is the founding director of the Neuroscience Center of Excellence at the Louisiana State University Health Sciences Center, New Orleans. He holds the Ernest C. and Yvette C. Villere Endowed Chair of Retinal Degenerations and is a professor of ophthalmology, biochemistry, molecular biology and neurology.

In addition to the LSU Neuroscience Center of Excellence, Bazan founded several academic centers and programs, including the Institute of Biochemical Research (INIBIBB) of the School of Biological Sciences and the

Graduate Program in Biochemistry in 1970 at the University of the South in Argentina.

He has been awarded numerous national and international honors, which include the Jacob Javits Award in the Neurosciences from NINDS (NIH); membership in the Royal Academy of Sciences (Spain); Fellow of the Royal College of Physicians (Ireland); the Endre A. Balazs Prize from the International Society for Eye Research; and the 2011 Chevrel Medal from the European Federation for the Science and Technology of Lipids.

In 2007, Bazan was awarded the Proctor Medal; the highest honor bestowed by ARVO. He was named a Silver Fellow of ARVO (FARVO) in 2009 and a Gold Fellow in 2011. ■

AFER Board of Governors 2011 – 2012

Nicolas G. Bazan, MD, PhD, FARVO
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Secretary/Treasurer

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Immediate Past Chairman

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Joanne G. Angle
ARVO/AFER Executive Director

Staff

Maureen Dimont
AFER Director of Development

Lena Galperina
Foundation Assistant

From the Chairman

Dear Colleagues,



Nicolas G. Bazan, MD, PhD, FARVO

It is an honor to serve as chair of AFER and to follow in the footsteps of Gary Abrams, MD, FARVO, and AFER's founder, John Dowling, PhD, FARVO. I am looking forward to working with all of you to further the Foundation's educational, research and financial support of researchers in the U.S., as well as around the world, as they strive to make breakthroughs in eye and vision research that are changing people's lives.

AFER has several new and exciting initiatives. The first Investors Seminar held earlier this year was a huge success. Plans are currently underway for the 2012 Investors Seminar, which will take place on Friday, May 4 in Fort Lauderdale, Fla., just before the ARVO Annual Meeting.

In addition, AFER recently announced its first-ever research grants, which will be awarded in December — the AFER/Genentech Age-related Macular Degeneration Fellowships and the AFER/Vistakon Dry Eye Fellowships (see page 4).

Your support is critical to the continued excellence of existing initiatives and the success of new programs and projects, as well as the fostering of creativity and innovation to come. I encourage you to contribute to the Foundation when you renew your ARVO dues or directly at www.arvofoundation.org. Together we can make an even greater impact on vision research in the coming year.

Sincerely,

Nicolas G. Bazan, MD, PhD, FARVO ■



www.arvofoundation.org

Oberdorfer Award will recognize low vision research



Michael Oberdorfer, PhD

AFER has instituted a new award in recognition of Michael Oberdorfer's contribution to low vision research. The Oberdorfer Award in Low Vision will be

presented annually to an individual who will be invited to speak on a low vision-related topic at the ARVO Annual Meeting.

The Oberdorfer Fund was created through a generous grant from the Jewish Guild for the Blind. The first award will be presented at the 2012 Annual Meeting. The award recipient will be named by The ARVO Low Vision Cross-sectional Group, which will evaluate potential nominees and select the recipient based on their role in furthering low vision research.

Nominations for the 2012 award will be forwarded to the selection committee by Jan. 10 and the awardee will be selected by Feb. 1.

Oberdorfer award recipients will receive an inscribed plaque and a cash award. ■

Foundation contacts:

Maureen Dimont
Director of Development
 mdimont@arvofoundation.org

Lena Galperina, Foundation Assistant
 lgalperina@arvofoundation.org

ARVO Foundation for Eye Research
 1801 Rockville Pike, Suite 400
 Rockville, MD 20852-5622
 240.221.2950

AFER Dowling Society honors new members



Pictured from left to right: Dowling, Atherton, Tombran-Tink and Jager.

A special thanks and congratulations to the new Dowling Society members:

- Robert E. Anderson, MD, PhD, FARVO
- Sally S. Atherton, PhD, FARVO and Robert Atherton
- Martine J. Jager, MD, PhD, FARVO
- Ann H. Milam, PhD, FARVO
- Joyce Tombran-Tink, PhD, FARVO

The Dowling Society was established in 2008 to honor innovative vision researcher and first chairman of the AFER Board of Governors, John E. Dowling, PhD, FARVO.

It exists to encourage enduring contributions to advance the mission of AFER by recognizing individuals for their significant support for eye and vision research.

Members of the Dowling Society have made a pledge or donation to the Foundation of \$10,000 or more.

Their generous donations to the AFER Dowling Society greatly support eye researchers through scientific programs, travel grants, awards and more.

AFER will recognize new members of the Dowling Society at the 2012 AFER and Dowling Society Gala on Saturday, May 5.

For more information, please contact Maureen Dimont, director of development at mdimont@arvofoundation.org or +1.240.221.2950. ■

A job well done



Gary W. Abrams, MD, FARVO

Thank you to Gary W. Abrams, MD, FARVO, for serving as Chair of the AFER Board of Governors for the past four years.

Abrams was elected to the Board of Governors in 2006 and will continue to serve as Immediate Past Chair. His leadership and guidance are an inspiration to all who work with him. ■

**AFER events at
ARVO 2012:
Save the dates!**

**2012 Investors
Seminar**

Hilton Fort Lauderdale Marina
May 4, 2012



**AFER/Dowling
Society Gala**

Marriott Harbor Beach
May 5, 2012



**Women in Eye and
Vision Research
(WEAVR) Silent Auction**

Convention Center,
Exhibit Hall B/C
May 7, 2012



**4th Annual WEAVR
Luncheon**

Convention Center Palm B
May 8, 2012



**“The greatest meeting” — Five minutes
with five DCERF recipients**

Congratulations to the recipients of the 2011 Developing Country Eye Research Travel Fellowships. This program, formerly known as Host-A-Researcher, allows investigators from economically emerging countries to attend the ARVO Annual Meeting.

The opportunity provides them with the chance to network with fellow researchers, colleagues and mentors while gaining valuable information for developing an effective vision research program in their home countries.

The fellowships cover transportation, lodging and per diem, in addition to registration fees to the ARVO Annual Meeting and a one-year ARVO membership.

Five of the 2011 DCERF recipients sum up what the ARVO Meeting meant to them.



Anna Énzsöly, PhD
Semmelweis University
Budapest, Hungary

“ARVO 2011 was the greatest meeting I have ever been to. I enjoyed speaking face-to-face with excellent authors about the topics I am interested in.”



Claudio Zúñiga Cossio, MD, MSc, PhD
Fundacion 2020 – Universidad de Chile
Santiago, Chile

“A valuable area of research for me was learning about imaging tools to follow up on retinal changes and the connection with improvements in transplantation of retinal sheets. Those areas together bring an option to treatment for AMD and retinitis pigmentosa patients.”



Carolina Alarcon, MD
Universidad del Valle
Cali, Colombia

“It was the most wonderful experience to attend ARVO for the first time. It awakened many great ideas for starting a research program in my hospital.”



Ekaterina Chikun
I. M. Sechenov First Moscow Medical University
Moscow, Russia

“It was great that I was able to meet many people who are working in the same field and to discuss research with them and get new ideas for the future. I am full of enthusiasm for my future work!”



Farah Oechtati
Institut Pasteur de Tunis
Tunis, Tunisia

“I was proud to be selected to receive an AFER DCERF award and represent eye research in Tunisia. This experience allowed me to get to know ARVO, this big organization that is a resource for us.” ■



www.arvofoundation.org

Genentech and Vistakon fellowships support vision research projects

In the past, AFER's awards programs have recognized researchers' accomplishments rather than their research. Now, for the first time, AFER is offering two research fellowships supported by Genentech and Vistakon in the area of AMD and dry eye research.

The AFER/Genentech Age-related Macular Degeneration and AFER/Vistakon Dry Eye Fellowships are accepting applications from investigators who are under the age of 45 at the application deadline.

Of the four \$40,000 research fellowships available, two will be related to AMD and two will be related to dry eye research. The fellowships are for a period of one year and must commence within six months of the award notification.

The deadline for submitting applications is Sept. 15, 2011. Award recipients will be notified by Dec. 1, 2011. ■



We couldn't do it without you

Thank you to all who contributed to AFER in 2011. It is because of your generosity that the Foundation is able to continue funding new programs and build a stable source for eye and vision research.

Through ongoing donations from ARVO members and individuals like you, as well as support from our corporate partners, we are fulfilling the mission of AFER.

Contributions from donors enable AFER to continuously support initiatives related to vision science research such as:

- Scientific programs and events
- Awards and grants
- Research fellowships

For a list of AFER donors please visit www.arvofoundation.org. ■

New travel grant honors Elizabeth Anderson

The ARVO Foundation for Eye Research has established a travel grant in memory of Elizabeth Jean Ozan Anderson, who was an intricate member of the vision research community, especially in her effort to meet young scientists and introduce them to leaders in their field. This travel grant perpetuates her efforts to provide young researchers with great opportunities.

Through the enthusiastic help of Anderson's friends and family — including her husband Robert Eugene Anderson, MD, PhD, FARVO — AFER will award two travel grants to attend the ARVO Annual Meeting beginning in 2012. In order to qualify, recipients must have an abstract reviewed and accepted for presentation by the Biochemistry/Molecular Biology or Retinal Cell Biology Section of ARVO in the area of retinal degeneration.

Anderson earned her Bachelor of Science degree in Nursing

from Texas Woman's University in 1963 and graduated from the Harris County Hospital District School of Nurse Anesthesia in 1973. She practiced anesthesia in



Elizabeth Anderson

the Houston area for 20 years. Fueled by her love for learning, she received an MLA from Houston Baptist University in 1990, and recently earned a Bachelor of Art History degree from the University of Central Oklahoma. She also founded a home health care agency, InstaMedic (later renamed

ContinuCare) in Texas, in response to the need for home health care for aging baby boomers. Anderson and her husband retired to Oklahoma in 1995.

As donations poured in from friends, colleagues and family, some were accompanied by stories of how Elizabeth Anderson touched their life; it was easy to see she made a positive impact on the lives of others everywhere she went. ■

Donate a WEAVR Auction item

If you are interested in donating a silent auction item, please contact Maureen Dimont at mdimont@arvofoundation.org. ■



Support AFER during Combined Federal Campaign

If you are a federal employee or know a federal employee in the DC area, please designate #38547, ARVO Foundation for Eye Research, during this year's campaign, Sept. 1 – Dec. 15. Your gift helps ensure the future of vision research. ■

Membership

Rejoin now — and beat the 2012 abstract crunch

Remember, you must be a member to submit an abstract to the ARVO Annual Meeting. Every year we have members who wait to renew their membership until the abstract deadline — and find they are unable to complete their renewals and submit their abstracts on time.

Don't miss presenting at the 2012 Annual Meeting! Renew now at www.arvo.org/renew using Visa, MasterCard or American Express. ■

Update your contact information today

Have you moved, switched jobs or gotten a new email address? Please log into your member record and make sure your information is accurate, or update it if it has changed.

Up-to-date information ensures that your colleagues know how to contact you and that you receive all ARVO correspondence. We no longer mail dues notices, so add arvo@arvo.org to your safe senders list to avoid missing any important announcements. Email arvo@arvo.org. ■

In remembrance

Ahuva Dovart, PhD (LE)
August 3, 2010

Carl R. Ingling, PhD (VI)
September 11, 2010

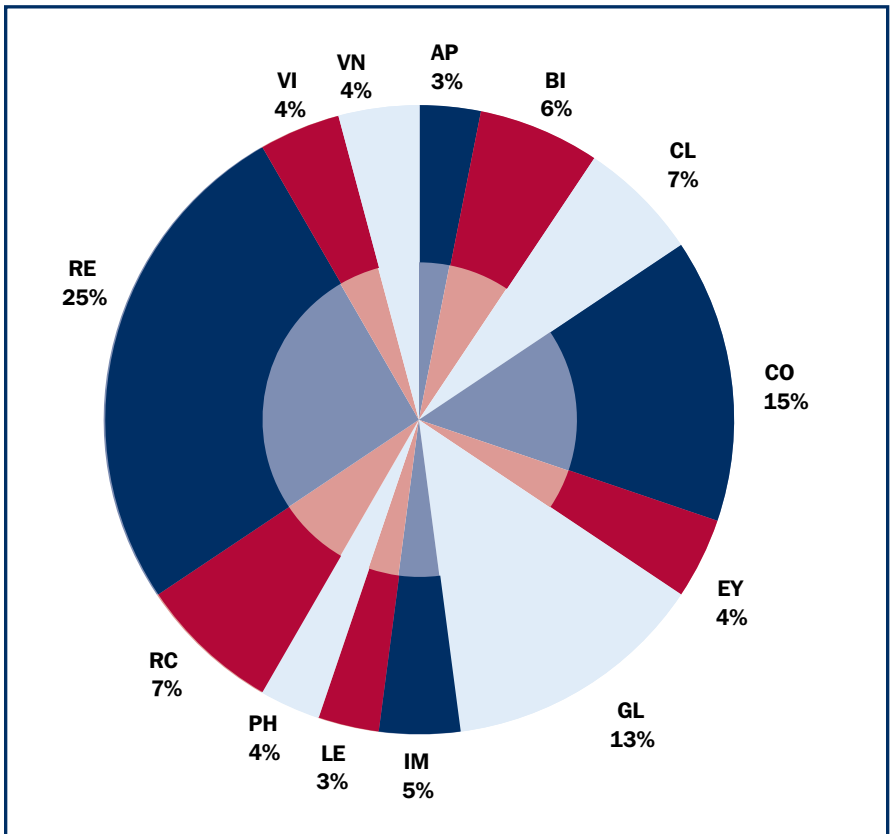
John Lott Brown (VI)
January 16, 2011

David A. Newsome, MD, FARVO (RE)
February 24, 2011

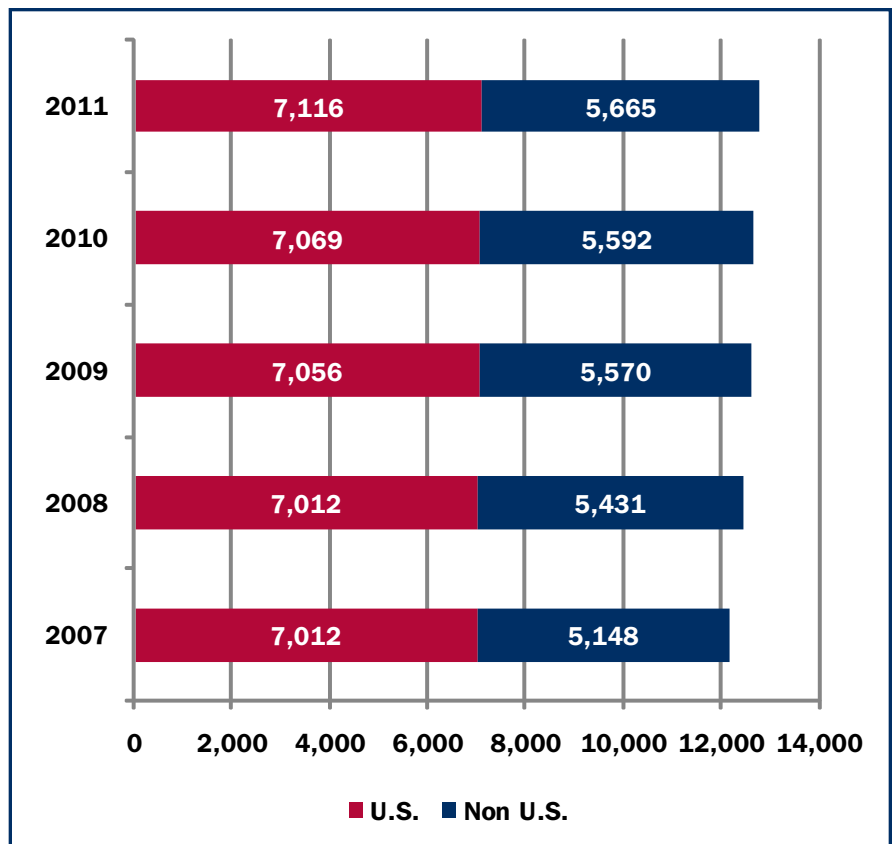
Carl Kupfer V, MD (CL)
April 7, 2011

Submit notifications to arvo@arvo.org. ■

Membership by section



Membership trends



Upcoming events



Clinical trials webinar series


ARVO introduces its Clinical Trials Education Series (CTES) Webinars with

a one-hour program on “Elements of the Clinical Trial Protocol,” presented by Robert Nussenblatt, PhD, FARVO, on Sept. 21, 2011, 1pm EDT.

Clinical trials courses

ARVO will present a two-day course, “Principles and Concepts in Clinical Trials for Eye Researchers,” Oct. 8, 2011 in Mexico City in cooperation with MARVO, ARVO’s chapter affiliate in Mexico. Another two-day course will be presented Dec. 2 – 3 in Shanghai, China in cooperation with the Shanghai Jiao Tong University.

ARVO will also offer a specialized course, “How to Set Up and Manage a Clinical Trials Site,” Oct. 21, 2011 in Orlando, Fla.

 See www.arvo.org/ctes for information on and to register for any of the Clinical Trials courses or webinars.

Upcoming conferences

ARVO conferences are small-scale, highly interactive meetings that focus on specific, significant topics in ophthalmic research. Attendees say this intensive approach facilitates deeper learning about each topic, so they return to their labs, patients and colleagues with practical, relevant insights that they can apply to their work.

Optic Nerve Degeneration, Protection and Autoimmunity

December 6 – 9, 2011.
Oberurgl, Austria



Drug and Gene Delivery to the Back of the Eye: From Bench to Bedside

June 15 – 16, 2012,
Aurora, Colo.



 See www.arvo.org/conferences.



ARVO/Pfizer Ophthalmics Research Institute

“Aqueous Humor Dynamics”
May 4 – 5, 2012
Fort Lauderdale, Fla.

The ARVO/Pfizer Ophthalmics Research Institute is a series of multi-disciplinary research conferences held just prior to but separate from the ARVO Annual Meeting. These conferences are funded by the ARVO Foundation for Eye Research (AFER) through a grant from Pfizer Ophthalmics. By invitation, but additional seats may be available.

 See www.arvo.org/pfizerinstitute.




ARVO/ISIE Imaging Conference

Saturday, May 5, 2012
Fort Lauderdale, Fla.

The 10th ARVO/ISIE Imaging Conference will offer presentations on original research, current advances and state-of-the-art technology in ophthalmic imaging. Participants will learn scientific principles behind ophthalmic imaging, discuss clinical applications of imaging technologies and explore new research and recent advances in imaging that will help further your practice and better care for your patients. The conference also offers networking opportunities and exclusive access to exhibitors in the imaging field.

Registration is separate from the ARVO Annual Meeting and includes continental breakfast, two refreshment breaks, lunch and a coursebook.

 See www.arvo.org/isie. Mark your calendar today and plan to submit your abstract for presentation and attend this exciting imaging event. ■

Do you have an idea for a conference or webinar? Contact Ellyn Terry at eterry@arvo.org.

ARVO co-sponsored meetings and symposia

European Retina Meeting 2011

September 22 – 24
Amsterdam, The Netherlands

 See www.retina-meeting.eu.

European Association for Vision and Eye Research (EVER)

October 5 – 8, 2011
Crete, Greece
October 6, 8:15 – 9:45am
ARVO Session: Antigen presenting cells the eye in health and disease, organized by Sally Atherton, PhD, FARVO.

 See www.ever.be.


American Academy of Optometry

October 12 – 15, 2011
Boston, Mass.
October 13, 1:30 – 3:30pm
ARVO Session: Presbyopia – Accommodation, Surgical Restoration, and Visual Performance of Multifocal Corrections.

 See www.aaopt.org.

American Academy of Ophthalmology

October 22 – 25, 2011
Orlando, Fla.
October 23, 2 – 3:30pm
ARVO Session: Unraveling Mysteries in Neuro-Ophthalmology: Lessons From Basic Science, organized by David G. Hunter, MD, PhD, and Leonard A. Levin, MD, PhD.

 For session details, use the Online Program and search for 2011 Symposium #SYM08 at www.aao.org.

SIRCOVA Annual Congress

November 4 – 5, 2011
Valencia, Spain
 www.sircova.es/uploads/actividad/fichero/Programa%20Sircova2011_22.pdf

2012 World Ophthalmology Congress (WOC)

February 16 – 20, 2012
Abu Dhabi, U.A.E.
ARVO sessions on Feb. 19: Bioinformatics of the Eye, 1:30 – 3pm, and Inflammatory and Angiogenic Eye Disease, 3:30 – 5pm.

 See www.woc2012.org. ■

Making friends — and influencing decision makers



Linda McLoon, PhD, FARVO, is with the Department of Ophthalmology and Neuroscience at the University of Minnesota. She is also an ARVO Trustee for the EY section and Public

Linda McLoon, PhD, FARVO

Policy Subcommittee Chair of ARVO's Advocacy Committee. She regularly invites Congressional representatives from the U.S. House and Senate to visit her lab and learn more about her work — and about how federal research dollars are spent. She talks to ARVONews about what it's like to host these visits and why they are important.

How did you get started hosting these visits? Do you have special training?

I don't have any background in this sort of thing. Each year at the ARVO Annual Meeting I visit the Contact Congress booth, run by the National Alliance for Eye and Vision Research (NAEVR), and I write a letter to my representatives in the U.S. House and Senate. I start off by introducing myself and then invite them to visit my lab.

You think, "They aren't going to pay any attention to me." But I've had quite a few representatives' offices take me up on the invitations over the years.

The very first time I invited someone, former Senator Rod Grams of Minnesota, he accepted and came himself. I thought it was a great start! And it was fun to call up the deans and provosts at the university and say: Senator Grams is coming! Everybody gets excited about these visits, because educating decision makers about what we do can make a difference.

Is it typical to have a senator visit?

No; while we do sometimes get the elected officials



From left: an intern and Bethany Snyder from the office of Sen. Al Franken (D-MN) get a science lesson from Mollie Semmer in the McLoon lab.

themselves, most often we will get health aides from senators' offices and the aides of House representatives. I invite someone almost every year, usually through the Contact Congress booth. Some years I don't hear anything back, while other years I've had two invitations accepted.

Why do you host these visits? Why do you feel other ARVO members should as well?

Federally funded research dollars pay our salaries as well as the salaries of graduate students and technicians. We have a responsibility to tell people what we do with taxpayers' money. That includes legislators.

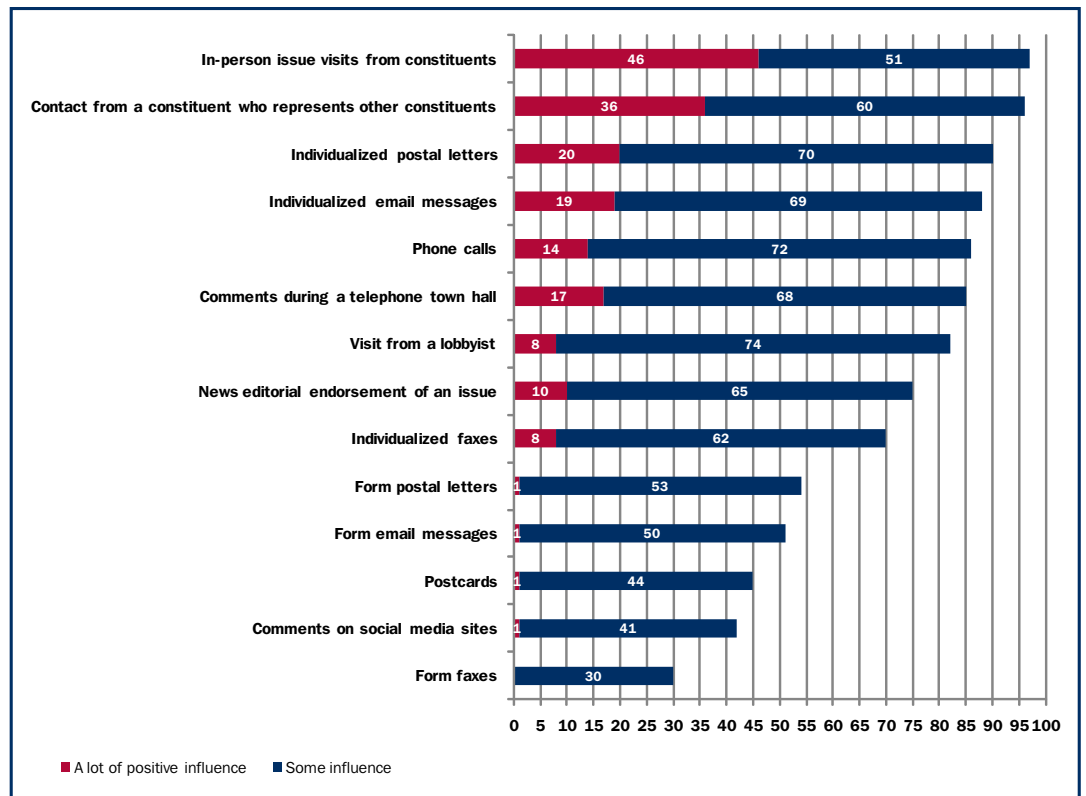
Most people have never been in a lab. They don't really know what we do. It gives decision makers an opportunity to understand the research process itself.

How do you plan a visit? What do you do with them when they get there?

Prepare ahead by getting information from your institution, ARVO advocacy, NAEVR and NIH websites about NIH funding to share with your visitors.

During a visit to my lab, I simply talk about my area of research and provide information about its impact on vision research. I also talk about local jobs,

If your representative or senator has not already arrived at a firm decision on an issue, how much influence might the following advocacy strategies directed to the Washington office have on his or her decision? Source: "Contrary to Popular Belief, Constituents Trump Lobbyists," by Tim Hysom: published by Congressional Management Foundation.



and the difference that NIH/NEI money makes to the University of Minnesota.

My advice is to have them show up on a normal day; don't overdo it. Be who you are. The more natural and straightforward you are, the better. It's particularly good for them to see young people in training.

Something else you should always do: Take photographs of the visit. I send them to the senators' offices, to their aides and to the university.

How can visitors relate to your work?

I am working on a pharmacological treatment for strabismus. I met with a senator's health aid, and it turns out he had strabismus. So he understood what was important about this research. While that example may seem like a stretch, in fact, most people do know someone who has a vision disorder, such as macular degeneration or glaucoma. It's likely that your visitor has personal experience with any disease you are talking about.

Many scientists are reluctant to host this type of visit.

I think if more of my fellow ARVO members tried, they would find that it is really fun to teach people about what we do and why.

Here's what I tell colleagues when I try to

convince them to host visits from legislators: People who aren't scientists have absolutely no idea what we do. Once they are in my lab, they are fascinated, and they ask all kinds of questions. People need to see that there is a direct connection between eye diseases that still don't have a treatment and the research that we do. Everybody gets that.

Learn more at www.arvo.org/advocacy. ARVO also supports NAEVR, "the friends of the NEI," which assists with Capitol Hill visits on research funding. Visit www.eyeresearch.org. ■



Rep. James Lankford (R-Okla.) toured the Dean McGee Eye Institute (DMEI) in May 2011 in response to DMEI scientists' and clinician scientists' visit to his Washington, D.C. office earlier in the year. From left, Cynthia A. Bradford, MD; Michelle C. Callegan, PhD; John D. Ash, PhD; Rep. Lankford; Gregory L. Skuta, MD, the Edward L. Gaylord professor and chair, Department of Ophthalmology, University of Oklahoma and president and CEO of the DMEI; and Randy Swanson of Rep. Lankford's office.

How can you influence decision makers?

- Invite decision makers (by letter or email) to your lab to learn more about your research.
- Write a letter or send an email to decision makers describing the importance of government funding to your research area and the local economy and jobs. Describe how your lab helps train young scientists, and the impact of biomedical research investment on vision health.
- Call decision makers to thank them for past support of biomedical research, and ask for their continued support.
- Visit www.arvo.org/advocacy and www.eyeresearch.org to stay informed about funding and policy decisions.
- Provide comments about biomedical research funding and changes to funding programs at local town hall meetings.
- Respond to requests for feedback from ARVO about science policy and program issues.
- Visit NAEVR Central at the ARVO Annual Meeting to learn more about what you can do.
- Educate family, friends and patients about your research, and how important government funding is for finding cures and treatments for blinding eye disease. ■

ARVO President-elect speaks at the EU



In June, ARVO President-elect Peng Khaw, MD, PhD, (center) presented the U.K. perspective on vision research funding advocacy at the EuroVisionNet Parliamentary event in Brussels, entitled "Finding New Treatments for Blinding Disorders." Presenters also included NAEVR's James Jorkasky (left) and Anthony Moore, MD (right), who coordinated the event.

Do you have a policy or program issue that warrants an ARVO statement or highlight in an ARVO publication? Contact Bobbie Ann Austin at baustin@arvo.org.

Congressional action: What's next?

When Congress returns after Labor Day, it will resume the Fiscal Year (FY) 2012 appropriations process, specifically the U.S. House of Representatives markup of a Labor, Health and Human Services, and Education (LHHS) spending bill that includes NIH and NEI funding.

The markup will be complicated due to the Budget Control Act (BCA) of 2011, which raises the debt ceiling and imposes spending controls and cuts. NIH is a significant expenditure within the discretionary funding component of the LHHS spending bill, and the medical research community is especially concerned since the Act cuts this spending in FY2012 by about 0.5% (to \$1.043 trillion) and enacts stringent caps through FY2021 that limit it from growing.

The Act's FY2012 discretionary spending ceiling is \$24 billion higher than what the House previously enacted in its Budget Resolution. According to NAEVR Legislative Counsel John Porter, "Although the House Republican leader-

ship doesn't have to adjust upwards their lower spending levels, the \$24 billion gap between the new and old discretionary spending ceiling creates room for advocates to lobby for reconsideration of any program facing serious cuts." Medical research advocates are urging the House

get resolution, it may enable Congress to move more quickly in finalizing all FY2012 appropriations, although a Continuing Resolution to fund the government will be necessary when FY2012 begins on Oct. 1, 2011.

	FY2010 Final**	FY2011 Final+	FY2012 President's Request+
NIH*	\$31B +2.3%	30.7B -1.0%	31.7B +2.4%
NEI	\$706.7M ^ +2.6%	\$700.8M -1.0%	\$719.06M +1.8%

* Net of Transfers/One-time Expenses

** Absent ARRA Funding (\$175M for NEI over two fiscal years

^ \$707.04M appropriation reduced by transfer of programs to National Library of Medicine

+ Percent change compared to FY2010

not to cut NIH funding in the LHHS bill markup, since the House's initial LHHS allocation is already \$18 billion below that of FY2011.

Porter also observed that, since the BCA serves as a "super" FY2012 bud-

The vision community responds

During the critical September – October timeframe, the vision community is hosting a series of Congressional Briefings to educate Congress about the value of NEI-funded vision research:

- Sept. 13: Diabetic Retinopathy and Low Vision
 - Sept. 21: Lifestyle and Age-Related Macular Degeneration
 - Oct. 13: Cost-Effectiveness of Blindness Prevention
- ARVO will work with

NAEVR to alert researchers when to contact Congress, especially about making a case for an NIH increase to balance the FY2011 1% funding cut. ■

U.S. and international researchers eligible for defense vision funding

This summer, the U.S. Department of Defense's Telemedicine and Advanced Technology Research Center (TATRC) announced that \$8.7 million in FY 2011 funding was available for its Vision Research Program. As in the past funding cycle, the grants were available to all researchers, including international investigators.

James Jorkasky, executive director of the National Alliance for Eye and Vision Research, noted that this balances the \$6.2 million, or 1% cut, in NEI's FY2011 budget. In the combined FY2009/2010 cycle, TATRC funded 12 researchers for a total of \$11 million.

TATRC is funding two programs:

- Investigator-Initiated Research Awards, with estimated total program funding of \$7 million and awards capped at \$1 million each
- Hypothesis Development Awards, with estimated total program funding of \$1.7 million and awards capped at \$250,000 each

The application deadline for the FY2011 cycle was Sept. 15.

NAEVR has been working with bipartisan members in the U.S. House of Representatives and Senate to once again include this line item in FY2012 spending bills.

Find additional opportunities at

www.arvo.org/fundingguide. ■



At the 2011 ARVO Annual Meeting, NAEVR held a Defense Related-Vision Research Opportunities session. Center: Tonia Rex, PhD of the University of Tennessee Health Sciences Center, a Vision Research Program awardee who is researching the impact of blast injuries, attended the session along with several hundred colleagues.

IOVS gains highest Eigenfactor Score

IOVS now has the highest Eigenfactor Score of all ophthalmology journals. The *Eigenfactor*TM Score is a measure of the overall value provided by all of the articles published in a given journal in a year.

In 2010, IOVS ranked No. 5 and JOV ranked No. 12 out of all 55 journals in the area of ophthalmology for Impact Factor (there were 45 ophthalmology

journals in 2009). The definition of the Impact Factor is the number of citations in a given year to papers published in the previous two years, divided by the number of those papers.

The *Article Influence*TM Score is a measure of a journal's prestige based on per article citations and is comparable to the Impact Factor. ■

	Total Cites	5-Year Impact Factor	Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor Score TM	Article Influence Score TM
IOVS	34513	3.466	3.933	0.621	879	7.2	0.08027	1.162
JOV	4389	2.805	3.223	0.465	299	3.4	0.02149	1.108

New manuscript submission system

ARVO has moved to the eJournalPress system for manuscript tracking and peer review. The new sites went live in mid-August, and all ARVO members were sent an email a few days before with links and instructions on how to access the site.

We ask that users check to make sure that their account information is accurate and up to date in the new database. The URLs to the new submission and review

system will be <http://IOVS.msubmit.net/> and <http://jov.msubmit.net/> respectively.

Please note that any papers already under consideration in our previous system, ScholarOne's Manuscript Central, will remain there until an acceptance decision is rendered. You do not need to submit a new version of a paper already under consideration. ■

Readers get help cross-referencing cited articles

IOVS and JOV journal articles now include "cited-by" links, which allow you to go directly to articles that have cited the article you are reading. This is available through CrossRef Cited Linking (formerly forward linking).

The ARVO journals have been using forward linking for articles on the

HighWire Press platform, but this additional linking feature will allow readers to view articles from other participating publishers. To read more about this feature, visit www.crossref.org/citedby/index.html. Authors can sign up at IOVS and JOV to receive notification each time their article is cited in other journals. ■

Electronic copyright forms now available

IOVS and JOV recently switched to capturing copyright transfer signatures electronically. Now, when a manuscript is submitted through the online submission system, each individual author will receive an email with a link to his or her own form. Once author types his or her

name in the field provided, it will serve as a signature. The corresponding/submitting author will no longer be responsible for collecting all signatures and faxing or mailing them to ARVO; however, the corresponding author will be contacted if some authors fail to update their forms. ■

Scivee and bilingual abstracts

The ARVO journals have recently partnered with the website Scivee.tv, a video platform that allows published researchers to load and synchronize scientific articles with video commentary. These PubCasts allow readers to move through the article under the direction of authors and researchers. The new JOV channel at Scivee is www.scivee.tv/node/24675, and the new IOVS channel is www.scivee.tv/node/26569.

Scivee accepts videos and documents in multiple languages. This is an additional way to create momentum for articles on an international level. We are also encouraging authors to submit abstracts to both JOV and IOVS in their native languages. See www.journalofvision.org/content/11/2/10/suppl/DC1 for an example of an abstract submitted in the author's native Dutch. Our new manuscript submission and peer review tracking system, eJournalPress, will provide authors the option to submit abstracts in other languages through the system at the time of initial submission. ■

Plagiarism detection software

Manuscripts submitted to ARVO journals are now screened by iThenticate plagiarism detection software to ensure all submissions are original unpublished versions. By comparing submissions with documents in various data repositories, journal editors and staff will be able to check that manuscripts are in compliance with the requirements for manuscript submission as outlined in the Instructions for Authors. ■



Paul L. Kaufman, MD,
FARVO

IOVS

Investigative Ophthalmology
& Visual Science

www.iovs.org

Coming in autumn 2011: More convenient website access

ARVO is working on an enhanced "Members Only" area on the ARVO website. This password protected area will allow members to take advantage of their member benefits in one central location.

This area will include the member directory, easy and direct access to the ARVO journals (*IOVS* and *JOV*), the *Funding Guide* and other digital resources through our Web library, ARVOJobs, *ARVO News* and much more. Please check back this autumn! ■

Beebe to be new editor-in-chief

By Paul L. Kaufman, MD,
FARVO, IOVS Editor-in-Chief



David Beebe,
PhD, FARVO

I am pleased to announce that David Beebe, PhD, FARVO, has been elected the next editor-in-chief of *Investigative Ophthalmology & Visual Science*. He will begin his five-year term in January 2013. Beebe, a former ARVO president, is the Janet and Bernard Becker Professor of Ophthalmology and Visual Sciences at Washington University in St. Louis, Mo. His editorial experience includes more than 35 years of writing and reviewing scientific papers and grants, and he currently serves as an associate editor for the journal.

New appointments to the editorial board

We are pleased that IOVS Editorial Board member Reza Dana, MD, MSc, MPH, FARVO, (Schepens Eye Research Institute) has agreed to join our team of associate editors. Dana's research interests involve the molecular and cellular mechanisms of inflammation as they pertain to the ocular surface and anterior segment pathologies, including dry eye, allergy, wound healing responses and transplant rejection.

Additionally, we welcome Kohji Nishida, MD, FARVO (Osaka University), and Shiro Amano, MD (University of Tokyo), our newest Editorial Board members.

Growth

The journal received a total of 1,921 submissions and published 877 papers in 2010. This represents a 12.5% increase in submissions between 2009 and 2010.

IOVS now regularly publishes articles in a new Low Vision section. Submissions to this section continue to increase, with 19 in 2010 and 15 so far this year. To date, nine articles have been published.

IOVS goes mobile

The IOVS website is now optimized for mobile use. To access the new mobile-ready website, please visit m.iovs.org/ on your handheld device.

Free color pages for ARVO authors

Starting with papers submitted to IOVS Jan. 1, 2011, color figures that are scientifically necessary are free for first or corresponding authors who are ARVO members in good standing at the time of submission and publication. All other first or corresponding authors will be charged \$50 per PDF page of color. For all authors, please note that the cost of the first eight PDF pages of all published articles has been increased to \$85 each.

Articles to be published weekly

IOVS publishes articles as ready, which is at least once a week. Stay current by setting up IOVS email alerts and be notified when new articles are published: www.iovs.org/alerts.

Metadata deposits to PubMed will now occur a few days after publication instead of the beginning of the following month.

IOVS reports consensus findings on MGD

IOVS published the first global consensus report on meibomian gland dysfunction, the result of findings from a two-year workshop made up of more than 50 leading clinical and basic research experts from around the world. The International Workshop on Meibomian Gland Dysfunction was conducted by the Tear Film & Ocular Surface Society.

Published in English, the article is also available in complete or partial translations in several languages, including Chinese, Dutch, French, German, Greek, Italian, Japanese, Polish, Portuguese, Russian, Spanish and Turkish. To read more, visit www.iovs.org/content/52/4.toc. ■

IOVS to celebrate 50 years

In 2012, IOVS will have been in continuous publication for 50 years.

Check www.iovs.org.

org for more on plans to mark this unique event.

Suggestions should be sent to www.iovs.org. ■



Levi selected as new editor-in-chief

By Andrew B. Watson, PhD, JOV Editor-in-Chief



Dennis Levi, OD, PhD

At the 2011 ARVO Annual Meeting, ARVO members selected Dennis Levi, OD, PhD, as the new editor-in-chief for the *Journal of Vision*. He will begin his five-year term in January 2013. Levi is professor of optometry and vision science, and dean of the School of Optometry at the University of California, Berkeley. He is the current editor-in-chief of *Vision Research*, a founding member of the JOV editorial board and former IOVS editorial board member.

10 years and one day after the publication date of the first ever JOV article — and will continuously update with new reviews as they become ready. For this issue, I've written a history of the journal, which covers its initial conception to its tenure as an ARVO journal. This special issue may be found online at www.journalofvision.org/content/11/5.toc.

To mark the event, ARVO organized an anniversary dinner for founding and current JOV editors and me in Naples, Fla., on May 7, 2011. To see photographs from the event, please visit the photo section of ARVO's Facebook page at www.facebook.com/arvoinfo.



Andrew B. Watson, PhD



JOV celebrates 10 years

2011 marks *Journal of Vision's* 10-year anniversary. To celebrate this milestone in the journal's history, we have invited a number of special review articles. The issue opened on May 2, 2011 — exactly

New developments

Journal of Vision now accepts Letters to the Editor. With the launch of the JOV site on eJournalPress, we will also accept Author Responses to Letters to the Editor, as well as Comment and Replies. ■

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KEYNOTE ADDRESS

- Molecules and Systems: Our Quest for a Physiology of the Cell
Marc Kirschner, Harvard Medical School

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Key Dates

2011

- October 14 Abstract and SIG submission sites open
- October 14 Registration opens
- December 2 Deadline for abstract and SIG submissions, 11:59pm EST

2012

- January 31 Notification of abstract acceptance to First Authors
- February 21 Abstract Search and Itinerary Builder available online
- March 23 Early registration/ Guaranteed hotel reservation deadline
- May 4 – 5 ARVO/Pfizer Ophthalmics Research Institute
- May 5 ARVO/ISIE Imaging Conference
ARVO Education Courses
- May 6 – 10 2012 ARVO Annual Meeting

ARVO Cross-sectional Groups

Low Vision Group
Opportunities and Challenges in Low Vision Research
Sunday, May 6, 1:15 – 2:45pm

Nanotechnology and Regenerative Medicine Group
Nanotechnology and Regenerative Medicine
Monday, May 7, 12noon – 1:30pm

Multidisciplinary Ophthalmic Imaging Group
Translational Research in Multidisciplinary Ophthalmic Imaging
Tuesday, May 8, 12noon – 1:30pm

Genetics Group
Animal Models of Human Genetic Disease: Molecular Pathogenesis and New Avenues for Therapy
Wednesday, May 9, 12noon – 1:30pm

Minisymposia

Each ARVO Scientific Section has the opportunity to organize at least one Minisymposium during the Annual Meeting.

- AP** The Choroid: New Aspects from Basic and Clinic Research
- BI** RNA Editing in Retinal Health and Disease
- CL** The Emergence of Translational Epidemiology: From Scientific Discovery to Population Health Impact
- CO** Surgical Innovations for the Treatment of Eye Disease
- EY** The Price of Privilege: Autoimmunity and Inflammation in the Orbit
- GL** Implications of Scleral and Lamellar Remodeling on the Development of Glaucoma
- IM** Retinal Pigment Epithelium Orchestrates Retinal Immunobiology
- IM** Cutting Edge of Translational Research in Ocular Immunology
- LE** Lens Water Transport
- LE** Neurodegeneration and the Eye
- PH** Targets for Ocular Neuroprotection: Lost in Translation
- RE** Ocular Barriers and Drug Delivery
- RC** Diabetic Changes in Retinal Vascular Cell Biology
- VI** Testing Vision: From Lab Psychophysical Tests to Clinical Evaluations
- VI** Optical Corrections: From Laboratory Experiments to Treatments
- VN** Learning to See: Experience-dependent Plasticity of the Visual System

Symposia

Sunday, May 6
8:30 – 10:15am

- Ocular Gene Therapy
- Neuroprotection for Retinal Neuropathies: The Benefits of a Well Regulated Immune Response

11:15am – 1pm

- Tissue Engineering of Ocular Tissues: Where Are We?
- Cell Reprogramming in the Treatment of Ocular Diseases

Basic/Clinical Lecture

Sunday, May 6
4 – 5:30pm

Translation of Protein Drugs for the Eye

VSS/ARVO Symposium

Wednesday, May 9
12noon – 1:30pm

ARVO Education Courses

Saturday, May 5. Separate registration is required. For more information, visit www.arvo.org/courses.

Autophagy and Age-related Macular Degeneration

Organizer: Rajendra S. Apte

Probability and Statistics Fundamentals for Analyzing Ophthalmic Clinical Studies

Organizers: Dale J. Kennedy, Kathryn S. Kennedy

Outcome Measures in Glaucoma Clinical Investigations

Organizers: Kevin J. Warrian, Ananth Viswanathan

Novel Therapeutic Targets for Diabetic Retinopathy

Organizers: Renu Kowluru, Arup Das

Early-Stage Startup Companies: Strategies for Entrepreneurship in Ophthalmology

Organizers: Kenneth Mandell, William Foster

Scientific Advances and Clinical Trials in Ocular Oncology

Organizers: William Harbour, Bitu Esmaeli

Animal Electroretinography in Ophthalmic Research

Organizers: Mathias Seeliger, Naoyuki Tanimoto

Hands on Publishing: A Practical Course on Publishing a Scientific Paper

Organizers: Pinar Aydin, Tien Yin Wong

ARVO Committee-sponsored Workshops

■ Translational Animal Models in Vision and Ophthalmology Research

Organized by the Animals in Research Committee

■ Henrietta Lacks and the Ethics of Human Experimentation

Co-organized by the Ethics and Regulations in Human Research and the Diversity Issues Committees

■ Off Label, Off the Radar, On the Hook

Organized by the Commercial Relationships Committee

■ Getting Published: Advice from Editors

Co-organized by the Publications and Members-in-Training Committees

■ Clinician-Scientist Forum: How to Become a Successful Clinician-Scientist

Organized by the Members-in-Training Committee

■ Members-in-Training Job Forum

Organized by the Members-in-Training Committee

■ Pizza with the Experts!

Organized by the Members-in-Training Committee

■ International Advocacy Workshop

Organized by the Advocacy Committee

■ Advocacy and Fundraising for Vision Research

Organized by the International Members Committee

Other workshops

- Indo-U.S. Collaborative Vision Research Program
- EVER/ARVO Workshop
- NEI Grants Workshop: Preparing an Amended Application
- ARVO-China Networking Forum
- Smartphones in Ophthalmology
- ARVO History SIG — Age-Related Vascular Oculopathies: Past, Present and Future of the Clinical and Basic Sciences
- FDA Research on Safety and Effectiveness of Ophthalmic Devices
- Bringing Vision into the 8th – 12th Grade Classroom through Professional Development for High School Teachers



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