



Meet ARVO's new executive director



Sally Atherton, PhD, FARVO

The Board of Trustees has approved the selection of Sally S. Atherton, PhD, FARVO, as executive director. She will start in January 2013. Currently, Atherton is professor and chair of the Department of Cellular Biology and Anatomy and professor of ophthalmology at the Medical College of Georgia.

She has been a member of ARVO for over 20 years. Her term as executive vice

president ended in May this year. She has also served ARVO as president, trustee of the Immunology and Microbiology Section, and as a member of the Finance and Annual Meeting Program committees.

As a representative of ARVO, she has made numerous trips to visit members of the U.S. House of Representatives and Senate to discuss advances in ocular and vision research and to press for increased funding for NEI.

Atherton has been funded by NEI since 1985 for research studies on the virologic

See **Executive director**, page 5

2013 Annual Meeting Highlights and Call for Abstracts enclosed



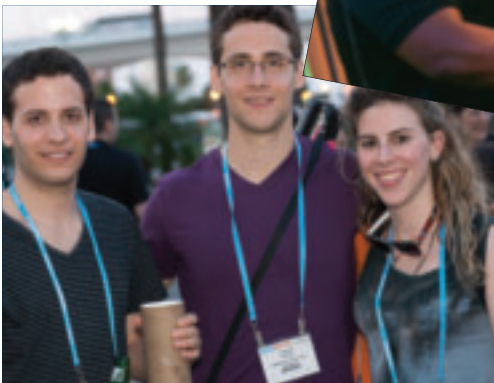
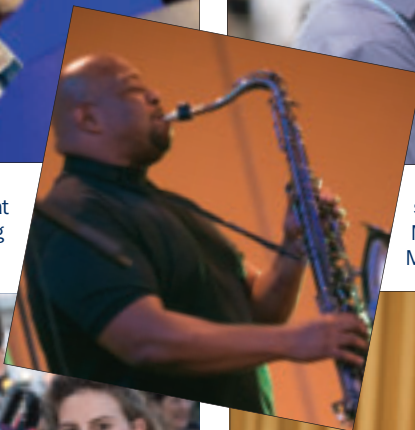
ARVO 2012: Attendance, abstracts reach record numbers



Above: Keynote speaker J. Craig Venter, PhD. Below: Networking at the ARVO Social. Center: Bringing down the house at ARVO Rocks!



Above: Taking notes at a poster session. Below: NEI's Matthew McMahon speaking at the Member-in-Training Job Forum.



The latest on medical devices

Special Advertising Report

Learn about NEI's "Audacious Goals" contest and how to enter

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**2012 – 2013
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**ARVO 2013 fact:
Seattle's May rainfall is
less than that of Houston,
Chicago, Fort Lauderdale,
and New York City.**



President's message

The Annual Meeting and the Olympics – Why you need to be there



Peng T. Khaw, MD, PhD, FARVO

As I write this column, the London 2012 Olympics are in full swing. This global sports event is buzzing with excitement and palpably lifting the spirits of an entire country and many around the world.

Although the news media is naturally full of reports of outstanding achievement, many of the athletes' success stories reveal how meeting inspirational figures, and lessons learnt from international exposure, have led to their world-leading "gold medal" performances now. The fact that the world's best sportsmen and women are gathered together also gives all the sports, and their participants, an elevated prominence that each would not achieve on its own.

Having met several past Olympians recently, I was struck by the importance they put on meeting face-to-face. Being able to watch and learn in person from many others and build lifelong relationships have been key in their lives.

This brought my thoughts back to the very first ARVO annual meetings I attended.

There was, and for me still is, the excitement of hearing the talks and putting faces to names I only knew from publications. The opportunity to question them about fine details of their methods and the perspective of the

community on various research findings was invaluable, as was the chance to be questioned by them and others to actively refine my own research.

If I think back over the years, some of the most important insights that I have gained in research and in developing better treatments have been because of one-to-one conversations I have had with researchers from around the world.

Many of the friends and colleagues I have come to know well and to work with started with our conversations on the ARVO Annual Meeting floor. I came to realize that if you have a novel scientific hypothesis, presenting this in person

is so much more effective, as it offers the opportunity for full discussions and ultimately informs and persuades people of its validity. Thus, your research achieves its true impact.

Returning to the present, ARVO is now so much more than just a meeting. Modern science is a global activity and cannot be done in

isolation, and ARVO plays a critical role with many important international activities, including worldwide chapters, education and important advocacy activities for eye and vision funding.

However, the Annual Meeting still has the same buzz. Hearing in person about a wide range of advances in science well beyond

our own fields helps us advance our own thinking. The ARVO lectures also include inspiring glimpses of the Olympic-like dedication and persistence required to carry out outstanding research. They sum up many lifetimes of research in different areas, help keep us updated, and open opportunities for cross-fertilization.



Above: South African Cameron van der Burgh receives gold for the 100m breaststroke. Below: ARVO medalists Linda Zangwill and Leslie Hyman receive silver for their contributions to the association.

There is still nothing like meeting colleagues face-to-face to establish and develop the rapport and trust that lead to future collaborations and joint work. Modern social media and technologies like videoconferencing are no substitute for face-to-face meetings. In a recent survey, our Members-in-Training highlighted that networking is the most important aspect of ARVO.

A perfect example was a prolonged teleconference we had with colleagues attempting to set up a transatlantic collaboration, which got nowhere in the month preceding the ARVO Annual Meeting. But once we were face-to-face at the ARVO meeting, it was rapidly and amicably agreed. Although personal meetings can be arranged throughout the year, the fact that the world of ophthalmic and vision research is brought together during the ARVO Annual Meeting allows us to meet a huge range of colleagues in just a few days.

Going back to the Olympic theme, the British government arranged a series of life science seminars for visiting senior

governmental policy makers and industry leaders from around the world during the Olympics. I was asked to speak about some of the international scientific collaborations that our national biomedical research center has developed with organizations worldwide.

I took the opportunity to emphasize the importance of eye and vision research internationally and then showcased some of our collaborations with the United States (including our recent collaboration with the NIH in inflammatory eye disease, see page 9), through to Europe, Africa and Asia. The seeds of most of these collaborations can be traced to relationships between inspired individuals, facilitated by participation in the ARVO meeting.

What is clear is that governmental decision makers everywhere value the fact that we communicate between ourselves as a research community, and particularly that this clearly involves industry, too, so helping people and economies around the world. In challenging economic times, there is no question that governments have found it much easier to continue

funding research if they can be shown the potential gains for people and the economy.

In addition, because of closer industry-academia relationships, ARVO has now become a critical stop for companies developing new diagnostics and therapies. Whatever one's personal preferences about working with the commercial sector, the vast majority of new therapies that preserve and restore vision have been made possible by industry. There is no question that face-to-face meetings lead to more rapid development, trust and co-operation.

We enter an exciting new phase for ARVO annual meetings with the move to Seattle in 2013 and other cities after that. With virtually all hotels within walking distance and the larger convention space, we will have greater opportunities to facilitate personal interactions, make new contacts and reaffirm existing relationships.



The ARVO Annual Meeting will focus the world on your research. Just like the Olympics for athletes, you simply have to be there. ■



2012 Annual Meeting: Peng Khaw and Hugh Taylor, MD, FARVO, enjoy the Fellows Coffee (above); and meeting colleagues at ARVO Central in the Exhibit Hall (below).



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2013 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.



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Andrew B. Watson, PhD, FARVO
NASA Ames Research
Center
Editor-in-chief,
Journal of Vision

Meet the candidates: Election 2013

These members have been nominated to stand in the 2013 Trustee election:

Anatomy and Pathology (AP) Section

Sarah E. Coupland, MBBS, PhD, FARVO, is a senior pathologist at the Royal Liverpool University Hospital and professor of pathology at the University of Liverpool in Liverpool, U.K. She has been an ARVO member since 1996 and is past chair of the ARVO Awards Committee, as well as past member and chair of the AP Section, Annual Meeting Program Committee. Coupland also serves as president of the European Ophthalmology Oncology Group and president of the International Society of Ophthalmic Pathology. She became an ARVO Silver Fellow in 2012.



Hans E. Grossniklaus, MD, MBA, FARVO, is the Phinizy Calhoun Jr. Professor of Ophthalmology and Pathology, and director of the ocular oncology and pathology service at Emory University School of Medicine in Atlanta, Ga. He has been an ARVO member since 1980. He is currently president-elect of the American Association of Ocular Oncologists and Pathologists and immediate past council chair of the American Ophthalmological Society. He became an ARVO Silver Fellow in 2009.

Glaucoma (GL) Section



Claude Burgoyne, MD, FARVO, is the Van Buskirk Chair for Ophthalmic Research and director of the Optic Nerve Head Research Laboratory at the Devers Eye Institute in Portland, Ore. He is also clinical professor of ophthalmology at Oregon Health Sciences University. He has been an ARVO member since 1990 and has attended every ARVO Annual Meeting since 1991. He is a past member and chair of the GL Section, Annual Meeting Program Committee, and has served on the IOVS editorial board since 2008. He became an ARVO Silver Fellow in 2009 and earned Gold Fellow status in 2011.



Carlo Traverso, MD, FARVO, is a tenured professor and chairman at Clinica Oculistica and director of the residency program in ophthalmology at the University of Genova, Italy. He has been an active ARVO member and has attended the Annual Meeting since 1981. He served as a past member and chair of the GL Section, Annual Meeting Program Committee and also served on the Long Range Planning Committee and Commercial Relationships Committee. He became an ARVO Silver Fellow in 2009.

Learn more about all the 2013 Trustee candidates at arvo.org/elections. ■



When animal-rights extremists attack: Toolkit to provide advice, resources

The Animals in Research Committee (ARC) is busy this year with a major goal of updating and reorganizing the *Use of Animals in Vision Research* state-

ment and will be presenting it as a toolkit to the Board of Trustees for approval at the fall Board meeting.

The toolkit will include information about ARVO's role when members are attacked or harassed by animal terrorists. Look for a checklist of what you should do and who you should contact if you are attacked, as well as strategies to prevent attacks, such as taking down your social media pages. This must-read guide will also include resources that can provide additional help. The current document is available to members at arvo.org/animalshandbook.

Updates to ARVO animal use policy

In response to recent changes in U.S. and E.U. animal use policies, ARC has formed a working group to revise



ARVO's "Statement for the Use of Animals in Ophthalmic and Visual Research." In January the NIH introduced the new *Guide for the Care and Use of Laboratory Animals*, 8th edition and in June issued clarifications to the Guide, as reported previously in *Insight*. Look for an announcement about the revised ARVO state-

ment in *Insight* this winter. Concurrently, the committee will be updating the "Importance of Animals in Vision Research Statement."

Victims to speak out at workshop

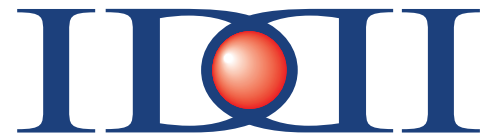
ARC's workshop at the 2013 Annual Meeting, titled "Life-Changing Impacts of International Extremism on Animal Research," will feature members who have been attacked by animal terrorists because of their research. Topics will include issues-related animal activism and ideas on how to protect yourself, your family and your lab. ■

Executive director, continued from page 1

and immunologic mechanisms of ocular and CNS infections caused by members of the herpesvirus family. She has published numerous articles and book chapters and has been a member of many government and private review panels, including VIS-A and Fight for Sight.

She is currently a member of NCCR's Research Centers in Minority Institutions review group and has served on the editorial boards of *Investigative Ophthalmology & Visual Science*, *Experimental Eye Research* and *Cutaneous and Ocular Toxicology*.

She has mentored basic scientists and clinicians at every career stage. ■



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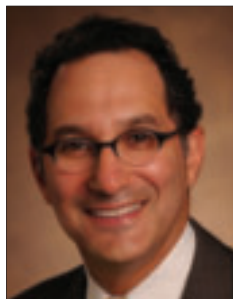
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Paul Sternberg, Jr., MD, FARVO

Nurturing essential links: An interview with Paul Sternberg, Jr., MD

Paul Sternberg, Jr., MD, FARVO, who served as an ARVO Trustee from 2005 to 2010 and vice president (2009 – 2010), will begin his one-year term as president of the American Academy of Ophthalmology (AAOphth) in January 2013.

He is the G.W. Hale professor of ophthalmology and chairman of the Vanderbilt Eye Institute of the Vanderbilt University School of Medicine in Nashville, Tenn. Sternberg has also served on the board of scientific counselors for NEI, the board of directors of the International Retinal Research Foundation and the board of directors of the Tennessee Academy of Ophthalmology



and has been president of the Georgia Society of Ophthalmology. Currently he is president of the Society of Heed Fellows and treasurer of the Macula Society. He is a recognized retinal specialist and maintains research program studying the pathogenesis of AMD.

Sternberg spoke to ARVONews about his involvement with ARVO and AAOphth and his plans for the year ahead.

Q What do you consider the highlights of your involvement with AAOphth and with ARVO during your career?

A The major highlight with the Academy is being selected by my peers to be president. My father was an ophthalmologist and a member of the Academy, so it has special meaning for me.

Two other things that stand out: First, helping establish the Leadership Development Program (LDP). And when I was secretary of the communications committee, we moved Academy communications to an electronic

format. This was in the early 2000s, and it was a big change. And I can say the transfer went more smoothly than we expected.

I'm a longtime participant in ARVO. I've been involved with the organization longer: My first ARVO meeting was in 1976 and I attended my first Academy meeting in 1982.

When I served on the ARVO Board of Trustees there are two highlights. One was a significant increase in our recognition of international members, whose numbers were increasing greatly. I was proud to be on the Board when we elected our first international president [Martine Jager]. We also agreed that many sections on Annual Meeting Program Committee would have slots specifically for an international member.

And in addition, I always tried to be an advocate for members-in-training (MIT). I recommended that we introduce an MIT member of the Board, and I'm really pleased that we now have an MIT Trustee in place.

Q What goals do you have as AAOphth president?

A First and foremost, I want to be an advocate for our patients. I've grown concerned over the years that they can be forgotten. As eye disease continues to increase with our aging population, each of us sees more patients each day. I want to remind all Academy members that we need to be sensitive not only to their medical problems, but also to the social effects of eye disease, as well as quality of life issues.

And I want to use my background as a clinician-scientist and a former ARVO Board member to emphasize the importance of vision research — to ensure advances are acknowledged and that resources are devoted to it. Our key advances in our practices, such as curing glaucoma and treating AMD, are linked to research.

Q How do you feel your significant role in ARVO during your career enhances what you bring to the AAOphth presidency, and vice versa?

A My experience with ARVO reinforces my commitment to advocate for vision research funding. When you go to the ARVO Annual Meeting, you see not only how scientists are advancing our field, but also how they are advancing other fields. If you look at major

ARVO 2013 fact:
The U.S. Census Bureau lists Seattle as the most educated city in the U.S. with more than half of residents over 25 years old having a bachelor's degree.



developments in gene transfer, lasers, imaging, nanotechnology and more, vision scientists are at the forefront of those as well.

One area where my Academy experience helped at ARVO is that ARVO Board members can have less administrative experience. So my experience with the Academy was helpful there. I believe I could help fellow Board members look at challenges in new ways. I hope I assisted staff and the Board in helping make the organization more professional.

Q You helped develop AAOphth's LDP; what was the motivation? How do you feel the program is doing?

A The LDP was developed by myself and Mike Brennan, MD, out of our concern that not enough ophthalmologists were taking leadership roles at the state level, and that those who did so did not have enough training to be successful advocates for the profession.

The purpose of LDP is to identify these potential leaders and provide them with useful tools as well as the opportunity to network with similar individuals, to create an ever-growing cohort of talent.

I have to say it has succeeded beyond our wildest dreams. These leaders now populate every

Academy committee and have served on the board. Having LDP on your resume has become almost the *sine qua non* for success within the Academy.

Q You are the first former ARVO Trustee to become AAOphth president in nearly 20 years. Do you feel involvement is declining between the organizations?

A I hope not. The ARVO Annual Meeting has a strong component of clinical research. And many clinicians have an equally strong intellectual curiosity about the latest developments in treatment. But it is harder and harder to get away from the office. This may be challenging to ARVO in the future.

The fact is that the essential link between the Academy and ARVO is the clinician-scientist. And this is a challenging road to take. I fear that over time fewer and fewer are selecting it as a career path.

The future success of ophthalmology as a clinical profession thrives because of treatments based on ARVO members' groundbreaking research. We need to nurture that, and we have to advocate for each other. ■

ARVO 2013 fact:
You'll be able to print your badge and get your meeting materials at three hotels as well as the convention center.



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ARVO 2013 fact:

Casual dress (shorts, jeans, etc.) is encouraged at the ARVO Annual Meeting.



ARVO asks: Who was the most influential figure in your career?



My first full-time research training was in Bristol, England, where David Easty was my mentor. This was a clinician with a genuinely open mind who questioned disease mechanisms in an exciting and inspiring way.

— Frank Larkin, MD



Professor Robert Macherer strongly influenced me by his human attitude toward patients and colleagues, his scientific intransigence — and because he convinced me [to use] intravitreal triamcinolone.

— Jost Jonas, MD, FARVO



This credit goes to my post-doctoral mentor, Dr. Fu-shin Yu. He has always been very supportive during my training, as well as [my] transition to becoming an independent investigator.

— Ashok Kumar, PhD



The most influential figure in my career is Dr. Anand Swaroop. He has been my teacher and mentor since I was a postdoctoral fellow in his laboratory at the University of Michigan. Dr. Swaroop has taught me how to think, plan and execute decisions about matters ranging from experimental design to career choices.

— Hemant Khanna, PhD



The most influential figure in my career is my PhD mentor, Dr. Samuel Wu. Even after my graduation from the lab, he has continued to mentor me and guide me through my career.

— Mark Pennesi, MD, PhD



Two distinguished scientists have been my role models in vision research: Professor Dora Ventura and Dr. Eileen Birch. Both paved my scientific pathway. Lucky me!

— Solange R. Salomao, PhD



I have worked with many great people in my career and being inspired by them. Drs. Jian-xing Ma and Timothy Lyons were great mentors for me and helped me establish my career in diabetes and vision research. Dr. Laurie Glimcher is my role model and collaborator who inspires me to become an outstanding woman physician-scientist. ■

— Sarah Zhang, MD

Learn online: An Introduction to Getting Published in Scientific Journals

This course, aimed at non-native English speakers, covers how to write an article as well as where, when and how to get your paper published. Registration is free for ARVO members. Learn more at arvo.org/onlineeducation.

The online course is very helpful for learning the basics on how to prepare an article and face everything that happens during publication.

— Lalan Kumar Arya, MSc
Aravind Medical Research Foundation
Madurai Tamil Nadu, India



2013 ARVO Foundation/Merck Innovative Ophthalmology Research Award

Awarded biennially to young researchers aged 45 or younger who hold an MD, PhD, or an equivalent doctorate level degree who undertake investigative research in critical areas of ophthalmology that may one day lead to meaningful improvements to patients' lives.

2013 Research categories

- Diabetic eye disease
- Gene therapy in eye disease

Deadline for nominations: October 31, 2012.

arvofoundation.org/merck-iora

Project Gemini



A group of blinded U.S. veterans traveled to England in May to meet with their U.K. counterparts (pictured above) to share insights with and become role models for members of the armed forces who recently lost their sight. Peng Tee Khaw, ARVO president and director of the NIHR Biomedical Research Center (BRC) at Moorfields Eye Hospital and UCL Institute of Ophthalmology, served as host to the delegation, which included ARVO member Colonel Donald Gagliano, MD, MHA. Gagliano, director of the Department of Defense/Department of Veterans Affairs Vision Center of Excellence, and Khaw took part in discussions about blind rehabilitation and readjustment training, vision research and adaptive technology for the blind. Called Project Gemini, the initiative is a joint project between the Blinded Veterans Association and Blind Veterans UK (formerly known as St. Dunstan's).

U.S.-U.K. Consortium agreement



During a visit hosted by Peng Tee Khaw, MD, PhD, FARVO, in May, representatives from the U.K. National Institute for Health Research (NIHR) and the U.S. National Eye Institute (NEI) signed a landmark Consortium agreement to combat inflammatory eye diseases. The Human Ocular Immunology Consortium agreement will encourage the transfer of technologies, scholars and biomaterials between the two countries to study uveitis, age-related macular degeneration and diabetic retinopathy. Khaw, ARVO president and director of the NIHR Biomedical Research Center at Moorfields Eye Hospital and UCL Institute of Ophthalmology, was joined by three other signatories: Gyan Prakash, PhD (NEI); Andrew Dick, MD (NIHR); and Robert Nussenblatt, MD, MPH (NEI).



CHAPTER AFFILIATE

ARVO-NED — affiliated 2008
Nijmegen, the Netherlands
oogheelkunde.org

Asociación de Investigación en Visión y Oftalmología (AIVO) — affiliated 2007
Buenos Aires, Argentina
aivo.com.ar

Austrian Association for Research in Vision and Ophthalmology (AARVO) — affiliated 2009
Vienna, Austria

Brazilian Research Association of Vision and Ophthalmology (BRAVO) — affiliated 2006
São Paulo, Brazil

Chinese Congress of Research in Vision and Ophthalmology (CCRVO) — affiliated 2010
Beijing, P.R. China

Colegio Nacional de Investigación en Ciencias Visuales (MARVO) — affiliated 2010
Mexico City, D.F., Mexico
mexarvo.org

Hungarian Association for Research in Vision and Ophthalmology (HARVO) — affiliated 2007
Budapest, Hungary
harvo.org

India Eye Research Group – ARVO (IERG-ARVO) — affiliated 2011
Hyderabad, India

Israel Society for Vision and Eye Research (ISVER) — affiliated 2006
Jerusalem, Israel

ARVO Italy (IT-ARVO) — affiliated 2011
Catania, Italy

South-East European Association for Research in Vision and Ophthalmology (SEE-ARVO) — affiliated 2009
Sofia, Bulgaria ■



See arvo.org/affiliates

Achievement Awards 2014 Call for Nominations

For young investigators

- **Cogan Award** — Recognizes a researcher who is 40 years of age or younger at the time of nomination, and who has made important and worthwhile contributions to research in ophthalmology or visual science that are directly related to disorders of the human eye or visual system, and who shows substantial promise for future contributions.
- **ARVO Foundation/Pfizer Ophthalmics/Carl Camras Translational Research Awards** — Recognizes early career researchers, no more than 45 years old, who exhibit excellence in research, scientific discoveries, concepts and novel technologies that have led to, or have the promise to lead to, clinical applications.

For long-term 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** — Recognizes 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, 2013.

Nominations must include a detailed nomination letter, a CV and three brief letters from colleagues who support the nomination. Details and eligibility forms can be found at arvo.org/awards.

Congratulations: 2013 Achievement Awards recipients

ARVO is pleased to announce the recipients of the 2013 ARVO Annual Awards. All awards and lectures will be presented at the 2013 ARVO Annual Meeting, May 5 – 9, 2013, in Seattle, Wash.

Proctor Medal



Vadim Arshavsky, PhD



Theodore Wensel, PhD

Vadim Arshavsky, PhD, Duke University, and Theodore Wensel, PhD, FARVO, Baylor College of Medicine

Arshavsky and Wensel have been studying signal transduction in the vertebrate retina for more than 25 years, and have made important breakthroughs in this field, especially in the area of photoreceptor biochemistry. Working mostly independently but synergistically, they were jointly responsible for the fundamental discovery and characterization of the GTPase activating protein (GAP) complex in phototransduction, now known to comprise the constituents RGS9-1, Gβ5L, and R9AP. This is a landmark achievement, the discovery process for which was intricate and extensive, and composed of a series of separate discoveries. In addition to these studies, Arshavsky and Wensel have each gone on to separately make other pivotal contributions to the retina field.

Friedenwald Award



David Huang, MD, PhD

David Huang, MD, PhD, OHSU/Casey Eye Institute

Huang's research in the development of OCT technology has revolutionized the field of ophthalmic imaging. David was the first to recognize that cross-sectional images could be generated and displayed in false color by scanning the laser measurement beam, thus inventing OCT. Since then, OCT has emerged as

a standard diagnostic in clinical ophthalmology and is used for the diagnosis and monitoring of diseases such as glaucoma, diabetic retinopathy and age-related macular degeneration.

Weisenfeld Award



David Epstein, MD, MMM

David Epstein, MD, MMM, Duke Eye Center

Epstein is an outstanding clinician-scientist with major contributions to the field of ophthalmology. He is widely considered to be one of the most influential leaders in the world of glaucoma and glaucoma research for the past 30 years. He has developed novel drugs for the treatment of glaucoma, leading to 10 patents that involve all aspects of ophthalmic patient care and treatment. He also has had continuous support from NIH for the past 32 years even while performing the duties of a department chair for the past 20 years. He is credited for his inspiration of generations of young ophthalmologists as a gifted mentor and teacher with Socratic teaching style.

Cogan Award



Jonathan Demb, PhD

Jonathan Demb, PhD, Yale University

Demb has made outstanding contributions to vision science in the retina and in the central visual pathways emphasizing three areas of visual science: quantitative psychophysics, retinal microcircuitry and molecular synaptic mechanisms. His work integrates knowledge of visual function gained from psychophysics with its underpinnings in neuronal activity. He has always had an eye on clinical relevance emerging from his work. ■

At the frontier of drug delivery: June conference continues series

This was a well-rounded presentation of up-to-date information relevant to the problems and progress in the development of drugs (and genes) to treat/combat diseases of the posterior segment,” said Craig Struble, PhD, of Covance Labs after this summer’s research con-



Conference organizers from left: Adriana Di Polo, PhD (University of Montreal); Henry F. Edelhauser, PhD (Emory University); Cheryl Rowe-Rendleman, PhD (Omar Consulting Group LLC); and Uday B. Kompella, PhD (University of Colorado Denver), Conference Chair. Absent from photo: Kay Rittenhouse, PhD (Pfizer).

ference, Drug and Gene Delivery to the Back of the Eye: From Bench to Bedside, in Aurora, Col.

Struble, along with more than 160 researchers and clinicians from 14 countries, attended the two-day conference that focused on nanotechnology and current and emerging drug and gene delivery systems, and addressed clinical successes and failures in delivering drugs to the posterior segment of the eye.

Other attendees commented that the two-day format was ideal, the content was at the frontier of science and the presentations were thought-provoking.

This meeting was a follow-up to a 2009 session, titled Ophthalmic Drug Delivery Systems for the Treatment of Retinal Diseases: Basic Research to Clinical Application.

Conference organizers included Uday B. Kompella, PhD, University of Colorado Denver, Conference Chair; Henry F. Edelhauser, PhD, Emory University; Kay Rittenhouse, PhD, Pfizer; Adriana Di Polo, PhD, University of Montreal; and Cheryl Rowe-Rendleman, PhD, Omar Consulting Group LLC. ■

Visit us this autumn

If you’re traveling to any upcoming vision and ophthalmology meetings, please visit us. ARVO will be exhibiting and having events at the following meetings:

- **European Association for Vision and Eye Research Annual Meeting**

Oct. 10 – 13, Nice, France.
ARVO Booth #6
ever.be

- **Society for Neuroscience Annual Meeting**

Oct. 13 – 17, New Orleans, La.
ARVO Booth # 3607
sfn.org

- **American Association of Optometry Annual Meeting**

Oct. 24 – 27, Phoenix, Ariz.
ARVO Booth #624

ARVO/AAO Joint Symposium:
Rod Vision — Structure,
Function, Treatment and
Rehabilitation, Friday, Oct. 26,
10am, Room 124.
aaopt.org

- **American Academy of Ophthalmology/MEACO Joint Meeting**

Nov. 10 – 13, Chicago, Ill.
ARVO Booth # 2046

Clinical Applications of Ocular Imaging
(combined meeting with ARVO)
Tuesday, Nov 13, 10:15am, McCormick
Place, Room S406A

Ocular imaging has become integral to clinical practice in ophthalmology. From refractive surgery to glaucoma to retinal disease, ocular imaging helps to guide our practice. Imaging often provides a clear picture of the pathologies affecting our patients, and gives ophthalmologists objective, quantitative measures on which to base treatment. This symposium reviews the current state-of-the-art techniques in clinical ocular imaging and looks ahead toward what the future might have in store. Chairs: Joel S. Schuman, MD, Kyung Rim Sung, MD, PhD.
aao.org ■

Students/trainees: Network at upcoming meetings

The Members-in-Training (MIT) Committee is partnering with the American Academy of Ophthalmology’s Young Ophthalmologists and the American Academy of Optometry’s student members to organize two networking events this autumn. Senior clinician-scientists from ARVO will be at both events — which are free to meeting attendees — to give tips to students pursuing research careers.

American Academy of Optometry Annual Meeting

Phoenix, AZ

Student/Trainee
Networking Reception
Friday, Oct. 26, 7 – 8pm

American Academy of Ophthalmology/MEACO Joint Meeting

Chicago, Ill.
YO ARVO! Exploring
Careers in Research
Happy Hour
Monday, Nov. 12,
4 – 6pm
YO Lounge, McCormick
Place, Grand Concourse

How can ARVO help fill your education gaps?

By John S. Penn, PhD,
FARVO
Vanderbilt University School
of Medicine
Professional Development
and Education Committee
Chair

The Professional Development and Education Committee (PDEC) is focused on several initiatives. Our major goal is to increase the number, quality and consistency of education and professional development programs offered by ARVO. We are currently developing a comprehensive needs assessment survey that will be sent to all ARVO members to determine what topics our members endorse and what education formats have the greatest appeal. In particular, we are focused on increasing online education opportunities in the coming years. Our goal is to develop webinars, online courses and other exciting ways to deliver vital content, anytime and anywhere. ■

Highlights from the 2012 Annual Meeting

With about 12,500 attendees, the 2012 Annual Meeting was the largest ever! Members may wonder what kind of feedback ARVO received from attendees. Here are the highlights:

Satisfaction guaranteed

- Most attendees — 86% — deemed the meeting “effective” in terms of meeting their needs. Areas receiving highest levels of satisfaction include ‘Registration’ and ‘Quality of the Scientific Program.’
- Almost 75% of those surveyed indicated they are “likely” to attend another Annual Meeting.

Attend ARVO Annual Meeting, reap benefits, repeat

- Of those surveyed, 29% have attended not one, not two, but at least 10 Annual Meetings previously.

Team collaboration and networking opportunities

- A large percentage of attendees (75% of those surveyed) attended the Annual Meeting as a part of a team vs. attending solo.

Global representation

- Survey respondents came from more than 40 different countries.

What are people saying?

The following are a few comments from attendees who completed the Post Annual Meeting survey:

- “I had a tremendous number of opportunities to connect with researchers in my field from around the globe.”
- “This meeting is invaluable in determining industry and research trends.”
- “I learned a lot of new skills and had a wonderful experience with other scientists. In addition, I made many new friends, too. I love this conference very much.”
- “Very exciting to learn about the research in iPS-RPE and hES-RPE and innovative methods in development of delivery systems. Was also able to network with colleagues working in the same area and contact vendors.”
- “I enjoy seeing where things are going in the next five to 10 years and ARVO serves that purpose.” ■

Optic Nerve Degeneration 2012 Dec 5 – 7, 2012 Obergurgl, Austria

Bringing together clinicians and scientists to better understand optic nerve degeneration and glaucoma

Organizers:
Franz H. Grus, MD, PhD
Jonathan G. Crowston, MBBS, PhD

arvo.org/opticnerve2012



Imaging Conference

Learn about current research and state-of-the-art technology in ophthalmic imaging

May 4, 2013, 8am – 5:45pm
Washington State
Convention Center
Seattle, Wash.

arvo.org/isie

A look back at ARVO 2012



ARVO 2011-2012 Board of Trustees. Back row, from left: John Penn, PhD, FARVO; David Williams, PhD, FARVO; John Clark, PhD, FARVO; Robert Miller, MD, FARVO. Middle row, from left: Jacob Pe'er, MD, FARVO; Carol Toris, PhD, FARVO; Linda McLoon, PhD, FARVO; Dimitri Azar, MD, MBA, FARVO; Anton Kolomeyer, MD, PhD. Front row, from left: Justine Smith, MBBS, PhD, FARVO; President-elect Peng Khaw, MD, PhD, FARVO; Former Executive Vice President Sally Atherton, PhD, FARVO; Executive Vice President Craig E. Crosson, PhD, FARVO; President Jeffrey Boatright, PhD, FARVO; Immediate Past President Mark Petrash, PhD, FARVO.



Clockwise from top left: an attendee checks out new equipment at the Volk Optical booth in the exhibit hall; rapt editors at the IOVS Editorial Board meeting (these teddy bears were gifts for the volunteer editors at the journal board meeting); and attendees mugging for photos in ARVO Central.



A look back at ARVO 2012



Clockwise from top left: enjoying Pizza with an Expert; attendees take up every available space at the IVAN/CATT study results presentation; ticking the ivories at the ARVO Classical Concert; Christina Zuniga and Paige Angle receive the Joanne G. Angle Award, named in honor of their mother and former ARVO executive director, from ARVO Executive Vice President Sally Atherton; Seattle coffee hour sponsored by the Seattle Convention and Visitors Bureau.

Opposite page, top: networking in the halls; middle: attendees at the China-ARVO Networking Forum; bottom: a stellar performance at ARVO Karaoke.



Recognizing American Academy of Optometry grantees

ARVO joins the American Academy of Optometry in congratulating its 2012 ARVO Student Fellowship grantees as well as its 2012 Ezell Fellowship recipients. The Vision Care Institute sponsored the ARVO Student Travel Fellowships. The student travel fellowships were given out at an event sponsored by the American Academy of Optometry and the American Optometric Association.



Ezell Fellows at ARVO 2012 are, from left, Kathy Dumbleton (American Academy of Optometry Foundation president elect), Andrew David Pucker, Daniel Powell, Kristina Haworth, Nimesh Patel, Mariana Garcia, Alex Hui, Darren Koenig, Tatiana Ecoiffier, Pablo De Gracia, Lyndon Jones (chair, Research Committee).



ARVO Student Travel Fellowship grantees are, from left, Khaled Chehab, Xin Wei, Cristina Schnider, Noel Brennan, Faryan Tayyari, Thomas Keith, Vinod Maseedupally, Giovanna Olivares, Bradley Dougherty, Gang Huang, Vivian Wong, Lin He, Daniel Coates, Naveen Yadav, Preethi Thiagarajan, Lee Ball, John Buch, Eric Ritchey, Karla Zadnik (American Academy of Optometry president) and M. Charis Lau.

ARVO 2013 fact:

All of the official ARVO hotels are within walking distance of the convention center in Seattle — no need for shuttle buses or car rental.



A look back at ARVO 2012

VSS@ARVO symposium

Every year, VSS and ARVO collaborate in a symposium designed to highlight and present work from one society at the annual meeting of the other. This year's symposium, held during the ARVO Annual Meeting, was titled "Visual Rehabilitation."

Speakers included Dennis Levi, OD, of the University of California, Berkeley; Krystel Huxlin, PhD, of the University of Rochester; and Arash Sahraie, PhD, of the University of Aberdeen.

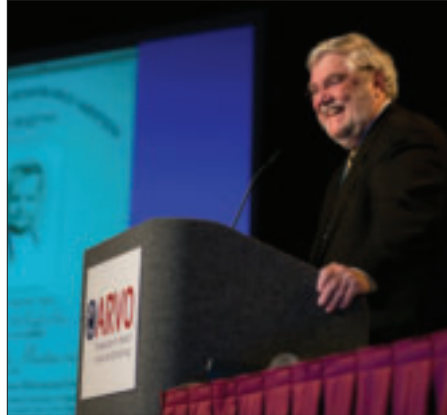
The symposium looked at the critical period and sensitive period for a variety of visual functions, including which alternative neural structures are recruited to restore visual functions. Experimental and clinical evidence was discussed for the rehabilitation of amblyopia and blindsightness. ■

CME credit is free

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

ARVO is accredited by the Accreditation Council for Continuing Medical Education to provide CME for physicians. ARVO designates the 2012 Annual Meeting for a maximum of 38.75 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™. ■

Career Achievement Lectures



Postponed from the 2011 Annual Meeting, Proctor medal awardee Robert Anderson, MD, PhD, FARVO, of the University of Oklahoma Health Sciences Center presented *The Insulin Receptor-P13K Signaling Pathway and Retinal Neuroprotection*.



Peter Sterling, PhD, of the University of Pennsylvania School of Medicine (left, receiving his medal from ARVO Trustee Robert Miller, MD, FARVO) presented the 2012 Proctor Lecture on *Principles of Retinal Design*.



John Forrester, MD, FRCSE, FRCSCG, FRCOphth, FARVO, of the University of Aberdeen, received the Weissenfeld Award from ARVO Trustee Justine Smith, MBBS, PhD, FARVO. Forrester spoke on *Investigating Ophthalmology with Translational Science*.



Jeffrey L. Goldberg, MD, PhD, of the University of Miami Bascom Palmer Eye Institute, received the Cogan Award for young investigators. Goldberg's lecture was *Retinal Ganglion Cell Development and Regeneration*.

ARVO/Champalimaud Lecture



The African Programme for Onchocerciasis Control (APOC) received the 2012 Champalimaud Award. Retired program director Uche Amazigo, MD (left, with Alfred Sommer of Johns Hopkins University and Lenor Beleza of the Champalimaud Foundation), presented the 2012 ARVO/Champalimaud Award Lecture on behalf of APOC.

Creating a national vision research agenda

The National Eye Institute is embarking on a new venture to expand and enhance its strategic planning effort. In August, NEI launched the Challenge to Identify Audacious Goals in Vision Research and Blindness Rehabilitation. The Challenge is conducted under the America COMPETES Reauthorization Act of 2010, which President Obama signed into law in 2011.

Success will require engaging a large number of creative and innovative individuals who can contribute novel and far-reaching ideas. I encourage all members of ARVO, who meet the eligibility criteria for the America COMPETES Act, to participate by submitting an "audacious" goal and by spreading news about the challenge to your colleagues in the vision research community and other medical and scientific disciplines.

NEI will award up to 20 Challenge contestants a \$3,000 prize for a short (~ 1 page) description of an audacious goal. The entries will be anonymized and judged by NIH staff. Winners will be invited to attend the NEI Audacious Goals Meeting, slated for February 2013, to present and discuss the importance of their concept. Meeting participants will explore, expand and refine the winning entries. After the meeting, NEI in consultation with its National Advisory Eye Council, will incorporate the most compelling audacious goals into a national research agenda that will inform research priorities for NEI and other public and private vision research organizations.

What is an audacious goal? One that fundamentally advances vision research or vision care by closing critical knowledge gaps, opening developmental bottlenecks, finding missing pieces to scientific puzzles, or providing key elements to translate scientific discoveries into clinical applications. NEI is looking for bold ideas from vision researchers, the greater science community, and the public that support the NEI mission — to conduct and support research, training, health information dissemination and other programs aimed at reducing the burden of vision disorders and disease worldwide.

NEI was the first NIH institute to engage in strategic planning. For four decades, NEI relied exclusively on expert panels in vision science to create a research plan in six broad program

areas: retinal diseases; corneal diseases; lens and cataract; glaucoma and optic neuropathies; strabismus, amblyopia, and visual processing; and low vision and blindness rehabilitation.

The most recent compilation of these six panel reports, *Vision Research: Needs, Gaps, and Opportunities*, was published in August 2012 and outlines critical areas that need sustained research. NEI now seeks to extend strategic planning activities to prioritize and identify far-reaching goals with high promise to impact the Institute's mission.

The past decade has delivered powerful resources and tools to conduct research that will facilitate breakthroughs in understanding and treating disease. Beginning in 2001 with the elucidation of the human genome, significant advances continued with the first demonstration of human ocular gene therapy, development of induced pluripotent stem cells, identification of silencing and micro RNAs, and production of organized neural retinal tissue in an eyecup developed from mouse

stem cells. Now, the stage is set to think boldly about future goals for vision research.

A new concept in NIH strategic planning, the NEI Audacious Goals Challenge will garner input from across the full spectrum of science and engineering. The Challenge solicits original and inventive approaches from academia, industry, the nonprofit sector and the general public. Thus, NEI is casting the widest net possible to capture ideas transferable to vision science.

Why a contest? Challenges stimulate innovative thinking. Our greatest feats in science and technology — moon landings, vaccines and genome sequencing — transpired when creative, bright individuals rallied around a singular cause. Even if the original idea can be traced to a single investigator or team, the most extraordinary ideas do not blossom without the greater community of science. Appealing to vision researchers and talented individuals from other disciplines, the NEI Audacious Goals Challenge will energize the research community and foster new collaborative activities toward decreasing the burden of eye diseases and blindness worldwide. ■



Paul A. Sieving, MD, PhD, FARVO
Director, National Eye Institute
National Institutes of Health

NEI is looking for bold ideas from vision researchers, the greater science community and the public that support the NEI mission.



How to enter

- Read the entry and eligibility rules and submit a challenge at nei.nih.gov/challenge.
- Submissions should address why the audacious goal is important, how to achieve the goal within 5 – 10 years, and how realization of the goal will impact the NEI mission.
- The deadline for submission is November 12, 2012.

ARVO 2013

fact:

There are about 50 cafes, sandwich shops, fine restaurants, bars and night spots within two blocks of the convention center.



Big differences in House and Senate LHHS bills

In July, the House Labor, Health and Human Services, and Education Appropriations Subcommittee marked up its FY2013 spending bill that would flat-fund NIH at \$30.6 billion, per the President's budget request. This level is \$100 million below that in the Senate's bill (S. 3295, approved on June 14 by the Senate Appropriations Committee).

The House bill also funds NEI at \$701.8 million, reflecting a minimal 0.01% cut from the FY2012 level of \$702.71 million. This differs from the President's budget proposal, which cuts NEI by \$8.9 million (1.2%) due to a transfer of AIDS funding reflecting dissolution of the Cytomegalovirus Retinitis clinical trials.

The Senate bill cuts NEI funding by the \$8.9 million but then adds back in \$2 million for a net funding level of \$695.1 million (a 0.9% cut). This reflects a \$6.7 million difference in NEI funding levels between the two bills.

The bills also differ in other ways. Highlights include:

- **Salary cap:** The House proposes to reduce it to Executive Level (EL) III (\$165,300) from EL II (\$179,700), which was the level proposed in the Senate bill and in FY2012 funding. Both ARVO and NAEVR were signatories on a May 16 letter to Congress urging a return to EL I.
- **Program evaluation transfer:** Because the House bill proposes eliminating the Agency for Healthcare Research and Quality (AHRQ), it would reduce the 2.5% to 1% program evaluation transfer that all Department of Health and Human Services (DHHS) agencies pay. The Senate bill does not eliminate AHRQ and maintains the transfer at 2.5%, rejecting the President's proposal to increase it to 3.2%.
- **NCATS/CAN:** The House bill reduces funding for NIH's new National Center for Advancing Translational Sciences (NCATS) by funding its Cures Acceleration Network

at \$10 million versus \$40 million as in the Senate bill. The House also specifies funding for the Clinical and Translational Science Awards (CTSA) program within NCATS at \$487.7 million (amount not specified in Senate bill) and states that changes cannot be made to the CTSA program until Institute of Medicine review of NIH changes to its clinical trials programs.

- **Institutional Development Awards (IDeA) program:** The House bill funds the IDeA program, which is managed by the National Institute of General Medical Sciences within NIH, at "not less than" \$376.4 million, a full \$100 million greater than that in the Senate bill.
- **Grants management:** Although the Senate bill was generally silent on grants management issues, the House bill specifies that NIH's allocation of funds should be 90% for extramural activities, 10% for intramural activities, and at least 55% for basic science activities. The House bill also precludes NIH from using any funds for "economic research programs, projects or activities."

The House bill, which has already been heavily criticized by Democratic leaders since it defunds and eliminates programs associated with the Affordable Care Act, may not be able to secure enough votes to be approved by the House. However, it will be an important "marker" in negotiations with the Senate when FY2013 appropriations are finalized in 2013. ■

CR expected; lower grant funding may continue

Congress is expected to take up a six-month Continuing Resolution (CR) that would fund the government in FY2013, which begins October 1.

The CR, which is expected to fund operations at the FY2012 level through the first quarter of 2013, takes pressure off Congress to finalize spending bills in a potential lame duck session after the November elections.

Although the Office of Management and Budget will provide official guidance on spending, a CR often means that NIH funds non-competitive grants at a level below 100% until a final spending bill is enacted. ■

	FY2012 Final	FY2012 of .189% Rescission	FY2013 President's Budget	FY2013 Senate	FY2013 House
NIH*	\$30.7B +1%	\$30.64B +.81%	30.6B 0%	30.7B +0.3%	\$30.6B 0%
NEI	\$704.04M +.46%	\$702.71M +.27%	\$693.01M -1.2%	\$695.1M -0.9%**	\$701.8M -0.01%

* Program level — Net of transfers

** \$8.9M cut due to dissolution of CMV Retinitis study; Senate adds \$2M

Sequestration looms large

A RVO joined NAEVR and 3,000 other organizations as a signatory on a July 12 Nondefense Discretionary Coalition letter to Congress urging its leaders to avert sequestration. Sequestration refers to the mandatory budget cuts set to occur on January 2, 2013. The letter urged Congress to adopt a balanced approach to deficit reduction that does not include further cuts to nondefense discretionary spending, including NIH funding.

ARVO members also joined thousands of their research colleagues in emailing letters to Congress. This came after the Senate LHHS Appropriations Subcommittee released the first comprehensive report on the impact of sequestration on education, health, and labor programs in July.

The report, titled *Under Threat – Sequestration’s Impact on Nondefense Jobs and Services*, confirms that NIH spending would be cut by \$2.4 billion and NEI by \$54.8 million. ■



Senator Tom Harkin (D-IA) addressed a rally, supported by NAEVR, to avoid sequestration.

Bill would increase VTRP funding to \$10 million

In July the Houses passed a bill increasing funding for the Department of Defense’s Vision Trauma Research Program (VTRP) from \$5 million to \$10 million.

Congressman Tim Walz (D-MN), who is the highest ranking enlisted veteran ever to serve in Congress, offered the amendment, that passed and increased funding from its original \$5 million level.

In August, the Senate Appropriations Committee approved its bill, which includes

“vision research” as one of several areas of research eligible for funding — but it did not specify it as a line item funded at a certain level. The Senate has not yet

passed the full bill, and when Congress takes final action, likely in the first quarter of 2013, it will need to conference these very different bills.



Left to right: Rep. Tim Walz (D-MN) with ARVO member Arthur Sit, SM, MD (Mayo Clinic).

NAEVR and its advocacy colleagues have requested FY2013 VTRP funding at \$10 million, and Rep. Walz has previously served as the author of a “Dear Colleague” letter to fellow House Members urging VTRP funding at \$10 million.

During his floor speech in support of the amendment, Rep. Walz emphasized the high number

of troops that have visual dysfunction related to traumatic brain injury (TBI) and how visual dysfunction can serve as a marker for diagnosis of TBI. ■

IOVS

Investigative Ophthalmology
& Visual Science

New book: 50 years of the best of IOVS

IOVS turns 50 this year. To celebrate, ARVO will be publishing a 700+ page volume of the best of IOVS.

And who better to select the groundbreaking, seminal and controversial papers from Volume 1 of *Investigative Ophthalmology* through Volume 52 of *Investigative Ophthalmology & Visual Science* than the most recent four editors-in-chief?

They are:

- David Beebe, PhD, FARVO
- Paul Kaufman, MD
- Robert Frank, MD, FARVO
- Gerald Chader, PhD, FARVO

The team is reviewing articles and suggestions from members and past editors and will be organizing the volume to show the growth and changes in the dynamic field of vision research.

Can you name all of the distinguished members who have served as editor-in-chief? You’ll know if you read this volume, which will also include historic information about ARVO’s leading international research journal.

Both hardback and paperback editions will be available for sale at the 2013 Annual Meeting. ■

ARVO 2013 fact:
If you book your hotel through the ARVO Housing Bureau, your room will have free wifi.



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