Spring 2014

ARVO® News

The Association for Research in Vision and Ophthalmology

arvo.org

Year-round networking

Most members agree one of the most valuable aspects of the ARVO Annual Meeting is the networking — meeting new people, catching up with old friends and former colleagues, identifying potential collaborators and learning from each other.

Soon, members won't have to cram that networking into one week in May. The new ARVOConnect online networking platform will help you build connections and share knowledge 24/7/365.

arvoconnect.arvo.org

ARVOConnect is a unique, private online platform that will help members connect with each other; share resources; provide educational and professional development opportunities; collaborate; discuss and engage with other attendees in connection with ARVO meetings and more.

Why do we need ARVOConnect?

ARVO's leaders have long wanted to increase opportunities for members to interact with each other outside the Annual Meeting. And enhancing communications is a key objective of the new Strategic Plan's Science Pillar.

How does it work?

This platform will be accessible simply by logging into the ARVO website. It will replace the Member Directory and offer many more features for members to actively connect with each other in a secure online environment.

Features

Members can search and access profile and contact information for one another and can

See **ARVOConnect,** page 6

ARVO 2014 Meeting Preview enclosed

Panel discussion planned for WEAVR Luncheon

See enclosed ARVO Foundation report

2014 Fellows class announced

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Marshall, Bennett to deliver ARVO 2014 keynotes

Nobel Laureate Barry Marshall, FRACP, FRS, FAA, of the University of Western Australia will deliver the opening keynote at the ARVO 2014 Annual Meeting in Orlando, Fla. Citing his favorite Nobel Laureates as examples, he will explain how curiosity-driven research can lead to outstanding new discoveries and paradigm shifts in science. His address will be on Sunday, May 4, 12:15pm.


Barry Marshall, FRACP, FRS, FAA
University of Western Australia


Jean Bennett, MD, PhD, FARVO
University of Pennsylvania School of Medicine

Jean Bennett, MD, PhD, FARVO, of the University of Pennsylvania School of Medicine, an internationally recognized pioneer in retinal gene therapy, will deliver the closing keynote session on Thursday, May 8, 2pm. Speaking on gene transfer approaches to treat retinal degenerative ocular neovascular diseases, Bennett has the distinction of being the first woman keynote speaker in ARVO's 86-year history.

For more on the keynote speakers or additional ARVO 2014 information, see the enclosed *Meeting Preview*. ■

Inside

President's message

Celebrating research leadership

Justine R. Smith, FRANZCO, PhD, FARVO

While we, ARVO members, await the outcome of review of our abstract submissions, the Annual Meeting Program Committee and ARVO staff are working hard to ensure another successful Annual Meeting at another new location. The theme of the ARVO 2014 Annual Meeting in Orlando, Fla., will be "Leading Eye and Vision Research." ARVO members are leading research efforts in diverse areas, such as imaging, neuroscience and public health, and the ARVO Annual Meeting is the event where eye and vision researchers can expect to hear research that is on the cutting edge across many fields.

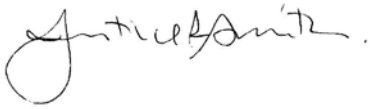
The ARVO 2014 Annual Meeting will be a well-timed celebration of research leadership with the 2013 – 2017 ARVO Strategic Plan in full swing: In 2014, working groups — focused on specific aspects of science, advocacy, education and meetings, and ARVO's global presence — will be coming together to start important work.

At ARVO 2014, we will be treated to opening and closing keynote addresses by visionary research leaders. Nobel Laureate, Barry J. Marshall, FRACP, FRS, FAA, will open our meeting with a lecture entitled, "How curiosity-driven research can lead to the Nobel Prize." Jean Bennett, MD, PhD, FARVO, will close the meeting, telling an amazing story of moving gene therapy from laboratory to clinic to cure blindness. We will also hear lectures by winners of ARVO's prestigious research awards: Wolfgang Baehr, PhD, FARVO (Proctor Medal winner); Krzysztof Palczewski, PhD (Friedenwald Award winner); Jose Cunha-Vaz, MD, PhD (Weisenfeld Award winner); and Kirill Martemyanov, PhD (Cogan Award winner).

Following the positive response to my comments on gender inequality at ARVO in the Fall issue of *ARVONews*, the next Annual Meeting will include a forum to provide further information on this subject and to collect opinions from our membership on mechanisms to promote women in leadership roles within the organization. We will review relevant statistics, learn from experts regarding potential approaches to our gender gap, hear from members about their views on gender inequality at ARVO and, as a group, begin to develop a plan for action. The input from the ARVO membership will be critical information for a future working group that will address this issue. Please mark your calendar for Tuesday, May 6, at 5:30pm for this important event.

In addition to many exciting research lectures, symposia, sessions and special interest groups at ARVO 2014, members can look forward to enjoying the regular social events at some unusual locations. The Sunday Social and ARVO Rocks! on May 4 will take place at Universal Studios Orlando; we will enjoy exclusive access to a portion of the park, including "Rip Ride Rock-it," "Twister," "Transformers," "Despicable Me" and "The Mummy" rides, while the band performs on the Universal Studios stage. On the evening of May 7, we will have the choice of attending the Classical Concert or Karaoke Night at ICEBAR Orlando.

Like me, I am sure you are planning to join over 11,000 researchers at the ARVO 2014 Annual Meeting to learn where eye and vision science is leading. I look forward to seeing you in Orlando in May! ■



Justine R. Smith, FRANZCO, PhD, FARVO

WOC2014

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A roundup of committee activities

Advocacy Committee:
- Organizing a workshop entitled "Safely Taking Risks in Public and Patient Involvement" for the ARVO 2014 Annual Meeting.
- Considering several activities for the coming year, including identifying other outreach/advocacy groups to collaborate with.
- Working with staff to plan a higher profile presence in ARVO Central at ARVO 2014.

Animals in Research Committee:
- Planning a workshop on animal models and clinical trials for the ARVO 2014 Annual Meeting.
- Monitoring the status of legislative, policy and/or regulatory issues that could potentially affect ARVO members who work with animals.
- Reviewing the revised guiding principles for animal research that NIH will be implementing.
- Committee members are working to develop contacts with other organizations, such as Association for Assessment and Accreditation of Laboratory Animal Care, National Association for Biomedical Research, Federation of American Societies for Experimental Biology and American Psychological Association.

Annual Meeting Program Committee:
- Finalizing the program for the ARVO 2014 Annual Meeting.

Commercial Relationships Committee:
- Organizing a workshop for the ARVO 2014 Annual Meeting that will concentrate on pre-clinical development in preparation for IND submission and will describe some of the expertise through contract research organizations.
- Collaborating with the Professional Development and Education Committee to explore future potential formats for addressing entrepreneurship.
- Co-organizing an interactive workshop for 2014: "A Dialogue with Entrepreneurs" with the Members-in-Training Committee.

Continuing Medical Education Committee:
- Working with ARVO staff on the Accreditation Council for Continuing Medical Education (ACCME) reaccreditation process.
- Managing ARVO's Continuing Medical Education program to ensure it meets or exceeds accreditation criteria for ACCME.

Diversity Issues Committee:
- Organizing a workshop for ARVO 2014 Annual Meeting: "Leading Vision Research: Promoting and Managing Diverse Collaborations."
- Sponsoring travel grants to ARVO 2014 — one from the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) annual conference and two from the National Medical Association conference.
- Collaborating with the Members-in-Training Committee to pilot a networking/mentoring program for under-represented persons at Pizza with an Expert.

Ethics and Regulations in Human Research Committee:
- Reviewed the revised (October 2013) World Medical Association Declaration of Helsinki and provided an update on changes to the ARVO membership via the *Insight* e-newsletter.
- Organizing a workshop on ethical issues in new treatment and technology for the 2014 Annual Meeting.

International Members Committee:
- Working with ARVO staff to encourage increased participation and visibility of ARVO members from around the globe.

Members-In-Training Committee:
- Organizing three sessions at the Annual Meeting, including Pizza with an Expert, the Clinician-scientist Forum and the Members-in-Training Job Forum.
- Piloting a breakfast version of Pizza with an Expert at ARVO 2014.
- Co-organizing an interactive workshop with the Commercial Relationships Committee for 2014: "A Dialogue with Entrepreneurs."
- Continuing to sponsor a first-time attendee table at ARVO Central.
- Working with the Annual Meeting Program Committee to highlight and award the best posters by MIT authors.

Professional Development and Education Committee:
- Reviewed and selected six Education Courses to be held on Saturday prior to ARVO 2014, as well as stand-alone conference proposals for 2014.
- Recommended: Ocular Immunity, Autoimmunity and Inflammation, which will be held in October 2014.
- Developing a strategy for the selection of Annual Meeting content to be videoed for on-demand access by ARVO members.
- Working to update the current committee description and scope to ensure a clear and standard process for vetting ARVO educational activities.

Publications Committee:
- Co-sponsoring a workshop: "Authorship Ethics: Credit and Credibility," with the Members-in-Training Committee. ■

Call for Volunteers

Volunteers play a key role in planning ARVO's future. If you have expertise and enthusiasm to share, ARVO urges you to apply to serve on an ARVO committee. The 13 committees seek contributions from all members, including members-in-training and international members.

Committee members serve a three-year term and receive points toward ARVO Fellows eligibility. Many members find that committee service provides them with invaluable experience in leadership and teamwork.

ARVO will be accepting applications to serve on an ARVO committee beginning in mid-February 2014. Look for a notice in the *Insight* e-newsletter or check **arvo.org/committees**. Any questions should be directed to **committees@arvo.org.** ■

Your guide to ARVO 2014 Elections

This coming year boasts an exciting election, as ARVO members go to the polls — using their personal computers to vote. An important privilege among ARVO members, voting sets the course for ARVO's scientific programming as new members of the Annual Meeting Program Committee (AMPC) are chosen by their peers. Some sections are electing new Trustees or soliciting Trustee candidates.

Who gets to vote for whom this year?

AMPC Elections — Each section and cross-sectional group elects a representative to serve on the AMPC, with exception of the AP, CO and RE Sections, who elect two members, each. This is a three-year term, except for VI Section and Nanotechnology and Regenerative Medicine Cross-sectional Group members, who serve a four-year term.

Trustee Candidate Elections — This year, the PH and RE Section members will narrow down their nominees for section Trustees to two candidates each. These candidates will run in the 2015 Trustee Elections.

Trustee Elections — The IM, RC and VI Section narrowed down their nominees to two candidates each in the 2013 elections. This year, one will be elected from each section to serve as section Trustee for a five-year term.

For more information about the ARVO elections: **arvo.org/elections.** ■

Who's running for office?

2014 IM, RC and VI Section Trustee candidates

Last year, the IM, RC and VI Sections cast their votes to decide who should run for Trustee in this year's elections. Meet the candidates:

Immunology/Microbiology (IM) Section

Andrew D. Dick, MBBS, MD, FMedSci
University of Bristol
Bristol, England, U.K.

Douglas A. Jabs, MBA, MD
Icahn School of Medicine at Mount Sinai in New York
New York, N.Y.

Retinal Cell Biology (RC) Section

Steven J. Fliesler, PhD, FARVO
University at Buffalo/State University of New York (SUNY-Buffalo)
Buffalo, N.Y.

Peter Koulen, PhD
University of Missouri-Kansas City
Kansas City, Mo.

Visual Psychophysics/Physiological Optics (VI) Section

Raymond A. Applegate, OD, PhD, FARVO
Visual Optics Institute at the College of Optometry, University of Houston
Houston, Texas

Joseph Carroll, PhD
Medical College of Wisconsin
Milwaukee, Wis.

Read more about the candidates at **arvo.org/candidates.** ■

Highlights from the fall 2013 Board meeting

This past October, the Board of Trustees met in Denver, Colo., one of the future locations of the ARVO Annual Meeting (May 3 – 7, 2015). This meeting marked a changing of the guard for the Members-in-Training membership. Megan Capozzi started her two-year term as At-large Members-in-Training (MIT) Trustee. Also present was outgoing MIT Trustee Anton Kolomeyer, MD, PhD, whom the board thanked for his service and praised for setting the standard as the first to hold this position.

A detailed update of the progress on the strategic plan was delivered by Mark Petrash, PhD, who is leading the strategic planning process. To review our strategic plan, visit **arvo.org/strategic_plan.** ■

Nominate Today: Keys to a successful nomination

PH and RE Trustee nominations and Annual Meeting Program Committee (AMPC) nominations are open through Feb. 11. If you are a regular, sustaining or life member and would like to submit an online nomination, visit **arvo.org/elections.**

Here are some tips on how to submit a successful nomination:

- **Pay your dues.** Please note that the same rules apply to nominations as they do to elections. In order to qualify, dues must be paid before Feb. 1, 2014. This goes for everyone involved in the nomination process — the nominee, nominator and even the endorser.
- **Check the criteria.** In addition to your section, if you are a member of one or more cross-sectional groups, take the time to review the criteria for each to see which one is the best fit.
- **Don't be shy.** If you feel you are the best person for the job, there is also an option to self-nominate.
- **Make a position decision.** An ARVO member can only be nominated for one position per year. If you are a member in the PH or RE Sections and interested in a Board or AMPC position, you will want to compare the roles and responsibilities of each. Decide which position is right for you.
- **Save the date.** If you are interested in an AMPC position, make sure to mark Wednesday, May 7, 2014, at the Annual Meeting in Orlando, Fla. If you are elected, you will be expected to attend this meeting.
- **Confirm your category.** Both the nominee and nominator must be ARVO members in the regular, sustaining or life membership categories in order for the nomination to be eligible. Likewise, both the nominee and nominator or endorser must be in the same section or cross-sectional group as the position for which they are submitting a nomination.
- **Use the submission materials checklist.** This checklist will help you organize your submission materials before you start filling out the form:
- **Nomination statement:** A statement of 300 words or less describing why the nominee's scientific contributions best qualify her/him for the role on the AMPC.
  - ❑ Biographical sketch: 500 words or less describing the nominee's education, work experience, training and other relevant attributes that qualify her/him for the position.
  - ❑ Disclosures: A list of the nominee's commercial and financial interests.
  - ❑ Headshot photo: A JPEG image suitable for online reproduction.
  - ❑ Letter of:
    - ❑ Endorsement for self-nominations only: 300 words or less from a voting member in your section endorsing the self-nomination
    - ❑ Consent: A signed statement from the nominee confirming interest in running (not required for self-nominations)

For additional information and answers to frequently asked questions, please visit **arvo.org/eElectionFAQs.** ■

ARVOConnect, continued from page 1

build their own networks and profiles, adding much more detail to their profiles if they wish.

The Board, committees and working groups can collaborate through secure and private online discussions.

ARVOConnect can host multimedia educational materials (including documents, presentations, video and more) and membership materials.

Members can form discussion groups on particular interest areas; even individual labs can request their own closed groups for discussion and collaboration, storing documents and planning events.

Such groups can be open for any member to join, or closed for a particular group that wants to collaborate privately.

Archiving allows members to upload attachments and share them if they wish through a resource library (these can also be open or private).

Blogs provide a new way for the entire community to interact.

Members tailor email alerts to learn about new activity on ARVOConnect in the way they wish (real-time updates, a daily digest or a weekly digest).

Watch your email for an invitation to log in and tips for getting started — or click the link at the top of the ARVO website. ■

Colombia chapter co-sponsors workshop, trains residents in conducting and presenting research

By Jeffrey Boatright, PhD, FARVO, and Joyce Tombran-Tink, PhD, FARVO

The newly formed Colombia Chapter of ARVO (CARVO) and the Sociedad Colombiana de Oftalmologia (Society of Ophthalmology of Colombia; SCO) held their Congreso de Residentes E Investigacion (Resident's Research Conference) in September 2013 in San Andres, Colombia. The Colombian chapter invited ARVO representatives to present a two-day training workshop that covers scientific methods and practices in conducting research in vision and ophthalmology, writing a research paper for publication in international journals and orally presenting research at a scientific forum.

More than one-hundred residents and several senior faculty members and clinicians attended the workshop. The meeting was an unmitigated success, largely due to the quality of the residents, and the focus and hard work of the Colombian faculty and local organizing committee.

"CARVO Day" started with formal presentations conducted by the ARVO team. The morning session covered four broad topics: the scientific method, the publication process, writing and submitting a manuscript for peer reviewed publication in international journals and responding to reviewer comments.

This was followed by a practical session in the afternoon where 10 break-out groups constructed a scientific abstract from data provided to them from a recently published paper. Each group then publicly critiqued its own abstract against the actual published one and those written by the other groups. Not only were the tasks new to the residents, they had to accomplish them in a non-native language under time constraints. The key objective of this exercise was to encourage the residents to write standard formatted abstracts from their own research to submit to the ARVO Annual Meeting.

This intense first day ended successfully with residents gaining a solid understanding of the architecture of a scientific abstract and, by extension, the essential components of a research paper.

On the second day, the objective was to train the students to present their research at a scientific meeting. Eighteen residents gave 10-minute talks

See **CARVO,** page 8

Members of ARVO, the Colombia Chapter of ARVO (CARVO) and the Sociedad Colombiana de Oftalmologia (Society of Ophthalmology of Colombia) met in San Andres to take part in the first vision research workshop for residents in that region of the South America. Back row, from left: Mauricio Jaramillo, Ramiro Prada, Governor of San Andres Islands Aury Guerrero Bowie, John Ash, Jaime Velasque O"Byrne, Jeffrey Boatright, Roberto Baquero, Carlos Restrepo and Alberto Diaz. Front row from left: Juanita Ortega and Joyce Tombran-Tink.

ARVO CHAPTER AFFILIATE

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

Asociación de Investigación en Visión y Oftalmologia (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

Sociedad de Cirugia Ocular (CARVO) — affiliated 2013
Bogota, Colombia

ARVO-Egypt — affiliated 2013
Cairo, Egypt

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**

ARVO Fellows

ARVO will induct the Fellows Class of 2014 on Sunday, May 4, at the opening ARVO/Alcon Keynote Session in Orlando, Fla., to recognize and honor these members for their leadership, dedication and contributions to the Association.

Gold Fellows

Dimitri T. Azar, MD, MBA
Bruce A. Berkowitz, PhD
John I. Clark, PhD
Scott W. Cousins, MD
Steven J. Fliesler, PhD
Thomas R. Friberg, MS, MD
John D. Gottsch, MD
David R. Hinton, MD
Gary N. Holland, MD
Marc Kantorow, PhD
Peng Tee Khaw, MD PhD
Uday B. Kompella, PhD
Friedrich E. Kruse, MD
Geoffrey P. Lewis, PhD
Alexander V. Ljubimov, PhD
David C. Musch, PhD
Joseph F. Rizzo, III, MD
Joel S. Schuman, MD
Janet R. Sparrow, PhD
Kathy K.H. Svoboda, PhD

Silver Fellows

Shiro Amano, MD
Jayakrishna Ambati, MD
Nancy J. Coletta, OD, PhD
Stephen P. Daiger, PhD
Filippo Drago, MD, PhD
Dan Epstein, MD, PhD
Roderick J. Fullard, PhD, OD
David F. Garway-Heath, MD
David Huang, MD, PhD
Karen M. Joos, MD, PhD
Ordan J. Lehmann, MD, PhD
Jennifer I. Lim, MD
Woo-Kuen Lo
Frank J. Lovicu, PhD
Susana Marcos Celestino
William F. Mieler, MD
Robert F. Miller, MD
Kenneth P. Mitton, PhD
Rajiv R. Mohan, PhD
Vittorio Porciatti, DSc
Graham E. Quinn, MSCE, MD
Thomas W. Raasch, OD, PhD
Leopold Schmetterer, PhD
Marilyn E. Schneck, PhD
Mathias W. Seeliger, MD
K. Krishna Sharma, PhD
David M. Silver, PhD
Giovanni Staurenghi, MD
Jody A. Summers Rada, PhD
Dora Fix Ventura, PhD

CARVO, continued from page 7

with discussion highlighting their own research. These were judged for scientific merit and presentation quality. The session format mimicked ARVO platform sessions with moderators, timed talks and discussions. The ARVO-like mini symposium was done entirely in English but again the residents rose to the challenge. Although reticent at first to engage in discussions, the pace of the questions picked up rapidly leading to an exciting interchange and a challenging experience for both speakers and audience. This was one of the highlights of the workshop as it indicated that the students incorporated the organization, writing and critiquing skills learned the previous day during the training session.

When the scores were tallied and the winning presentation announced, the crowd cheered enthusiastically. One outcome of this workshop is that the winner will attend ARVO 2014 in Orlando with full financial support from the SCO. A second outcome is that many of the residents now plan to submit abstracts to the ARVO Annual Meeting.

This workshop is certain to have a positive effect in the quantity and quality of the ophthalmology research program in Colombia and its future translation to clinical, professional, educational and career developments. Investment in such training is certain to advance vision research and clinical practice globally, enhance communications and strategic collaborations and create a positive ripple affect for ARVO in the vision community worldwide.

SCO is enthusiastic but realistic about research in Colombia, which is historically under-funded. The Colombian government, however, plans to increase its biomedical research support in the coming decade. SCO is working to ensure that its residents are intellectually and practically prepared to benefit from this overture. ■

Alabama stakeholders assemble at statewide vision summit

By Cynthia Owsley PhD, MSPH; University of Birmingham School of Medicine

More than 100 eye care providers, health services administrators, researchers, patient advocates and community stakeholders from across Alabama met on Nov. 22, 2013, in Birmingham, Ala., to explore issues, learn the latest statistics and share ideas about eye health and the management and prevention of eye disease. The Alabama Vision Summit was hosted by the EyeSight Foundation of Alabama, Prevent Blindness and the University of Alabama at Birmingham (UAB) Callahan Eye Hospital.

"The Alabama Vision Summit brought together a variety of organizations that share a common goal — preserving visual health in Alabama," said Christopher Girkin, MD, MSPH, chairman and professor, Department of Ophthalmology at UAB School of Medicine. "It was a critical step in developing more efficient care delivery programs that take advantage of the combined efforts from all of these groups, and was enlightening for me personally to interface with so many community partners passionate about reducing the burden of vision loss. Several exciting areas of synergy were found with our department and hospital that are currently being explored to create novel integrated programs to provide care to the underserved and more effectively distribute resources where needed most."

During the summit, speakers from Prevent Blindness America discussed the impact, prevalence and cost of vision problems, the need for a better system of care for children's vision and accessibility issues related to health care and insurance — both nationally and in Alabama. An expert from the Centers for Disease Control and Prevention (CDC) Vision Health Initiative described how vision impairment is correlated with many other chronic conditions, and shared information about a state vision collaborative formed in Georgia, which is similar to an initiative Alabama stakeholders are considering adopting.

Faculty from UAB's Departments of Ophthalmology and Vision Sciences presented the latest scientific discoveries that will contribute to new and better treatments for inherited retinal degenerations, age-related macular degeneration and glaucoma. Topics that included the future of the National Institutes of Health research funding, trends in low vision and results from a survey of eye care providers in Alabama on the state's most pressing public eye health issues were presented by representatives of the National Alliance for Eye and Vision Research, low vision rehabilitation experts from Birmingham and Mobile, Ala., and others.

The Alabama Vision Summit reinforced that there is much to be done to reduce blindness and vision impairment for our population, yet illustrated that there are resources, people and institutions diligently working toward that goal. To keep up momentum, the EyeSight Foundation will continue to examine the feasibility of forming a statewide vision collaborative to advance effectiveness. ■

Alabama Vision Summit speakers included from left, Alison Manson, MPH, of the Prevent Blindness America; ARVO's Cynthia Owsley, PhD, MSPH, of UAB School of Medicine; Jeff Todd, JD, of Prevent Blindness America, Torrey DeKeyser of the EyeSight Foundation of Alabama; and Kira Baldonado of the National Center for Children's Vision and Eye Health at Prevent Blindness America.

ARVO Advocacy Committee member Alecia Gross, PhD, and ARVO Animals in Research Committee member J. Crawford Downs, PhD, attended the statewide vision summit.

"Research needs creative people with new ideas"

Goncalo Abecasis, PhD, left, spoke with Rep. John Dingell (D-MI), the chairman emeritus of the House Energy and Commerce Committee with oversight jurisdiction over NIH, during International AMD Awareness Week in September.

Last September, Goncalo Abecasis, PhD, of University of Michigan School of Public Health, joined 250 other researchers and patients in visits to Capitol Hill as part of an advocacy day for medical research. Abecasis was also the featured speaker at a Congressional briefing organized by the Alliance for Eye and Vision Research (AEVR) to raise awareness of AMD.

The briefing highlighted how NEI-funded researchers are using "big data" from Genome Wide Association Studies to determine the genetic basis of AMD. Abecasis's work focuses on the identification and characterization of genes determining human variation and disease through the development of analytical methods and statistical tools that facilitate the mapping of complex traits.

Abecasis is a leader in NEI's AMD Gene Consortium, a network of international investigators representing 18 research groups. In March 2013, the consortium reported in the journal *Nature Genetics* the discovery of seven new regions of the human genome — called loci — that are associated with increased risk for AMD, as well as confirmation of 12 loci identified in previous studies.

He is spearheading efforts to further analyze the areas around the 19 loci to identify undiscovered rare genetic variants that may have a disproportionately large effect on AMD risk.

His central message to Congress: Budget cuts slow progress and make it challenging to recruit and retain researchers. "Like Capitol Hill, medical research needs a lot of creative people with new ideas," he said. ■

ARVO member Goncalo Abecasis was the featured speaker at a September briefing on Capitol Hill that highlighted how NEI's Genome Wide Association Studies project is using big data to determine the genetic basis for AMD. The briefing was organized by the Alliance for Eye and Vision Research (AEVR) as part of International AMD Awareness Week.

Prevent Blindness®
Our Vision Is Vision®

2014 Joanne Angle Investigator Award — a research grant by Prevent Blindness

Deadline: March 31, 2014

The 2014 Joanne Angle Investigator Award provides funding for research investigating public health related to eye health and safety. Applications will be accepted in the following priority areas in adult vision, children's vision, or eye injury:

- Burden/economic aspects of eye disease/vision loss on society
- Best practices to integrate vision screening/follow up care to system care access
- Vision program effectiveness/evaluation

All research grants need to promote the core mission of Prevent Blindness — preventing blindness and preserving sight. Basic laboratory science research will not be supported under this program.

The deadline for the eleventh annual Joanne Angle Investigator Award is March 31, 2014. Grants are for a one-year period, up to $30,000, reviewed by a panel of scientists, and commence on July 1, 2014.

For more information, visit: preventblindness.org/investigator-awards. Contact Nita Patel, Prevent Blindness Director of Public Health at +1.312.363.6019 or npatel@preventblindness.org with any questions.

Save the date for Asia-ARVO 2015 in Yokohama, Japan

Feb. 16 – 19, 2015
Pacifico, Yokohama

Asia ARVO 2015 will be hosted by the Department of Ophthalmology, Keio University School of Medicine in Tokyo, Japan. Kazuo Tsubota, MD, FARVO, is the chair.

The theme of Asia-ARVO 2015 is "Evolutions in Ophthalmology: From quality of vision to aging and regenerative science." Lifespans are increasing in developed countries, and longevity affects the visual system, while at the same time the visual system affects longevity. New developments are underway to address this, with Japanese scientists currently starting a clinical trial on AMD patients using the newly discovered iPS cells. Aging and regenerative medicine are relevant topics that Asia-ARVO 2015 aims to address.

The program will focus on new trends and demands in this modern era, as well as the relationship between the eye and the body, the eye and the environment, and finally, the eye and society. The goal of the Congress is to shed light on a new way of perceiving ophthalmology as the most important science in the field of medicine as well as health science.

Program Highlights

- Recent progress in iPS cell research and application
  Shinya Yamanaka, MD, PhD
  Director/professor, Center for iPS Cell Research and Application, Kyoto University
- Application of iPS cells for retinal diseases
  Masayo Takahashi, MD, PhD, FARVO
  Laboratory for Retinal Regeneration, RIKEN Center for Developmental Biology
- Age-related macular degeneration (tenative title)
  Nagahisa Yoshimura, MD, PhD, FARVO
  Department of Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medical Science

Important Dates

- Online registration opens: **April 1, 2014**
- Abstract submission deadline: **August 8, 2014**

The motif

The colorful motif of Asia-ARVO 2015 was created specifically for the meeting by contemporary artist Takashi Murakami, who is famous for his "Superflat" and Louis Vuitton designs. Eyes are a prevalent theme in Murakami's work.

About Yokohama

The port city of Yokohama is Japan's second largest and a popular tourist destination. It is home to beautiful parks, historic landmarks and hundreds of shopping locations. It is just 30 minutes south of Tokyo by train and is connected by rail to Narita and Haneda airports.

We look forward to seeing you in Yokohama. ■

Did you know you can access past Annual Meeting sessions?

Selected sessions from recent ARVO Annual Meetings are available online. Free access to these on-demand sessions is a benefit of ARVO membership. Members can view the listing of videos and create an account to access them at **arvo.org/Conferences_and_Courses/Online_Education/Videos.** ■

Ocular immunity conference to be held in October

ARVO is holding a conference on Ocular Immunity, Autoimmunity and Inflammation Oct. 7 – 10, 2014, at the B Ocean Hotel in Fort Lauderdale, Fla. Organized by Rachel Caspi, PhD, FARVO, of the National Eye Institute, Joan Stein-Streilein, PhD, of Schepens Eye Research Institute and ARVO President Justine Smith, FRANZCO, PhD, FARVO, of Flinders University, this meeting will bring together basic and clinical scientists from diverse academic and biopharmaceutical institutions, and will feature sessions on:

- Mucosal immunity at the ocular surface,
- Innate and adaptive responses in ocular homeostasis and disease,
- Immunological mechanisms in ocular autoimmunity and inflammation,
- Immunological mechanisms in degenerative/age-related ocular diseases, and
- Bench to bedside: biologics and novel therapies for ocular immune-mediated diseases.

Each session will feature internationally known experts in the field and will have two slots for oral presentations selected from attendee abstracts.

A call for abstracts and registration will open March 31 on the ARVO website. ■

Upcoming Meetings and Courses

April

World Ophthalmology Congress (WOC) 2014
April 2 – 6
Tokyo International Forum/Imperial Hotel
Tokyo, Japan
woc2014.org

May

ARVO/ISIE Imaging Conference
May 3
Orlando, Fla.
arvo.org/isie

ARVO Education Courses
May 3
Orange County Convention Center,
South Building; Orlando, Fla.
arvo.org/educationcourses
Separate course registration required.

ARVO 2014 Annual Meeting
May 4 – 8
Orange County Convention Center,
South Building; Orlando, Fla.
arvo.org/am

Vision Sciences Society
May 16 – 24
Tradewinds Island Resorts:
St. Petersburg Beach, Fla.
visionsciences.org/meeting.html

July

ISER XXI Biennial Meeting
July 20 – 24
Hyatt Regency San Francisco at
Embarcadero San Francisco, Calif.
iserbiennialmeeting.org

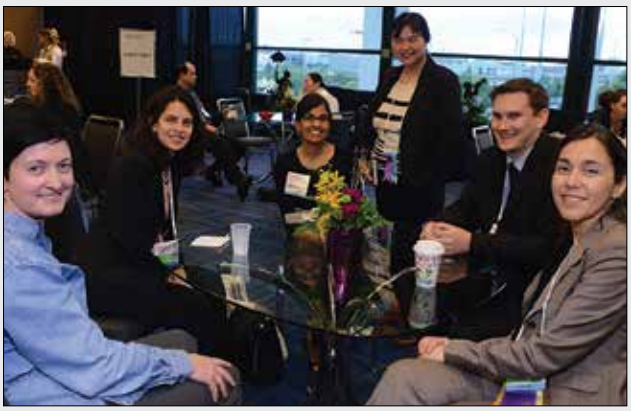
October

European Association for Vision and Eye Research (EVER) 2014
Oct. 1 – 4
The Acropolis; Nice, France
ever.be

ARVO Ocular Immunity and Inflammation Conference
Oct. 7 – 10
B Ocean Hotel; Fort Lauderdale, Fla.
Abstract submission begins March 31.
arvo.org

ARVO hosts "Careers in Research" Happy Hour at AAO

ARVO President Justine R. Smith, FRANZCO, PhD, FARVO, welcomes American Academy of Ophthalmologists (AAO) postdocs and fellows to the YO ARVO! Happy Hour at the AAO Annual Meeting in November.



Smith, along with other ARVO members, held informal discussions on careers in research at YO ARVO!.

"Be patient," Pardue advises young scientists

Machelle T. Pardue, PhD, is a research career scientist at the Atlanta Veteran Administration Medical Center and an associate professor in the Department of Ophthalmology at Emory University School of Medicine in Atlanta, Georgia. Pardue's laboratory focuses on mechanisms and treatments of retinal disease using animal models. Her research interests can be divided into three main topics: neuroprotective treatments, retinal mechanisms of refractive development and diabetic retinopathy.

Pardue's involvement with ARVO includes serving on the Annual Meeting Program Committee from 2010 to 2013, and as its chair from 2012 to 2103. Currently, she is a member of the Semantic Tagging Subcommittee and the Advocacy Strategic Planning Steering Committee's External Working Group. In addition to having 19 abstracts selected for presentation at the ARVO Annual Meeting in the last three years, Pardue has organized and moderated several paper sessions. She has been an invited speaker at ARVO Annual Meetings and other ARVO meetings on topics that include ERG limits, linking genetics to molecular pathways and retinal mechanisms of refractive development.

What was your inspiration for becoming a researcher in the field of ophthalmology?
While I was always interested in medicine and health (focusing on pre-med courses as an undergraduate), I had not considered becoming a biomedical researcher. My career in vision research started when I met Dr. Jacob Sivak at the School of Optometry, University of Waterloo. I was seeking a research technician position to contemplate my future, but Dr. Sivak convinced me (it took a few phone calls!) to enter the vision science graduate program at the University of Waterloo. I loved studying the eye, the academic environment and the clinical application of doing vision research.

What have been some of the highlights of your work?
My research findings have formed the basis for three translation studies to human patients: establishing biocompatibility of a subretinal microphotodiode array to restore vision, testing the efficacy of tauroursodeoxycholic acid (TUDCA) as a neuroprotective agent for retinal degeneration, and demonstrating early functional biomarkers for diabetic retinopathy using electroretinography. I am also very proud of all of the students — from high school to post-doctoral fellows — that have worked in my laboratory to learn solid research skills, contribute to publications and build their own careers in science and medicine.

What can you tell us about the projects you are working on now?
We are currently focused on using mice with specific retinal mutations to elucidate the mechanisms underlying myopia. These studies are revealing the importance of rod photoreceptors in modulating refractive development. In addition, we are developing biomarkers for diabetic retinopathy with the goal of treating early diabetic retinopathy and tracking progression. Our work has recently shown the benefit of L-DOPA treatments to restore dopamine levels in the retina and slow the progression of early retinal dysfunction in diabetic animal models. Finally, we continue to test novel neuroprotective strategies for these and other retinal diseases, including the use of aerobic exercise.

How would you describe one of your biggest career challenges and how you overcame it?
My biggest fear as a junior scientist was not being able to generate novel hypotheses. What if all the good ideas were already taken? However, the longer I perform research and continue to increase my knowledge in various areas, I find that there are plenty of scientific questions yet to be answered. In fact, as illustrated by my various research interests, novel ideas can be generated when bringing a different perspective and knowledge base to a problem. The biggest challenge may be honing grantsmanship skills to successfully compete for funding.

Based on your years of professional experience, what advice would you share with young women scientists about moving ahead in the field?
In this era of instant gratification, it is challenging to build a research career over years or decades. My advice to young scientists is to be patient about building a successful career. This can be even more difficult when juggling the pressures of junior faculty, such as developing courses and raising a family. Continuous focus on collecting reliable data and publishing will cultivate a highly regarded scientific reputation that generates more competitive grant applications and the necessary prerequisites for academic promotion. ■

Machelle T. Pardue, PhD
Atlanta VA Medical Center/
Emory University School of Medicine

IM section members present young investigator awards

The Raniyah Ramadan Award, now in its third year, will be given to the **best ocular microbiology** poster or paper presentation at the ARVO Annual Meeting. This award honors the memory and scientific contributions of our colleague and friend, Dr. Raniyah Ramadan, who passed away in 2011 following a hard fought battle with cancer. Dr. Ramadan's family is recognizing her enthusiasm for vision research by providing this award to young investigators attending ARVO, a meeting at which Raniyah presented and enjoyed attending the past several years.

The Cora Verhagen Prize was instituted in 1995 to honor the memory and scientific contributions of our colleague Cora Verhagen by awarding the **best ocular immunology** poster or paper presentation at the ARVO Annual Meeting. The award is supported by Cora's family and donors to the Verhagen fund at the Streilein Foundation of Ocular Immunology.

These awards are judged independently at the ARVO 2014 Annual Meeting, and will be awarded at the ARVO 2015 Annual Meeting in Denver.

The first-prize winners will each receive an award of $250, a traveling plaque with their names inscribed along with those of previous awardees and a bronze medallion. The second-prize winners will each receive an award of $150.

Applicants must be a trainee graduate student or postdoctoral fellow presenting a First Author poster or paper at the ARVO 2014 Annual Meeting in an IM-sponsored session. Excluded are individuals with permanent faculty appointments, employees of companies or those who received their doctorates more than three years ago.

To apply, email by April 7 your name, institute, the name of your mentor and the title of your ARVO presentation. Place the name of the award (Ramadan or Verhagen) in the subject line.

Raniyah Ramadan award in microbiology:
Michelle C. Callegan at **Michelle-Callegan@ouhsc.edu**

Cora Verhagen award in immunology:
Andrew W. Taylor at **awtaylor@bu.edu** ■

Meet the 2014 ARVO Achievement Awardees

Wolfgang Baehr, PhD, FARVO

Proctor Medal

Wolfgang Baehr, PhD, FARVO
University of Utah, School of Medicine

Baehr's work has impacted the understanding of phototransduction and remained a cornerstone of photoreceptor biochemistry. He pioneered the application of molecular biology to phototransduction research by employing newly discovered technologies to sequence cDNAs encoding the proteins. He has made significant contributions to the understanding of the basic biochemistry, molecular biology and genetics of photoreceptors, as well as the molecular and genetic mechanisms of retina diseases.

Friedenwald Award

Krzysztof Palczewski, PhD

Krzysztof Palczewski, PhD
Case Western Reserve University, Pharmacology School of Medicine

Palczewski has played a key role in fundamental discoveries pertaining to the biochemistry of phototransduction and retinoid metabolism. His research has helped identify genetic mutations in blinding diseases and the discovery of novel methods for their treatment. He made extraordinary contributions to the historic determination of the three-dimensional structure of the visual pigment molecule, rhodopsin.

Weisenfeld Award

José Cunha-Vaz, MD, PhD
The Association for Innovation and Biomedical Research on Light and Image (ALIBILI)

Cunha-Vaz is recognized as a prolific innovator in ophthalmic research for his work over the past four and a half decades, as well as his important contributions to scientific and clinical literature. He has been a leader in many organizations and institutions, including his time as chief editor of *Ophthalmologica*, president of the European Society of Retinal Specialists and dean of the Faculty of Medicine at the University of Coimbra. He inaugurated an impressive list of ophthalmic institutions, such as the Association for Innovation and Biomedical Research on Light and Image (AIBILI), a nonprofit organization in Portugal that houses a clinical trials center.

José Cunha-Vaz, MD, PhD

Cogan Award

Kirill Martemyanov, PhD

Kirill Martemyanov, PhD
Scripps Research Institute

In just 12 years, Martemyanov has made a series of seminal contributions — published in some of the top scientific journals — to the understanding of G-protein signaling in photoreceptors, ON-bipolar cells and throughout the central nervous system. His postdoctoral research discoveries laid the foundation for two landmark studies on visual function, involving multiple groups of collaborating investigators for major advances in the understanding of the mechanism by which the temporal resolution of vision is regulated at the molecular level. ■

What you give comes back to you

Martine Jager to receive 2014 Joanne G. Angle Award

Martine J. Jager, MD, PhD, FARVO

Former ARVO president, Martine J. Jager, MD, PhD, FARVO, has been selected for the 2014 Joanne G. Angle Award for her contribution to ARVO and to eye research.

The Angle Award is ARVO's highest service honor, recognizing outstanding volunteers and leaders who have made significant, continuous contributions to ARVO in support of its mission.

"Martine's service to ARVO is an excellent example to other members," said current ARVO president Justine Smith, FRANZCO, PhD, FARVO. "She has demonstrated how one may combine professional experience and passion for the field of eye and vision research with multiple ARVO volunteer opportunities that strengthen both the industry and the association."

Jager has continually served ARVO since 1998. She is a Gold Fellow, was ARVO's first international president and served on several committees, including those for the Annual Meeting Program, Advocacy, Professional Development and Education, International Members and Long Range Planning.

She has played a key role in the development of ARVO's International Chapter Affiliate program, including serving as chair of the Chapter Affiliate Council.

Jager is a member of the ARVO Foundation's Dowling Society (for those who have donated $10,000 and up,) thanks to her decade-long support of the G. M. Jager Travel Grant. She is also active on the Women in Eye and Vision Research Leadership Committee.

She has served on the editorial board of *IOVS* and as a mentor for Developing Country Eye Researcher Travel Fellowship recipients since 2009.

Jager trained as a cornea and ocular surface specialist at the Academic Medical Center in Amsterdam and at the Bascom Palmer Eye Institute in Miami, and she now practices at the Leiden University Medical Center in the Netherlands. Her research interests are inflammation of the cornea and the ocular surface and the immunology of ocular malignancies.

The driving forces behind Jager's involvement with ARVO have been stimulating international collaboration and supporting young researchers. The challenges she faced early in her own career helped spark her interest in these areas.

"I come from immunology, in a very international lab," she explains. "People are coming and going from around the world, because research is truly an international effort. But in ophthalmology, helping patients is the focus, not research. I wanted to combine clinical care with research, but in the beginning I had difficulty meeting people who wanted to do the same.

"And then I also found out how difficult it is to get money. I spent a whole year writing grant applications and got nothing.

"Then I finally received some mentoring and advice that helped me get funding — from organizations and people who spent their time helping me at no advantage to themselves. I could set up my lab, do research, help others get on. It changed everything.

"I realized how much fun it would be to develop this enthusiasm in other young researchers."

Travel grants that enabled young researchers to attend the ARVO Annual Meeting have been a focus for Jager.

"Back when I first became involved in ARVO, there were only eight travel grants for international members, compared with about 100 NEI travel grants for U.S.-based attendees. Now there are 150 ARVO international travel grants.

"For me, the most enlightening moment about how important these travel grants are came during a visit to Brazil when I was president of ARVO. A young man came to the meeting. He had traveled more than three hours from another city to come and thank me. He had a crumpled letter in his hand — it was a travel grant acceptance letter from ARVO from a few years ago."

The young man explained to Jager that this travel grant had changed his life. When he went to the ARVO meeting, he met a researcher from Boston, who gave him a fellowship. Later he brought this experience and information back to Brazil.

"This made me realize how important ARVO was to young members and that we had to support more international travel grants, which we have done."

By helping build the ARVO International Chapter Affiliate program, particularly the affiliates in Hungary, Austria, China and the Netherlands, Jager has also had a hand in supporting international collaboration.

Her dedication to ARVO, she explains, benefits her own work as much as it does others. "ARVO is the most superb information exchange facility that exists. The members are its asset and information is its currency. Participation facilitates the science. I believe in that, and I am delighted to help improve it."

She urges her fellow members to become involved in the organization. "You learn so much. The more time I spend helping ARVO, the more I learn and the better I become at my own work. I heard a saying once: Life is like an echo — what you give comes back to you." ■

2014 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.

Peng T. Khaw, MD, PhD, FARVO
NIHR Biomedical Research Centre, Moorfields UCL Institute
Immediate Past President

Jacob Pe'er, MD, FARVO
Hadassah-Hebrew University Medical Center
Vice President

Anton Kolomeyer, MD, PhD
University of Medicine and Dentistry of New Jersey
At-large Members-in-Training Trustee

Nepal organizations presented with the António Champalimaud Vision Award

The 2013 António Champalimaud Vision Award recognizes four Nepal-based institutions for bringing much needed eye care services to the population of Nepal for more than 20 years: Nepal Netra Jyoti Sangh (NNJS), Tilganga Institute of Ophthalmology, Eastern Regional Eye Care Programme and the Lumbini Eye Institute. Between them, the four recipients are responsible for organizing and training the majority of eye care workers, and for delivering the majority of the cataract surgical and related eye care services critical to the elimination of avoidable blindness in the country. The award, worth over €1 million (US $1.4 million), will help create and develop programs to train technicians to perform cataract surgeries.

NNJS is recognized for its advocacy and coordinating role in developing blindness prevention goals following the completion of a definitive nationwide ophthalmic survey and for working toward the delivery of eye care services with specific, local, eye care non-governmental organizations (NGOs). The Tilganga Institute of Ophthalmology provides services to the population of the Kathmandu Valley, and through outreach programs, to more distant, often isolated, mountainous communities. It also manufactures high quality, low cost, intra-ocular lenses, and trains ophthalmologists from many countries.

Within the network established by NNJS, the Eastern Regional Eye Care Programme: Sagarmatha Choudhary Eye Hospital (Lahan) and Biratnagar Eye Hospital, provides services to the population in the Eastern Terai; and the Lumbini Eye Institute provides services to the communities in the Central and Western Terai.

The collective effort of the four organizations has contributed to a dramatic change in the paradigm of ophthalmologic care in Nepal. From 1,000 rudimentary surgeries carried out in 1981, the number of surgical procedures has increased exponentially — with over 250,000 high quality interventions now carried out each year. ■

Organizational leaders accept the 2013 Champalimaud award. From left: Prof. Ram Prasad Pohkrel, founder of Nepal Netra Jyoti Sangh; Dr. Salma KC Rai, director of the Lumbini Eye Institute; Dr. Aníbal Cavaco Silva, president of the Portuguese Republic; Leonor Beleza, president of the Champalimaud Foundation; Dr. Sanjay Singh, director of Eastern Regional Eye Care Programme and Dr. Sanduk Ruit, founder and director of the Tilganga Institute of Ophthalmology.

Five members in five minutes

Encounters of the best kind: Members share their most memorable Annual Meeting connections

Chad Jackson, PhD
Vanderbilt University

"At ARVO 2011, I met Dr. David Worsley (University of Auckland). Initially we discussed the attributes of the electroretinogram technique for measuring retinal function. At ARVO 2013, we met for lunch and discussed our current research programs, the state of retinal research and how to navigate the politics of science. This type of relationship fosters a greater sense of community within the vision research field."

Jing Hua, MD, FEBO
Schepens Eye Research Institute
Harvard Medical School

"The ARVO conference has been an exciting opportunity to meet friends and collaborators, and communicate our progress. Serving the committees was the most exceptional experience for me. By working with many memorable colleagues — Drs. Brian Gilger, Deborah Otteson, Sally Atherton, Robert Francis Miller and Jeffrey Boatright, to name a few — I gained a tremendous amount of knowledge and skills that not only helped me to effectively work on projects, but also my research and career in general."

Sandra Suarez
Vanderbilt University

"One of the best Annual Meeting encounters I've had occurred while I was attending the WEAVR luncheon during ARVO 2013 in Seattle. During this event, I was able to be around some of the leading women scientists in the vision research world. This encounter allowed me to learn about all of the opportunities available to women scientists in both academic jobs as well as in industry. I'm really looking forward to next year's WEAVR luncheon and the opportunity to make more connections."

Judy Kim, MD
Medical College of Wisconsin
CME Committee

"My favorite encounters at ARVO are dinner outings with the students and fellows for culinary experiments. We successfully meet our research aims of 1) finding ways to have a good time, 2) subjecting our taste buds to novel experiences and 3) having the students be compensated (albeit in a small way) for their hard work with the projects. I benefit from these encounters that result in a momentary self-delusion that I am still young, hanging out with the youth — something no anti-aging cream in the world has been able to accomplish."

Jose Luna Pinto, MD
International relations secretary, Asociacio de Investigacion en Vision y Oftalmologia (AIVO) ARVO Chapter

"It would be difficult to consider one [connection] or another. But one of them is the permanent contact with researchers I met during my stay in the U.S. and with the researchers from Latin America who enabled us to perform joint projects. But as International Relations Secretary of AIVO (Argentinean chapter), one of the most important contacts is to maintain contact with Argentine researchers working abroad that contribute in any way with the AIVO project." ■

2015 ARVO Awards

Call for Nominations

For young investigators

- **Cogan Award —** Contributions to research that are directly related to disorders of the human eye or visual system, by a promising individual 45 years of age or younger.
- **ARVO Foundation Pfizer Ophthalmics Carl Camras Translational Research Awards —** For exhibiting 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.

For career achievement

- **Proctor Medal —** Outstanding research in the basic or clinical sciences as applied to ophthalmology.
- **Friedenwald Award —** Outstanding research in the basic or clinical sciences as applied to ophthalmology.
- **Weisenfeld Award for Excellence in Ophthalmology —** Distinguished scholarly contributions to the clinical practice of ophthalmology.

For Service

- **Joanne G. Angle Service Award —** Recognizes outstanding leaders who have made significant and continuous contributions to ARVO and its mission.
- **Special Recognition Award —** Outstanding service to ARVO or the vision research community.
- **Kupfer Award —** Distinguished public service on behalf of eye and vision research.

Nominations deadline is March 3, 2014. Nominations must be completed online at **arvo.org/awards.**

Big challenges; big opportunities

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

Translational research — research that moves basic science discoveries toward medical interventions — has produced a number of advances that are helping protect and save vision for millions of people worldwide. These include new drugs for age-related macular degeneration, new methods for corneal transplantation and new retinal imaging methods. But a sobering reality is that for every drug and device that reaches patients, many more will fail at some point during preclinical research and development.

The path between basic and translational research goes both ways. Successful development of a new medical intervention depends on a solid foundation of basic research. Likewise, when a potential drug or device for treating a disease fails, it indicates that we apparently do not fully understand the basic mechanisms of disease or do not understand requisite human biology. Therefore, steady and reciprocal investments in basic discovery research are necessary to fuel translational research.

With continued investments in translational research, we're learning a great deal about how to improve the process. One troubling discovery is that the results of preclinical studies — that is, efforts to evaluate potential new medical interventions and tests in animals and other models of human disease — often prove difficult to interpret and reproduce. A recent study from Bayer HealthCare illustrates this point. The company reviewed 67 in-house projects aimed at new drugs for oncology, women's health and cardiovascular disease. In almost two-thirds of these projects, Bayer scientists were unable to reproduce published data on drug target discovery.[1]

Such lack of reproducibility is a problem across the biomedical research community. It is not specific to particular institutions or fields of study. Many researchers have been working diligently to understand and amend the underlying reasons to this problem. One apparent reason is that, too often, preclinical studies lack adequate experimental design, reporting or both. For example, a review of 100 preclinical studies published in *Cancer Research* found that only 21 studies reported random assignment of animals to treatment and control groups, only two studies reported that researchers were masked from these group assignments, and none stated the methods used to determine the number of animals per group.[2]

NIH is taking a number of steps to address these problems. For example, the Office of Intramural Research is creating a pilot training module for NIH scientists that will focus on experimental design. Once this module is validated, NIH will make it available for extramural training programs to use and adapt to their needs.

More than a decade ago, NEI launched the Translational Research Program (TRP) on Therapy for Visual Disorders to enable investigators to develop multidisciplinary teams with the expertise needed to move new therapies into clinical trials. The program provides up to $1.75 million per year for up to five years.

As an example, researchers based at Case Western University are leading a TRP-funded project to identify new drug therapies for Stargardt disease and AMD. They have found that a toxic build-up of the retinoid metabolite all-trans-retinal (atRAL) may contribute to retinal degeneration in these diseases. Their therapeutic strategy involves the development of drugs to trap atRAL or otherwise prevent its toxicity. The NEI TRP mechanism enabled assembling a multidisciplinary team with experts in drug chemistry, animal models of retinal disease, electrophysiology, *in vivo* imaging and histology. So far, the group has identified several new candidate drugs for Stargardt and AMD.

As a project moves forward, investigators need the flexibility to pursue the most promising therapeutic approaches, and to set aside the least promising. The nature of the TRP allows investigators to adjust their strategies as new data and challenges emerge.

For example, a team based at Emory University was funded through the TRP from 2006 to 2010 to develop new ways for targeting drugs to the retina and other tissues at the back of the eye. Initially, their goal was to develop a method to facilitate drug diffusion across the sclera — including the use of microneedles to inject drugs near the sclera. But they discovered that drugs injected adjacent to the sclera, into the suprachoroidal space (SCS), can spread rapidly across the back of the eye. The flexibility of the TRP enabled them to refocus their project on drug delivery to the SCS, and they're now testing this approach in patients with non-infectious uveitis.

Several other innovative projects have been funded through the TRP. Many, including the two I have briefly highlighted here, have taken steps toward patenting and commercializing new therapies. As these projects move forward, I am eager to see which ones will produce the next life-changing interventions for visually impaired people all over the world. The TRP is accepting applications on a revolving basis through January 2016. Please consult the NEI website for more information or contact an NEI program director. ■

1. Prinz F, Schlange T, Asadullah K. Believe it or not: how much can we rely on published data on potential drug targets? *Nat Rev Drug Discov*. 09// print 2011;10(9):712-712.
2. Hess KR. Statistical Design Considerations in Animal Studies Published Recently in Cancer Research. *Cancer Research*. January 15, 2011 2011;71(2):625.

Growing a family of journals

Discoveries in vision science and innovations in the treatment of visual disorders have been at the forefront of innovation in science and medicine during the past century. Some examples include:

- Initiation of one of the earliest randomized multicenter clinical trials in medicine (the Diabetic Retinopathy Study or DRS)
- One of the earliest applications of transplantation for regenerative medicine (penetrating keratoplasty)
- One of the earliest applications of laser therapy to treat human disease (DRS)
- One of the earliest applications of minimally invasive surgical therapy (such as ophthalmic microsurgery, including the use of the operating microscope, small incision phacoemulsification with foldable intraocular lenses, small gauge vitrectomy)
- Identification of second messenger signaling pathways (as exemplified by the visual transduction pathway) that are used throughout the central nervous system
- One the earliest applications of genome-wide association studies to identify genetic risk factors for the leading cause of blindness in the industrialized world (age-related macular degeneration)
- Identification of the largest number of genetic mutations responsible for dysfunction of an organ system (for example, genes that cause retinal degenerative disease, corneal dystrophy)
- One of the earliest successful applications of gene therapy (such as Leber Congenital Amaurosis)

Scientific specialization seems to be an intimate component of the progression of scientific discovery. Scientific journals are evolving to reflect this specialization. The growth of the ARVO family of journals — *Investigative Ophthalmology and Visual Science (IOVS), Journal of Vision (JOV)* and *Translational Vision Science and Technology (TVST)* — reflects an attempt to provide venues in which one can readily access the diverse, burgeoning body of knowledge in vision-related basic and clinical science. Together, *IOVS, JOV* and *TVST* provide high-quality, peer-reviewed information concerning all facets of eye and vision research.

To assist authors in placing their work in a venue most appropriate to its content, ARVO has developed a procedure to transfer papers from *IOVS* to *TVST* (or *JOV*) and vice versa. The process can be illustrated through the following hypothetical example.

1. A paper is submitted to *IOVS*.
   - The *IOVS* editor-in-chief (David Beebe, PhD, FARVO) reviews all papers and determines whether any papers should potentially be transferred to *TVST*.
2. If a paper is appropriate for transfer, then
   - The *IOVS* editor-in-chief will email the editor-in-chief of *TVST* (Marco Zarbin, MD, PhD, FARVO) to see if he thinks it is appropriate for *TVST*.
   - The *IOVS* editor-in-chief will email the authors to see if they agree to the transfer after comments are received from the *TVST* editor-in-chief.
   - If the author and editors-in-chief agree, then the paper will be transferred via eJournal Press, the online submission system used by all three journals.
3. If a paper has undergone review and then is transferred, the authors have the option of transferring the reviews with the paper.
   - The "reviewer comments to the authors" can be uploaded as part of the manuscript material so it is available to any new potential reviewers.
4. If the authors do not wish to have their paper transferred, it can continue with *IOVS* review or may be triaged.

Open access

Open access — the practice of providing unrestricted access to scholarly research via the internet — has become a critical catalyst for knowledge dissemination. An entire generation of students and investigators has acquired the habit of seeking information via online searches using a variety of search engines. Apart from the mandates of funding agencies, many investigators prefer to have their work published in open-access journals so that they can reach as many colleagues as possible.

Unfortunately, open access has direct and indirect costs. Direct costs involve data storage (including large files that sometimes are available as supplements), as well as many of the traditional costs associated with journal production. Indirect costs involve the loss of subscription revenue associated with open access.

See **Journals,** page 20

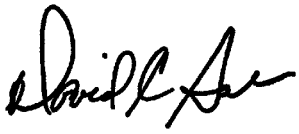
Journals, continued from page 19

Open access does not, per se, provide an assurance of quality. ARVO is fortunate to have highly experienced investigators volunteer their time to serve as associate editors, editorial board members and peer reviewers for all their three journals. Furthermore, there is probably no family of journals that has a greater international representation than those among these cohorts. ARVO is uniquely positioned to provide the scientific community with information that has been subject to rigorous peer review in open-access format.

TVST and *JOV* always have been and will remain open-access journals, with results immediately available to all readers at no charge once a paper is published. This fact, combined with *TVST*'s and *JOV*'s listing in PubMed, assures that information published in *TVST* and *JOV* can be identified and accessed by a very diverse audience.

ARVO's Board of Trustees is exploring another step forward — a commitment to open access for *IOVS*. The Board's goal is to have all three journals open access in the future, broadening the reach and impact of all the research that ARVO publishes.

We are committed to providing high-quality, readily accessible information that will enable our readers to keep abreast of progress in eye and vision research to enhance the quality of their own research, stimulate the development of new hypotheses and, ultimately, foster progress in understanding the visual system and the development of treatments for blindness and other visual disabilities. ■



David Beebe
IOVS Editor-in-Chief

Dennis Levi
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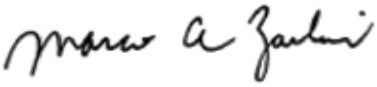

Marco Zarbin
TVST Editor-in-Chief