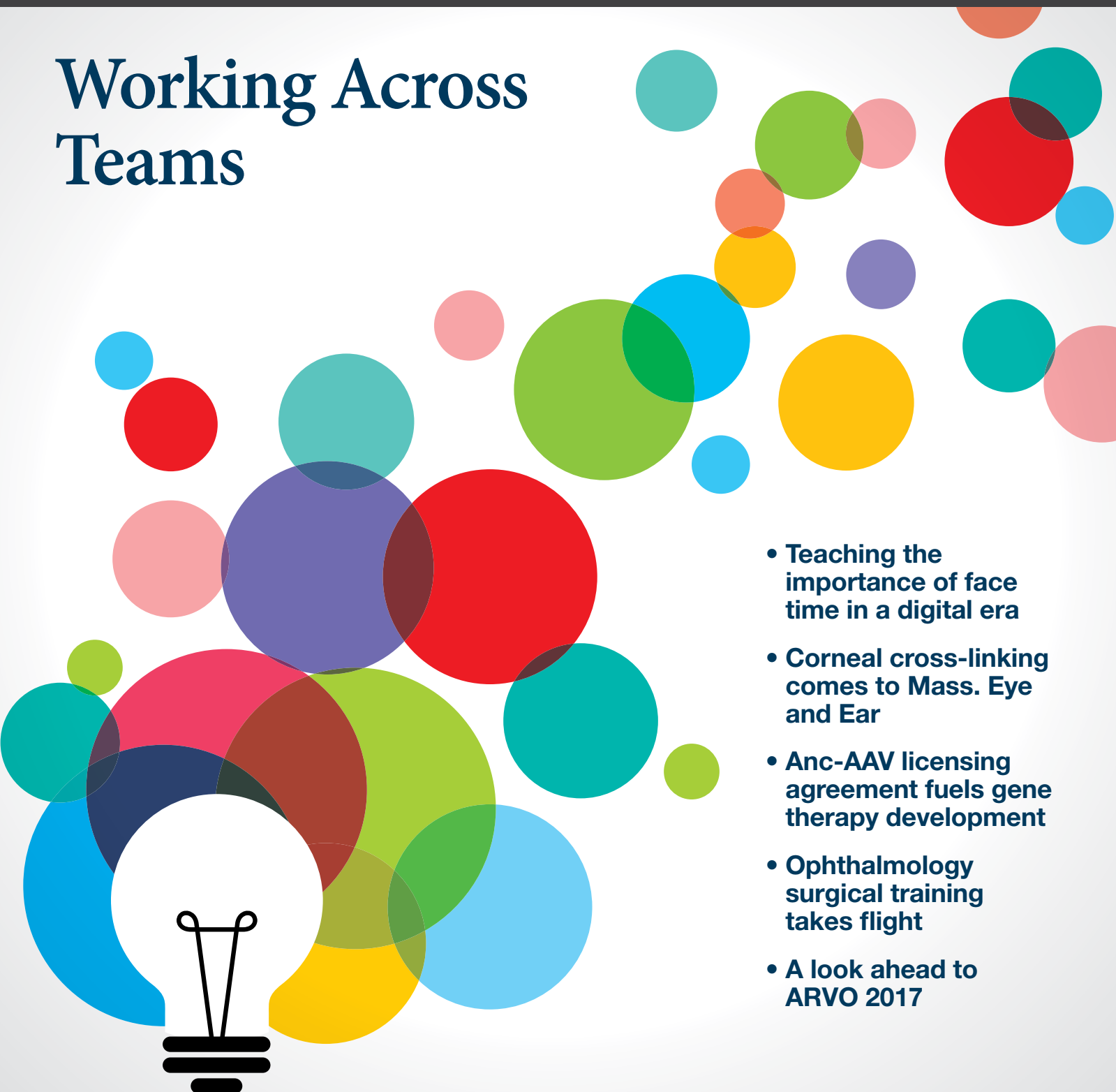


Working Across Teams

- 
- **Teaching the importance of face time in a digital era**
 - **Corneal cross-linking comes to Mass. Eye and Ear**
 - **Anc-AAV licensing agreement fuels gene therapy development**
 - **Ophthalmology surgical training takes flight**
 - **A look ahead to ARVO 2017**

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The stages of team formation

MOVING FROM POLITE TO PRODUCTIVE



Today, more than ever, international collaborations are helping to bridge the gaps in scientific knowledge and advance the field of ophthalmology and the broader field of medicine. The importance of teamwork is reflected in the theme for the 2017 Association for Research in Vision and Ophthalmology annual meeting, "Global Connections in Vision Research."

When we combine our individual knowledge and skillsets to solve a shared problem, we create new opportunities for growth and innovation (see pages 10-11). However, collaborations take time and persistence to form and flourish; many dissolve before reaching their full potential.

In 1965, Bruce Tuckman put forth one of the most influential theories of group dynamics: the four phases of group development. More than 60 years later, his "forming, storming, norming, and performing" model of team formation still resonates, offering insight into team development psychology and behavior.

Forming. In the forming stage, people come together based on common goals, but remain a collection of individuals. People tend to be polite, positive, excited, and/or anxious.

How to move forward: Leaders play an important role in this phase. They clarify roles and responsibilities, develop structures and processes, and identify shared goals.

Storming. This is the stage where many teams fail. Stress, conflict in working styles, questions about the worth of the team's goal, or changes to roles and responsibilities are all indicators of the storming phase.

How to move forward: Leaders must reinforce boundaries, clarify goals, and nurture relationships among members.

Norming. In this stage, people start to resolve their differences, appreciate colleagues' strengths, and respect the leader's authority. Team members move from critical toward constructive, and progress is made toward the team goal.

How to move forward: The group reinforces positive behaviors, maintains regularity, seeks opportunities to nurture relationships, and continues to build trust.

Performing. With structures and processes firmly in place, the team is able to work without friction toward its goal. During this stage, leaders can delegate much of the work and focus on developing team members.

In summary, polite collaborations can only go so far, and dissent, disagreement, and discomfort are all normal parts of team development. Highly productive collaborations are those that share a common goal, withstand the test of time, encourage respectful disagreement, and benefit all involved. ■


Joan W. Miller, MD
Chief and Chair

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Teaching the importance of face-to-face meetings in a digital era

AN INTERVIEW WITH CAROLYN KLOEK, MD

We live in a digital world. Email, text, social media, and videoconferencing capabilities allow us to communicate quickly and efficiently. For younger generations especially, digital communication is as natural and ubiquitous as breathing, and their use of mobile devices and social media continues to rise. But studies also suggest that the trend toward more screen time and less face time is negatively affecting both the quality and quantity of interpersonal communications. In healthcare, particularly, it is becoming increasingly important to teach physician trainees—who frequently engage with faculty, colleagues, and patients—when to communicate online versus in-person. Knowing under what circumstances each is most effective can help refine best practices and, ultimately, optimize care for patients. **Carolyn Kloek, MD**, Director of the Harvard Ophthalmology Residency Training Program, explains how the program is evolving to address this need.

How do you teach residents the value of face-to-face meetings, especially in this digital age?

CEK: Meeting in person is central to our department's culture, and trainees learn this core value during the mentoring process. As they navigate the typical challenges and questions that come up in training, they naturally seek out faculty for advice. This provides an opportunity for faculty to suggest, "Meet with this person" or "Send her a quick email." **With the help of mentors, trainees learn which situations are best suited for face-to-face meetings, and when quick emails will suffice.**

Are in-person meetings still preferred for communicating with patients?

CEK: In some cases, yes. However, a growing number of patients prefer to communicate through email and online patient portals. That's why **we now offer communication workshops as part of the residency curriculum.** These

classes help trainees understand what can be communicated to patients electronically, while maintaining HIPAA compliance and patient confidentiality. These workshops also give trainees an opportunity to practice communication skills, such as delivering bad news to a patient—a skill that has become more important in today's digital world.

What are the best ways to communicate when networking or starting a new collaboration?

CEK: There are no set guidelines for how to network. But I have found that the first step is: find common ground. If you see a research presentation that you like, introduce yourself to the speaker and communicate your interest. Then, follow-up with a short email within 24 hours—this helps make the connection stick. Convey your excitement about exploring a collaboration, and set up a phone call or in-person meeting to flesh out the idea further. **Networking involves many forms of communication, so use them all to your advantage.** ■

Special news update

MASSACHUSETTS EYE AND EAR ANNOUNCES PLANS TO JOIN PARTNERS HEALTHCARE

As you may already know, Massachusetts Eye and Ear and Partners HealthCare recently announced an agreement to formally begin the process for Mass. Eye and Ear to become a full member hospital of Partners. Under the agreement Mass. Eye and Ear would remain its own organization—as an academic specialty hospital focused on Ophthalmology and Otolaryngology care, research and teaching—with no changes to its executive and departmental leadership. Partners would become our parent organization.

Becoming a member of the most successful integrated health system in the northeast is an exciting step for Mass. Eye and Ear and our entire Harvard Ophthalmology community. If approved, I expect that formalizing our longstanding partnership with Partners will strengthen our foundation of clinical care, teaching and research, making Mass. Eye and Ear services and research accessible to a broader population of patients. The fact that Mass. Eye and Ear leadership—including president John Fernandez and Board Chair Wyc Grousbeck—was able to negotiate this first step is a wonderful reflection of the hard work and commitment to excellence that our faculty has pursued over the last decade, as well as our successful growth as an organization.

There is a significant review and regulatory process in the months ahead, and we will keep you informed of our progress. In the meantime, if you have any questions, please feel free to contact me or any member of the department faculty leadership team.

—Joan W. Miller, MD

Glaucoma and neuro-ophthalmology intersect at clinical conference



Left to right: Joseph Rizzo III, MD; Angela Turalba, MD; Louis Pasquale, MD; Mark Moster, MD; and Marlene Moster, MD

Biennial Glaucoma and Neuro-ophthalmology Fall Festivals

September 23-25, 2016 | Boston

Co-directors: Louis Pasquale, MD; Joseph Rizzo III, MD; and Angela Turalba, MD

More than 120 clinicians, scientists, and trainees attended three days of surgical and clinical case presentations, topical lectures, and interactive panel discussions pertaining to glaucoma and neuro-ophthalmology at the Biennial Glaucoma and Neuro-ophthalmology Fall Festivals. Helen Danesh-Meyer, MD, PhD, University of Auckland, New Zealand, presented the keynote lecture, *The crossroad between glaucoma and neuro-ophthalmic disease*, which served as a bridge between the day of glaucoma sessions and subsequent neuro-ophthalmology sessions.

Attendees highlighted the value of the dual glaucoma and neuro-ophthalmology focus:

- *I re-learned the importance of taking a thorough and accurate patient history.*
- *The course assured me that a neuro-ophthalmology referral is appropriate when a patient's symptoms do not match the appearance of the cataract.*
- *I plan to use color vision testing and field testing on any unexplained visual disturbance.*
- *I learned how to systematically narrow the differential diagnosis list in patients with mixed presentations.*
- *I remembered how important it is to think outside the box and view each case as a mystery to be solved with tools, skills, and previous experience.*



Keynote speaker Helen Danesh-Meyer, MD, PhD

Louis Pasquale makes the case for redefining the term, primary open-angle glaucoma, at AAO

Louis Pasquale, MD, the 2016 American Glaucoma Society Subspecialty Day Lecturer at the American Academy of Ophthalmology annual meeting, suggested that the term "primary open-angle glaucoma" (POAG) be redefined to more accurately describe the disease. According to Dr. Pasquale, POAG may actually be several diseases, and stratifying the condition into different subtypes, each with associated risk factors, could help optimize patient care.



Watch the interview

<https://www.aao.org/interview/primary-open-angle-glaucoma-redefined>



Ocular regeneration symposium—a catalyst for innovative research



Nearly 200 researchers, clinicians, trainees, and industry representatives came together at the 2nd Biennial International Symposium on Ocular Regeneration to discuss innovative, regenerative approaches to prevent and treat blinding eye diseases. Scientific lectures and discussions spanned topics in ophthalmology, genetics, stem cell biology, neuroregeneration, and neuroremodeling. The symposium culminated with a keynote address delivered by **John Dowling, PhD**, a renowned expert on the neural architecture of the retina. His talk, *Reconstructing the Human Fovea*, stressed the importance of the fovea, which is responsible for sharp central vision and is necessary for activities where visual



OCULAR
REGENERATIVE
MEDICINE INSTITUTE

2nd Biennial International Symposium on Ocular Regeneration

October 20, 2016 | Boston

Co-directors: Michael Young, PhD;

Demetrios Vavvas, MD, PhD

detail is of primary importance. "If we are ever going to be able to restore high acuity vision through regenerative medicine, it is critical for us to know about the fovea," said Dr. Dowling before detailing work he performed during his "postdoctoral fellowship"—an endeavor he has undertaken since his formal retirement from Harvard University in 2015.

Moving toward precision medicine for AMD

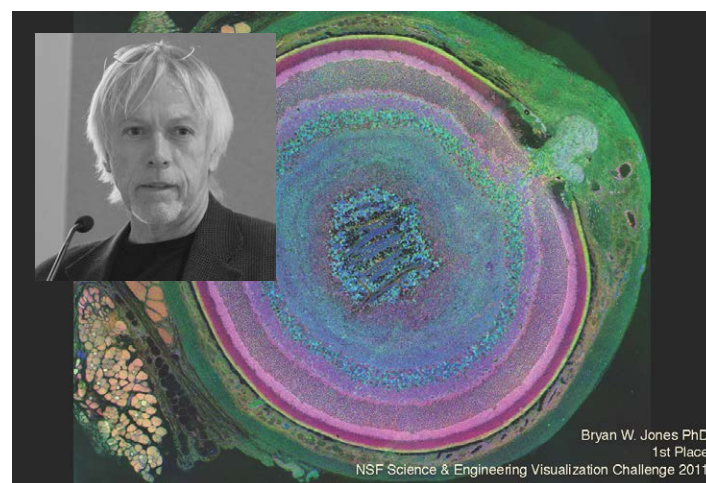
In the opening remarks for the 4th Biennial International Symposium on AMD, Ivana Kim, MD, stressed the need to "assemble a better array of biomarkers, therapeutic targets and better drug delivery...to ultimately have predictive, preventative, precision-based medicine." During the two days that followed, multidisciplinary scientific lectures and panel discussions provided ample opportunities for ophthalmologists and vision researchers to engage in lively discussions about new ways to apply basic science knowledge to advance therapeutic options for patients with AMD. Some attendees voiced the need to improve imaging sensitivity to better identify biomarkers. Others suggested that examining different signaling pathways may lead to more effective treatment options for specific AMD subtypes.

A new highlight of this year's symposium was the Ephraim Friedman Lecture, which was established in 2006 to honor Ephraim Friedman, MD, a Mass. Eye and Ear retina specialist, AMD researcher, educator, and sculptor who passed in 2011.

As the 2016 Friedman Lecturer, **Robert Marc, PhD**, John A. Moran Eye Center at the University of Utah, urged the audience to "save the cones!" in an effort to prevent photoreceptor stress and ultimately vision loss in degenerative diseases. Dr. Marc is credited with building the first retinal connectome (the wiring diagram of the retina).



Deebea Husain, MD; Ivana Kim, MD; and Demetrios Vavvas, MD, PhD



Bryan W. Jones PhD
1st Place

NSF Science & Engineering Visualization Challenge 2011

One of the many visually stunning images in Dr. Robert Marc's lecture entitled, "Retinal Remodeling & Neurodegeneration"

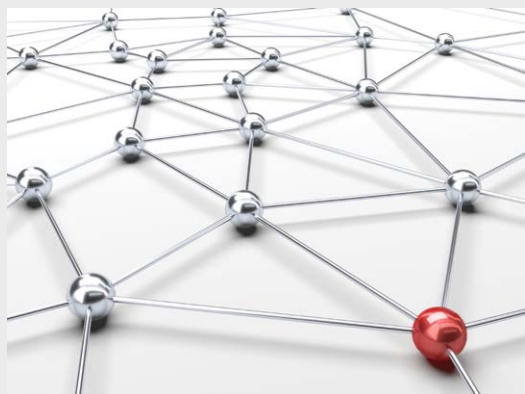


AGE-RELATED MACULAR
DEGENERATION
CENTER OF EXCELLENCE

4th Biennial International Symposium on AMD

October 21-22, 2016 | Boston

Co-directors: Patricia D'Amore, PhD, MBA; Deebea Husain, MD; and Ivana Kim, MD



Mass. Eye and Ear offers newly FDA-approved corneal cross-linking procedure

Corneal cross-linking is a stabilizing treatment that halts the progression of keratoconus, a degenerative eye condition in which the cornea becomes thin and irregularly shaped. Widely used for more than a decade in other countries, the technique received FDA-approval in the United States in April 2016.



“We are very excited to offer this recently FDA-approved technology to our patients,” said **Kathryn Hatch, MD**, a cornea specialist and Site Director at Mass. Eye and Ear, Waltham. “The ability to strengthen the cornea offers an alternative management strategy for

patients with corneal thinning, which causes the cornea to stretch and bulge. Stabilizing the shape of the cornea may help many patients avoid the need for corneal transplants.”

Keratoconus can affect individuals as young as nine years old and may result in progressive vision loss if left untreated. Eyeglasses and contact lenses can help improve vision in these patients, although advanced cases sometimes require corneal transplant surgery. Corneal cross-linking is currently the only treatment available that can stop the progression of keratoconus. ■



New center offers team-oriented care for thyroid eye disease

Mass. Eye and Ear launched the multidisciplinary Center for Thyroid Eye Disease and Orbital Surgery in the fall of 2016. Now patients with thyroid eye disease and orbital disorders can receive coordinated, multidisciplinary care from the hospital's Charles Street location.

This collaboration between the ophthalmology and otolaryngology departments is co-directed by **Suzanne Freitag, MD**; **Dean Cestari, MD**; and **Benjamin Bleier, MD**.

What makes the center unique?

- **Collaborative care:** Patients receive team-oriented, multidisciplinary care from leading experts in ophthalmic plastic surgery, endoscopic orbital surgery, strabismus, thyroid gland disorders, neurosurgery, and head and neck oncology.
- **Advanced techniques:** Surgeons at the Center are pioneering novel, minimally invasive techniques that result in less pain and a faster recovery time.
- **Unmatched expertise:** The Center is the world's largest medical facility of its kind with the expertise and advanced technology to treat these complex conditions.
- **Best-in-class ranking:** Mass. Eye and Ear is ranked the #1 hospital in the nation for ear, nose, and throat care and #1 in New England for eye care, by *U.S. News & World Report*.

Family legacy supports proliferative vitreoretinopathy research



The late William Irwin (left) prepares to play piano for a church service, alongside his son Dean Irwin.

Dr. Elliott's work provides hope for future patients with PVR. I'm excited to see how treatment will advance, as researchers learn more about this affliction that has defeated retinal reattachment in patients for over half a century.

—Dean Irwin

*William Irwin spent much of his career in musical theater. A close friend of famous composers and performers George Gershwin, Oscar Levant, and Irving Berlin, Mr. Irwin was the Musical Director for the national tours of *South Pacific* and *The King and I*. He was also the Choral Director, Staff Composer, and Musical Director for Radio City Music Hall.*

When William Irwin, a well-known pianist and conductor, was diagnosed with a detached retina in the 1990s, he had no idea how much his life was about to change.

Retinal detachment occurs when the retina pulls away from its normal position. If not surgically re-attached, it can cause permanent vision loss. Mr. Irwin's case was especially complex because he also had significant scarring, known as proliferative vitreoretinopathy (PVR), which makes reattachment surgery extremely difficult.

After an unsuccessful surgery in New York, Mr. Irwin sought the expertise of Dr. Hal MacKenzie Freeman at Retina Associates in Boston. A world-renowned retinal surgeon, Dr. Freeman trained under Dr. Charles Schepens—a clinical innovator, widely known as the “father of modern retinal surgery.”

Dr. Freeman soon discovered that Mr. Irwin's other eye was also showing early signs of retinal detachment. In an effort to re-attach both retinas and reverse the effects of PVR, Dr. Freeman performed five surgeries, some of which lasted 10 hours. “Dr. Freeman showed such immense dedication and patience—his surgeries were nothing short of heroic,” said his son Dean Irwin.

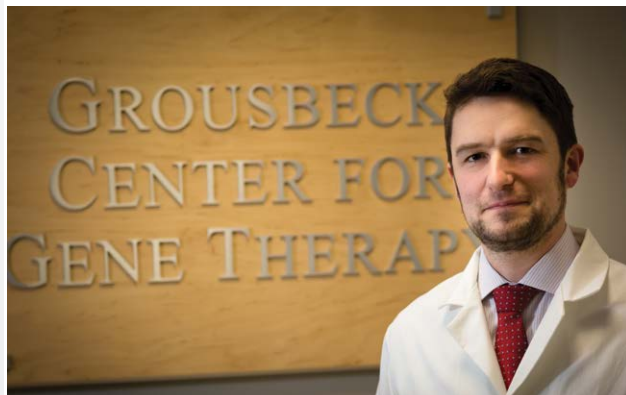
Unfortunately—as with many cases of PVR—Mr. Irwin's re-attachment surgeries were unsuccessful, resulting in permanent vision loss. “It was devastating for my father,” said Dean Irwin. “Blindness completely changed his way of life. But thankfully, he was still able to enjoy his passion for music. He continued to play the piano, using his senses of hearing and touch.”

Today, PVR remains the biggest obstacle in retinal reattachment surgery. It affects about 5-10 percent of patients with retinal detachments and accounts for about 75 percent of all primary surgical failures. The pathogenesis of the condition is still not clearly understood, although risk factors, such as uveitis, large or multiple tears, vitreous hemorrhage, choroidal detachments, aphakia, and multiple previous surgeries, have been identified.

To help elucidate the cause of PVR and advance treatment options, Dean Irwin has pledged to support innovative research at Mass. Eye and Ear. His generous bequest intention of \$198,000 will help fund researchers like Dean Elliott, MD, who are pioneering novel treatment and prevention strategies. Currently, Dr. Elliott is studying the protective effects of a generic cancer and anti-inflammatory drug, known as methotrexate, after retinal surgery. Dr. Elliott's preliminary results are promising, suggesting that methotrexate may help prevent PVR in high-risk patients.

“Dean Irwin's gift—a legacy to his father, who passed away in 1998—will help us break new ground in PVR research, as we work to eliminate this blinding condition. We are incredibly grateful for his generous support,” said Dr. Elliott. ■

Strategic agreement facilitates gene therapy drug development



A strategic agreement between Lonza Houston, Inc.—a global leader in viral gene and cell therapy manufacturing—and Mass. Eye and Ear now provides scientific investigators around the world with the ability to in-license adeno-associated viral vectors (Anc-AAVs) for the clinical development and commercialization of novel gene therapies.

Anc-AAVs were first developed in the laboratory of **Luk Vandenberghe, PhD**, Director of the Grousbeck Gene Therapy Center at Mass. Eye and Ear. These synthetic viral vectors have the potential to bring gene therapies to more patients than current-generation viral vectors. Anc80, in particular, is a potent gene therapy vector that can target retina, liver, muscle, and other tissues without producing toxic side effects.

As part of the agreement, Lonza will fund research at the Grousbeck Gene Therapy Center to discover, characterize, and develop next-generation gene transfer reagents that can overcome the limitations of current AAVs, including pre-existing immunity, manufacturing yields, immunogenicity, tissue tropism, and specificity.

“In this era of precision medicine, bringing this viral technology under one roof will help us innovate new gene therapies and develop effective treatments for patients with unmet needs,” said Dr. Vandenberghe.

Following the hospital’s agreement with Lonza, Mass. Eye and Ear licensed Anc80 to Selecta Biosciences, Inc., a biopharmaceutical company that develops targeted antigen-specific immune therapies. Using Anc80, Selecta hopes to develop drugs that treat rare and serious diseases by mitigating the immune responses that would otherwise compromise these therapies. ■

Researchers identify new antibiotic- and immune-resistant bacterium, develop test to limit spread

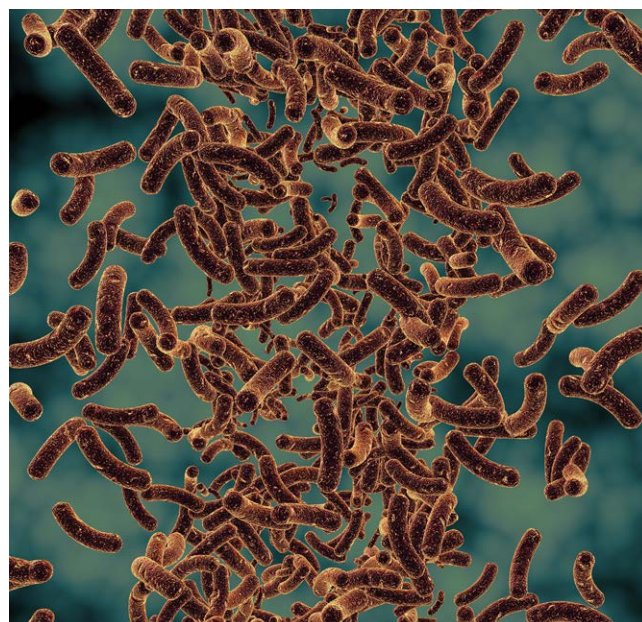
Researchers from Mass. Eye and Ear discovered a new mutation in a highly antibiotic-resistant strain of *E. coli* that inhibits infection-fighting white blood cells.

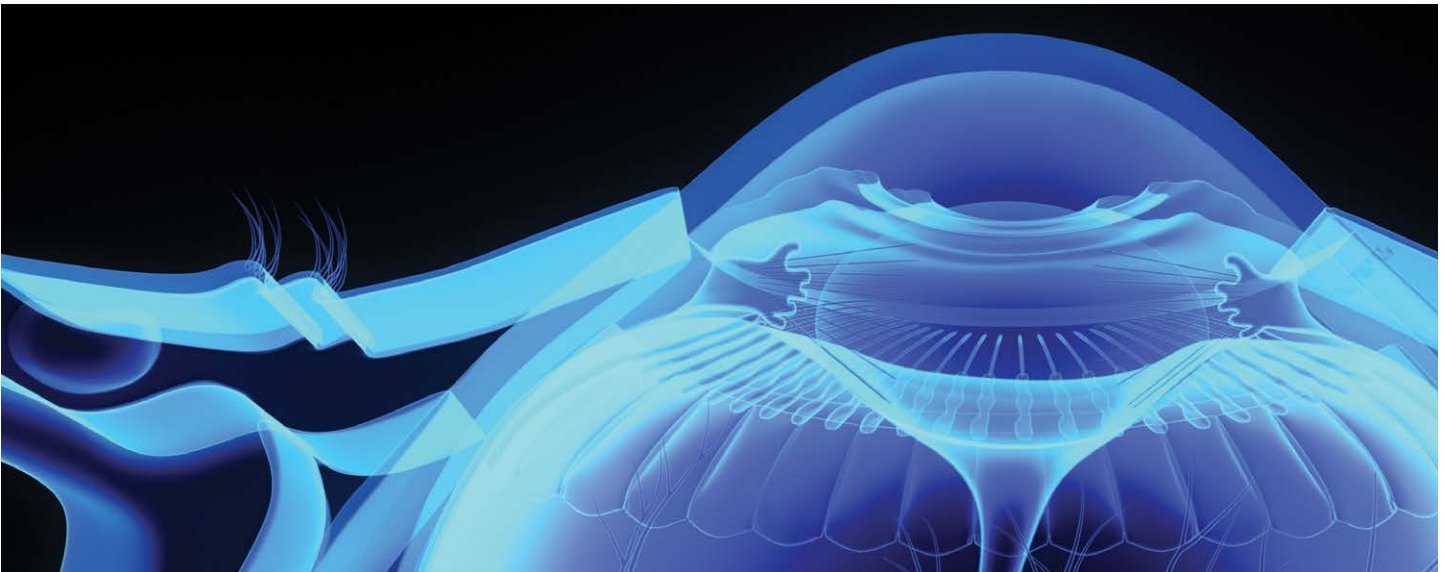
In a paper published in *JAMA Ophthalmology*, the researchers describe a patient who was diagnosed with a severe corneal infection. The underlying bacterium was determined to be ESBL *E. coli*, a type of microbe known to be resistant to a wide range of antibiotics. The patient was treated with two antibiotic eye drops—to which the microbe was still sensitive—and the eye infection resolved. Using state-of-the-art genomics sequencing techniques in the Ocular Genomics Institute, the research team found that the aggressive microbe had a new mutation, termed ST131.



“In addition to its elevated resistance to antibiotics, this bacterium produced a layer of slime on its surface that prevented white blood cells from trapping and killing the microbe—something not seen before in this type of *E. coli*,” said **Michael Gilmore, PhD**, lead author and Director of the Harvard Infectious Disease Institute. “To help physicians in other hospitals quickly

identify this type of bacterium and to limit its spread, we’re sharing our experience on how we treated this infection, as well as a test we developed to identify future cases.” ■





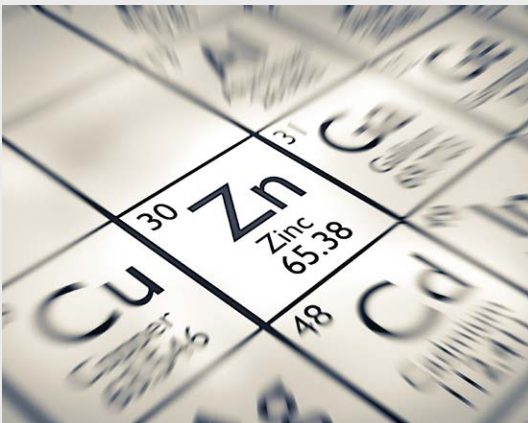
Progenitor cells: A new treatment for Fuchs’?

Ula Jurkunas, MD, Mass. Eye and Ear, has identified rapidly proliferating neural crest-derived progenitor cells in the corneal endothelium of normal corneas and corneas with Fuchs’ endothelial corneal dystrophy (FECD). “Previously, we thought that all of the cells in the corneal endothelium were unable to divide, but we were surprised to find a small population of dormant stem cells capable of proliferating,” said Dr. Jurkunas. As published in the *American Journal of Pathology*, these newly described progenitor cells have the potential to regenerate a person’s own endothelial cells, even in those with FECD, thus offering an alternative approach to donor corneal transplantation. ■

The role of interleukins in autoimmune disorders

Reza Dana, MD, MSc, MPH, and colleagues at Schepens Eye Research Institute of Mass. Eye and Ear, demonstrated that two cell-signaling proteins—interleukin 7 (IL-7) and interleukin 15 (IL-15)—play a key role maintaining chronic autoimmune disorders. IL-7 and IL-15 are both involved in T-cell homeostasis, helping to defend the host against microorganisms and tumors by promoting T-cell immunity. In a preclinical model of ocular autoimmune disease, researchers found that neutralizing IL-7 and IL-15 diminished the pathogenic memory of Th17-cells, which are mediators of many autoimmune conditions. Based on these findings, which were published online in the *Journal of Autoimmunity*, targeting IL-7 and IL-15 may be useful for treating Th17 cell-mediated autoimmunity. ■

Zinc chelation stimulates repair of optic nerve in mice



Larry Benowitz, PhD, and other researchers at Boston Children’s Hospital demonstrated the important role of zinc in regulating retinal ganglion cell survival and optic nerve regeneration. In a mouse model of optic nerve injury, zinc chelation improved the survival of neurons in the retina and stimulated repair of damaged nerve fibers.

For more than two decades, researchers have tried to regenerate the injured optic nerve using different growth factors and/or agents that overcome natural growth inhibition with limited success. Based on Dr. Benowitz’s findings, which were published in *PNAS*, zinc chelation shows promise as a new approach to optic nerve regeneration. If proven successful in humans, zinc chelation has the potential to benefit patients with optic nerve injury, glaucoma, and other types of nerve fiber injuries, such as spinal cord injury. ■

INDIA

NIH and India fund collaborative grant for glaucoma research

Researchers from the United States and India have begun a new collaborative project to identify genetic risk factors and traits related to glaucoma, a leading cause of blindness worldwide. Funded by the National Eye Institute (NEI), part of the National Institutes of Health, and India's Department of Biotechnology, the researchers aim to help develop effective screening, prevention, and treatment strategies for glaucoma.

The research team in India will primarily focus on clinical evaluations, collecting samples for genetic testing and looking for risk factors in patients with glaucoma. U.S. researchers will focus on state-of-the-art genetic analyses to identify risk factors for the clinical traits associated with glaucoma.

The two grants that support this work are part of a broader, bilateral vision research partnership that was launched in 2005: the US INDO Joint Working Group. Having co-chaired this group for more than 10 years, **Janey Wiggs, MD, PhD**, Mass. Eye and Ear, was the recipient of a NEI grant, totaling nearly \$1.3 million over three years, for this latest initiative.



PERSPECTIVE:

Janey Wiggs, MD, PhD

What are the benefits of international collaborations?

Investigations involving international work offer several benefits, including access to important resources, as well as opportunities to work with outstanding investigators and unique patient populations.

What makes for a successful, fruitful collaboration?

Collaborations tend to succeed when there are common goals, regular communication, and deep engagement in the work. My colleagues in the U.S. and India share the common goal of enhancing our understanding of important blinding diseases that affect people worldwide. Our research focuses on glaucoma, an important cause of blindness in India and the United States. Email, Skype, and meeting in person during ARVO and AAO annual meetings helps keep us motivated and inspired. I also travel to India at least once a year.



CHINA

U.S. and Chinese hospitals explore clinical opportunities with industry

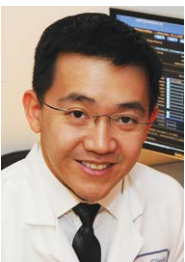
Reza Dana, MD, MSc, MPH; Joan W. Miller, MD; and Debra Rogers led a Harvard Ophthalmology delegation to China in October 2016 to nurture clinical, academic, and scientific collaborations that have been ongoing since 2010. Faculty explored clinical opportunities at the 1st Affiliated Hospital of Harbin Medical University, presented lectures at the International Ophthalmology Conference, and discussed scientific research with Chinese colleagues at Shanghai Eye and ENT Hospital. Mass. Eye and Ear leadership, including John Fernandez, President and CEO, and Debra Rogers, Vice President of Ophthalmology, also discussed the development of a joint eye and ear hospital with Shanghai partners and Fosun Pharmaceutical Group.



(1st row from left) Lingling Chen, MD, PhD, Shanghai EENT; Zhonghui (Katie) Luo, MD; Dong Feng Chen, MD, PhD; Joan W. Miller, MD; Bonnie Brodowski, MBA; Debra Rogers; Eileen Lowell, RN, MM; Amanda Wang, Fosun (2nd row from left) Chenli Gu, MD, Fosun; Jinqiu Song, PhD, Fosun; Reza Dana, MD, MSc, MPH; John Fernandez; Qiyu Chen, Fosun; Xinghuan Sun, MD, PhD, Shanghai EENT, Jeff Pike, MPH; Stone Ye, Fosun (Not pictured) Dean Cestari, MD; Suzanne Freitag, MD; Ula Jurkunas, MD; Lucy Shen, MD; and Demetrios Vavvas, MD, PhD

VENEZUELA

10-year findings of international pediatric diabetes ocular telemedicine program

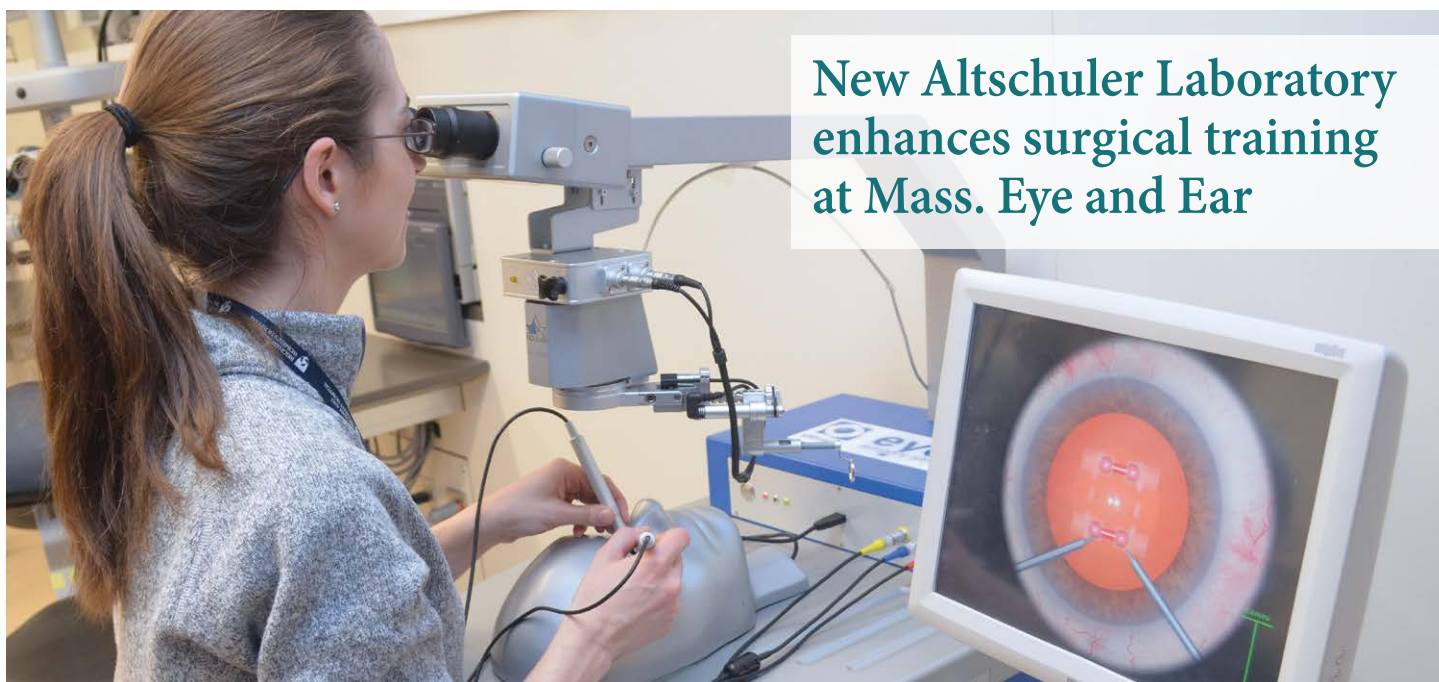


In 2006, the M.M.G. Foundation in Venezuela and the Beetham Eye Institute at Joslin Diabetes Center in Boston partnered to prevent long-term vision loss in patients with diabetic eye disease. Since then, the joint prevention program, known as the Joslin Vision Network (JVN) Pediatric Diabetes Eye Care Program, has provided free

telemedicine health evaluations and diabetic retinopathy treatment to more than 650 pediatric and 100 adult patients with diabetes at an inner city pediatric hospital in Venezuela. These services are crucial, considering that visual impairment among patients with diabetes is substantially lower if they have access to systematic ocular telemedicine programs. In the future, the program aims to include additional locations, expanding access to high-quality eye care in Venezuela.

Researchers from Joslin Diabetes Center, including **Paolo A. Silva, MD** (left), and **Jerry Cavallerano, OD, PhD** (right), will present their 10-year experience with the JVN Pediatric Diabetes Eye Care Program on Sunday, April 23, 2017 from 2:10 pm to 3:30 pm at the American Telemedicine Association International Conference in Orlando, FL.

New Altschuler Laboratory enhances surgical training at Mass. Eye and Ear



Senior resident Tavé van Zyl, MD, uses a surgical simulator in the new Samuel and Nancy Jo Altschuler Ophthalmology Surgical Training Laboratory. The Altschulers funded the laboratory in honor of Lucy Young, MD, PhD—a vitreoretinal surgeon at Mass. Eye and Ear.

The new Samuel and Nancy Jo Altschuler Ophthalmology Surgical Training Laboratory at Mass. Eye and Ear is expanding opportunities for surgical training in exciting and innovative ways. The facility features state-of-the-art surgical training equipment for Harvard Ophthalmology residents and Mass. Eye and Ear Fellows. With nine workstations, including a proctor station with advanced audio-visual controls, as well as a surgical simulator and training machines for vitrectomy and cataract surgeries, trainees have more opportunities to refine their surgical skills in a preoperative environment. The laboratory will also be an educational space for practicing surgeons. Already, Harvard Ophthalmology faculty have led courses on DMEK (a type of partial-thickness cornea transplantation) and glaucoma surgeries.

BENEFITS

- Realistic surgical experience
- Includes same equipment that is used in the operating room
- More opportunities for trainees to practice surgeries
- Advanced audio-visual system for group training
- Video streaming for virtual teaching
- Video recording capabilities
- Fully prepped surgical tools

SURGICAL EQUIPMENT

- 9 workstations with Zeiss ophthalmology microscopes
- 2 vitrectomy machines
- 6 cataract training machines
- EYESI® Surgical Simulator

Advanced Technology Enhances Teaching

This facility opens doors to so many new ways of teaching. Learning not only comes from watching experts do their beautiful work, but also from watching mistakes. In the new laboratory, instructors can critique a trainee's work on the central plasma screen. This helps prepare them for the real-life challenges in the operating room.

—**Lucy Young, MD, PhD**, Director of the Altschuler Ophthalmology Surgical Training Laboratory



Lisa Jo Altschuler Flessel; Lucy Young, MD, PhD; and Peter Veldman, MD

Lions VisionGift supports surgical training opportunities



Lions VisionGift has been instrumental in supporting Mass. Eye and Ear's educational initiatives.

In the past two years, the nonprofit has donated more than \$50,000 in practice tissue for Harvard Ophthalmology residents and Mass. Eye and Ear fellows. This generous gift has helped trainees refine their surgical skills and build their self-confidence in a preoperative environment. With more opportunities to practice surgeries, trainees will be well-prepared for the challenges of the operating room.

The eye bank has also made a generous \$100,000 pledge over the next five years, which will support educational activities in the new Altschuler Ophthalmology Surgical Training Laboratory at Mass. Eye and Ear. This investment in training opportunities will have a lasting impact on future surgeons.

Lions VisionGift, based in Portland, Oregon, is expanding to the Northeast in the spring of 2017. It will open a new facility in the Seaport District of Boston, providing more opportunities for collaboration in the future.

Last October—thanks to generous support from Lions VisionGift—I co-hosted a DMEK training session for 11 local trainees and attending surgeons. The increased capacity and advanced audio visual technology in the new laboratory allowed us to accommodate a much larger group than ever before. With nine surgical scopes and real-time videos streaming from both the proctor station and the training stations, instructors could demonstrate the intricate details of surgery, while also monitoring each participant's progress. Everyone was impressed with the laboratory, and they were thrilled to take home a video of their work on a thumb drive.

—**Peter Veldman, MD**

Associate Director of Harvard Ophthalmology
Residency Training Program



HARVARD MEDICAL SCHOOL

DEPARTMENT OF
Ophthalmology



ANNUAL MEETING & ALUMNI REUNION

June 23-24, 2017 | Boston, MA

All current and former residents, fellows, and postdocs and all current and former faculty members are invited to attend this exciting two-day CME* event of scientific exchange and networking.

FRIDAY, JUNE 23: ANNUAL MEETING

- Faculty lectures spanning basic, translational, and clinical research
- Annual poster contest for trainees
- Mariana D. Mead Lecturer: **Robert D'Amato, MD, PhD**

FRIDAY, JUNE 23: GALA DINNER AT THE FOUR SEASONS

SATURDAY, JUNE 24: ALUMNI REUNION

- Scientific and clinical lectures from 10 alumni classes (1967, 1972, 1977, 1982, 1987, 1992, 1997, 2002, 2007, and 2012)
- Distinguished Research Achievement Awardee:
Anthony Adamis, MD
- Distinguished Clinical Achievement Awardee:
Donald D'Amico, MD
- Department Update: **Joan W. Miller, MD**

For more information on the program, registration,
and accommodations, visit:
eye.hms.harvard.edu/annualmeeting

*The Harvard Medical School is accredited by the Accreditation Council for Continuing Medical Education to providing continuing medical education for physicians.

The Harvard Medical School designates this live activity for a maximum of 12.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Grants, awards, and honors



Demetrios Vavvas, MD, PhD, the first incumbent of the Wallace Chair in Retina at Mass. Eye and Ear, celebrated with family, friends, and colleagues in November 2016. Also in attendance were Monte and Anne Wallace, whose generosity created this Chair as a tribute to the life and career of Dr. Charles L. Schepens.

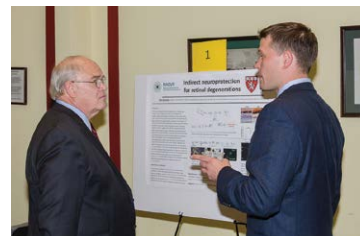
Lloyd Paul Aiello, MD, presented the inaugural Kresge Eye Institute Robert N. Frank Clinical Translational Lecture, "From the edges to the depths of the retina: changing the care of diabetic eye disease through translational research & advanced retinal imaging," on October 28, 2016 at the 3rd Annual Vision Research Day at Wayne State Medical School in Detroit, MI.

Joseph Arboleda-Velasquez, PhD, received \$1,016,301 over five years from the National Institutes of Health, the National Institute of Neurological Disorders & Stroke, and the National Institute of Aging to explore the role of aging in cerebral ischemic small vessel disease using Notch3 mutant mice.

Pablo Argüeso, PhD, received \$1,970,000 over four years from the National Eye Institute to study N-glycosylation and ocular surface homeostasis.

Upneet Bains, MD, was selected as the 2016-2017 Richard J. Simmons and Ruthanne B. Simmons Glaucoma Fellow at Mass. Eye and Ear.

Petr Baranov, MD, PhD, participated in the Alliance for Eye and Vision Research (AEVR) Emerging Vision Scientists Program on September 14, 2016 on Capitol Hill. This program allows scientists to meet with members of Congress to advocate for the importance of vision research in the continuing fight to prevent blindness.



As part of the National Eye Institute Audacious Goals Initiative, the National Institutes of Health awarded \$12.4 million to six research teams to identify biological factors that affect neural regeneration in the retina. **Larry Benowitz, PhD**, Boston Children's Hospital, and colleagues at Stanford University and the Scripps Research Institute, received funding to support their research toward the molecular discovery of optic nerve injury. By identifying genes and proteins that help or hinder the ability of retinal ganglion cells to regenerate, grow axons to a target, and become functional in mice, the researchers hope to investigate promising molecular candidates in longer-term animal studies designed to assess changes in the animals' vision.

Larry Benowitz, PhD, received a three-year, \$1.5 million Department of Defense grant to investigate the molecular control of optic nerve regeneration.

Jason Comander, MD, PhD, received the Enhanced Career Development Award from the Foundation Fighting Blindness. He was awarded \$510,000 over three years to characterize potentially pathogenic DNA variants and ultimately improve diagnostic techniques for retinitis pigmentosa.

Hajirah Saeed, first Gliklich Award Innovation Scholar at Mass. Eye and Ear



As the inaugural Gliklich Innovation Scholar at Mass. Eye and Ear, **Hajirah Saeed, MD**, is working under the mentorship of James Chodosh, MD, MPH, to develop a registry and bio-repository for a rare, but serious condition, called Stevens-Johnson Syndrome (SJS)/toxic epidermal necrolysis (TEN). This immune-mediated mucocutaneous disease results in burn-like injuries on the body and can cause severe eye complications. Using data from the registry, she plans to investigate the immunopathogenesis and genetics of SJS/TEN, evaluate the efficacy of current treatments, and develop more effective therapies.

The Gliklich Innovation Scholar Program was established by Richard Gliklich, MD, an otolaryngologist and facial plastic and reconstructive surgeon at Mass. Eye and Ear. The program offers mentored, transformative opportunities for young physicians to pursue novel and disruptive ideas and projects that might otherwise be difficult to undertake through traditional funding mechanisms. While the program was launched in 2013, Dr. Saeed is the first person to receive the award.

Patricia A. D'Amore, PhD, MBA, received an R01 grant from the National Eye Institute/National Institutes of Health in the amount of nearly \$1.5 million over three years to investigate endomucin as a novel regulator of angiogenesis.

Ambika Hoguet, MD, was selected for a Mentoring for the Advancement of Physician Scientists (MAPS) Award from the American Glaucoma Society. Working under the mentorship of **Louis Pasquale, MD**, Dr. Hoguet will conduct a longitudinal analysis of the iridocorneal angle before and after minimally invasive glaucoma surgeries that target the trabecular meshwork.

Leo Kim, MD, PhD, received \$240,000 over three years from the E. Matilda Ziegler Foundation to investigate the role of *Runx1* in retinopathy of prematurity.

Joan W. Miller, MD, received the 2016 Cunha-Vaz Award from the Portuguese Society of Ophthalmology in recognition of her important contributions to the field of eye disease. In her keynote address, Dr. Miller outlined the progress that has been made in the treatment of AMD and highlighted areas of future research.

Roberto Pineda III, MD, was elected into the International Intraocular Implant Club, an elite group of 250 surgeons worldwide.

Amy Watts, OD, received the 2016 Norman Knight Leadership Development Award in Ophthalmology, which recognizes promising young clinicians as emerging leaders at Mass. Eye and Ear.

Chief Cornea Fellow **Jia Yin, MD**, received the Claes Dohlman Fellowship Award. This award recognizes outstanding fellows who are training in the area of cornea, refractive surgery, and external diseases.

Harvard Ophthalmology affiliates and Boston area research institutions receive 2016-17 Massachusetts Lions Eye Research Fund grants:

- Mass. Eye and Ear: \$170,000
- Schepens Eye Research Institute: \$170,000
- Boston Children's Hospital: \$140,000
- Joslin Diabetes Center: \$160,000
- Boston University Medical Center: \$170,000
- Tufts University School of Medicine: \$170,000

Support from Research to Prevent Blindness catalyzes eye research



Luk Vandenberghe, PhD, Schepens Eye Research Institute of Mass. Eye and Ear, received the 2016 Nelson Trust Award for Retinitis Pigmentosa from Research to Prevent Blindness. The award supports his work toward developing therapeutic gene delivery technologies for a variety of diseases, including inherited retinal diseases, such as retinitis pigmentosa.

Harvard Ophthalmology's RPB Unrestricted Grant will support the work of:



Jaya Rajaiya, PhD

With expertise in molecular biology and infectious disease pathogenesis, Dr. Rajaiya studies the cellular mechanisms of adenoviral corneal infections. She will be one of the speakers a mini-symposium at

the 2017 ARVO meeting "Membrane domains: Polarity, trafficking and assembly in the eye."



Tobias Elze, PhD

As a computational vision scientist, Dr. Elze studies the methodology of basic and clinical vision science i.e., the design and data analysis), particularly for large and high-dimensional data sets. As

part of the Boston Blink-netic Project, he is developing neodymium magnet systems for the management of eyelid motility disorders.



Kevin Houston, OD, MSC

A specialist in vision rehabilitation, Dr. Houston researches and develops optical and digital visual aids for people with visual loss, especially from stroke and brain injury. By investigating the

association between retinal structure and age-related impairments, he aims to develop imaging methods that aid in the early detection of retinal diseases.

Personnel updates

NEW RECRUITS



John Kempen, MD, joined the Harvard Ophthalmology faculty on January 1 as Director of Epidemiology for Ophthalmology at Mass. Eye and Ear. In this role, he collaborates with faculty to guide the statistical design and epidemiological aspects of their research year-round. As a clinician scientist with expertise in uveitis, Dr. Kempen also conducts research on the safety and effectiveness of treatments for ocular inflammatory diseases and ocular infectious diseases, particularly those related to HIV/AIDS. He spends 10 months each year in Ethiopia with Sight for Souls, a charitable corporation that brings clinical services to developing countries and educates medical professionals and the public. During the summer, he will teach and provide clinical care through the Mass. Eye and Ear Emergency Department.



Michael Price, MD, will join Harvard Ophthalmology in March 2017. Since 1988, Dr. Price has grown his private practice in Malden, which was recently acquired by Mass. Eye and Ear. A staff member since 1995, Dr. Price now serves as Medical Director for Mass. Eye and Ear, Malden. With clinical and surgical expertise in cataract surgery, including the use of toric and presbyopia correcting intraocular lenses, he also joins the Mass. Eye and Ear Comprehensive Ophthalmology and Cataract Consultation Service. Previously, Dr. Price was President of the Massachusetts Society of Eye Physicians and Surgeons, Councilor of the American Academy of Ophthalmology, and a member of the Secretariat for State Affairs of the Academy. He currently chairs the Educational Endowment Committee of the New England Ophthalmological Society.

LEADERSHIP APPOINTMENTS

Jason Comander, MD, PhD, was named Associate Director of the Inherited Retinal Disorders Service at Mass. Eye and Ear. In this administrative leadership role, he works closely with Service Director, **Eric Pierce, MD, PhD**, to advance the service.

After more than 12 years directing the HMS Core Medicine course, **Deborah Jacobs, MD**, has decided to step down from this role in June 2017. Under her guidance, the department has advocated successfully to keep ophthalmology in the medical student curriculum and taught it to a generation of HMS students. **Ryan Vasan, MD**, has agreed to take on this responsibility.

Joseph Rizzo III, MD, joined the Board of Trustees for the Carroll School of the Blind in Newton, MA. The Carroll Center provides comprehensive services, such as rehabilitation, skills training, and educational opportunities, for those with visual impairments. It also educates the public on vision impairments.

APPOINTMENTS/PROMOTIONS

Zhigang He, PhD, Professor of Ophthalmology (secondary appointment), Boston Children's Hospital

Alex Bowers, PhD, Associate Professor of Ophthalmology, Schepens Eye Research Institute of Mass. Eye and Ear

Sunil Chauhan, PhD, Associate Professor of Ophthalmology, Schepens Eye Research Institute of Mass. Eye and Ear

Nahyoung Grace Lee, MD, Assistant Professor of Ophthalmology, Mass. Eye and Ear

Kathryn Miller, OD, Assistant Professor of Ophthalmology, Boston Children's Hospital

Peter Veldman, MD, Assistant Professor of Ophthalmology, Mass. Eye and Ear

Jerome Mauris, PhD, Instructor in Ophthalmology, Schepens Eye Research Institute of Mass. Eye and Ear

Yang Liu, PhD, Instructor in Ophthalmology, Schepens Eye Research Institute of Mass. Eye and Ear

DEPARTURES

Sarah Jacobo, PhD, joined the Rare Disease Unit of Sanofi Genzyme as a Senior Scientist in September 2016. During her postdoctoral fellowship at Schepens Eye Research Institute of Mass. Eye and Ear and subsequent appointment to the Harvard Ophthalmology faculty, Dr. Jacobo worked under the mentorship of Andrius Kazlauskas, PhD, and Magali Saint-Geniez, PhD.

In October 2016, **Francesco Tecilazich, MD**, who worked in the laboratory of Mara Lorenzi, MD, at Schepens Eye Research Institute of Mass. Eye and Ear, accepted a position at the San Raffaele Hospital and Fondazione Centro San Raffaele in Milan, Italy.

After a productive, 28-year research career at Schepens Eye Research Institute of Mass. Eye and Ear, **Mara Lorenzi, PhD**, retired in December 2016. She will remain involved in clinical studies related to diabetic retinopathy with Italian colleagues and also serve as an elected City Councilor in her hometown of Bordighera, Italy.

After nearly eight years of service to Mass. Eye and Ear's Ophthalmic Plastic Surgery Service, **Francis Sutula, MD**, is concentrating on his private practices in Milford, Stoneham, and Martha's Vineyard, starting January 2017. He will continue to perform surgery at Mass. Eye and Ear.

Upcoming events

Harvard Ophthalmology offers an array of courses, conferences, workshops, and seminars, designed to inspire you and ignite your passion for learning – whether you are a trainee, ophthalmologist, vision researcher, or friend of our community.



Browse the full calendar online at:
eye.hms.harvard.edu/calendar

LECTURES

Longwood Medical Area Ophthalmology Friday Conference

April 14, 2017 | 7:30-8:30 am

Joslin Diabetes Center, Lecture Hall

Sponsored by Beth Israel Deaconess Medical Center
 Department of Ophthalmology

Pediatric Ophthalmology Visiting Professor Lecture

April 19, 2017 | 7:30-9:30 am

Boston Children's Hospital, Karp 11 conference room and simulcast to Waltham ophthalmology conference room and Mass. Eye and Ear, Meltzer Auditorium

Cynthia Toth, MD
 Duke University

Distinguished Lecture Series

May 3, 2017 | 4:00-5:00 pm

Schepens Eye Research Institute, 2nd floor conference room
 Peter Lwigale, PhD
 Rice University

Longwood Medical Area Ophthalmology Friday Conference

May 19, 2017 | 7:30-8:30 am

Joslin Diabetes Center, Lecture Hall

Ronald Hansen, PhD

Sponsored by Boston Children's Hospital

Cornea Center of Excellence Visiting Professor Lecture

May 25, 2017 | 5:30-6:30 pm

Mass. Eye and Ear, Meltzer Auditorium

Sophie Deng, MD, PhD

Ronald Reagan UCLA Medical Center

Pediatric Ophthalmology Visiting Professor Lecture

June 14, 2017 | 7:30-8:30 am

Boston Children's Hospital, Karp 11 conference room and simulcast to Waltham Ophthalmology conference room and Meltzer Auditorium at Mass. Eye and Ear

Daphne Bavelier, PhD
 Université de Genève

Distinguished Lecture Series

June 14, 2017 | 4:00-5:00 pm

Schepens Eye Research Institute, 2nd floor conference room
 Jeffrey Goldberg, MD, PhD
 Stanford University



Lotfi Merabet, OD, PhD, MPH, presents "Noninvasive Brain Stimulation and Chronic Corneal Pain," at the January 5, 2017 Combined Research and Clinical Grand Rounds.

GRAND ROUNDS

New: Combined Research and Clinical Grand Rounds

Select Grand Rounds will feature a 30-minute research presentation in place of the second 30-minute case presentation. Presenting case studies alongside investigative work will enhance dialogue and discussion among researchers, physicians, and other healthcare providers.

Thursdays, 8:00-9:00 am

Mass. Eye and Ear, Meltzer Auditorium and simulcast to Karp 11 conference room at Boston Children's Hospital; Joslin Diabetes Center; and Mass. Eye and Ear, Longwood. CME credit is available.

CME Research/Clinical Grand Rounds

April 6, 2017

Michael Gilmore, PhD

Leading the fight against antibiotic resistance

CME Research/Clinical Grand Rounds

April 13, 2017

Larry Benowitz, PhD

Retinal ganglion cell survival and axon regeneration after optic nerve injury

CME Research/Clinical Grand Rounds

May 4, 2017

Sunil Chauhan, PhD

Regulation of corneal inflammation by mesenchymal stem cells

CME Quality, Humanism and Professionalism/Joint with Otolaryngology Grand Rounds

May 25, 2017

Presenter and talk title TBD

CME Research/Clinical Grand Rounds

June 1, 2017

Kip Connor, PhD

Immune system in retinal detachment or microglia in uveitis

Alumni corner

Jill M. Brody, MD, (Mass. Eye and Ear cornea fellow, class of 1994), and McDonough Eye Associates, Western Illinois University will host the first-ever Pre-Med Symposium on March 8, 2017. The symposium helps undergraduates who are applying to medical school. Harvard Ophthalmology alumnus and former Mass. Eye and Ear faculty member, **Dimitri Azar, MD, MBA**, now Dean of the College of Medicine at University of Illinois at Chicago, will serve as the inaugural keynote speaker. Dr. Brody was the lead contributor toward the \$75,000 symposium endowment.

In December 2016 the Cornea Society awarded its highest honor, the Castroviejo Medal, to **Jonathan Lass, MD**, Case Western Reserve University School of Medicine (Mass. Eye and Ear cornea fellow, class of 1979). This award recognizes Dr. Lass' lifetime contributions to research and advancements in corneal transplant and surgery.

In memoriam

Stephan Alan Youngwirth, MD, a Mass. Eye and Ear alumnus, passed away after a short battle with cancer on January 21, 2017 at the age of 69. For more than 30 years, Dr. Youngwirth cared for patients in his private comprehensive ophthalmology practice and, more recently, at Ophthalmic Consultants of Boston. He was also a passionate pilot for more than five decades. He earned his medical degree from Albany Medical College before serving in the United States Air Force as a flight surgeon. Here, he met another officer, Joni Yttreness, whom he married in April 1975. Following military discharge, Dr. Youngwirth completed an ophthalmology residency at Boston University followed by a retina fellowship at Mass Eye and Ear. Dr. Youngwirth is survived by his wife Joni, daughter Nicole, and son David.

SPECIAL EVENT

6th Military Vision Symposium on Ocular & Vision Injury

March 30-31, 2017

The Starr Center, 185 Cambridge Street, 2nd floor, Boston, MA

Join military leaders, clinicians, and scientists who aim to improve patient care for combat-related eye injuries. Panel discussions and poster presentations will focus on the latest research and unique challenges of treating ocular trauma from explosive devices—one of the most common types of war injuries.

Discussion topics will include:

- Blast physics
- Blast consequences
- Blast rehabilitation
- Blast restoration
- Public health aspects of eye injuries in mass casualties

Wounded Warrior Speaker:

On March 30, Specialist Steven Christopher Baskis (Ret. Army) will share how combat-related eye injuries have changed his life.

For more information on the program and registration, visit:

eye.hms.harvard.edu/military

Darlene Dartt, PhD
Co-chair



John Loewenstein, MD
Co-chair



PERSPECTIVE

The U.S. military faces unique challenges in protecting personnel from bullet, shrapnel, blast, and other injuries. Despite protection, injuries to the eyes and brain can be devastating. The Military and Ocular Vision Symposium, now in its 6th year, offers a unique opportunity for military personnel and researchers to work toward a common goal: improving rehabilitative care for people with eye injuries and ocular trauma. There is current interest in both regenerative medicine and electronic prostheses, and the Department of Defense has funded several projects related to eye injury at Mass. Eye and Ear and Schepens Eye Research Institute.

—John Loewenstein, MD

ARVO 2017

Global Connections in Vision Research

May 7-11, 2017 | Baltimore, MD

Awards and Honors

ARVO Gold Fellows, Class of 2017

Louis Pasquale, MD

ARVO Silver Fellows, Class of 2017

Michael Young, PhD

New 2017 Dowling Society Members

Joan W. Miller, MD

2017 ARVO Foundation/Pfizer Ophthalmics Carl Camras Translational Research Award



Ula V. Jurkunas, MD, Associate Professor of Ophthalmology at Harvard Medical School, will receive an ARVO Foundation/Pfizer Ophthalmics Carl Camras Translational Research Award at the 2017 ARVO annual meeting. In addition to her research on Fuchs' endothelial corneal dystrophy (see page 9), she has been developing a stem cell transplantation technique for the treatment of limbal stem cell deficiency, which involves growing cells from a patient's healthy eye and transplanting them onto the diseased eye. This work has led to the translational development of stem cell therapy in corneal disorders.

Join Harvard Ophthalmology faculty, alumni, and trainees at the Association for Research in Vision and Ophthalmology (ARVO) 2017 Annual Meeting to discuss today's challenges in bridging gaps in scientific knowledge, creating effective collaborations, and keeping bright young minds engaged in research careers.

Highlights



CROSS-SECTIONAL GROUP SESSION

*New tools and methodologies for ocular genetics:
Promises and challenges*

Eric Pierce, MD, PhD



WORKSHOP

*Addressing global blindness and eye diseases
through research collaborations*

Janey Wiggs, MD, PhD



SYMPOSIUM

*The global problem of antibiotic resistance:
Impact on ocular health worldwide and
researching alternatives*

Michael Gilmore, PhD



LUNCHEON

Women in Eye and Vision Research (WEAVR)

Hilton Baltimore | May 9 | 1:00-2:30 pm

Janine Austin Clayton, MD



RECEPTION

Annual Alumni Reception

The Grand | May 7 | 7:30 pm

Registration is requested by April 21:

Ophthalmology_events@meei.harvard.edu

Learn more about Harvard Ophthalmology at ARVO at eye.hms.harvard.edu/arvo

eye Witness

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Harvard Ophthalmology strives to provide:

- Premier clinical care and attention to the patient experience
- Transformational research that eliminates blinding diseases
- World-class training of future leaders

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**Harvard Ophthalmology
ANNUAL MEETING & ALUMNI REUNION**

June 23-24, 2017 | Boston, MA

All current and former residents, fellows, and postdocs and all current and former faculty members are invited to attend this exciting two-day CME* event of scientific exchange and networking.

- Mariana D. Mead Lecture: Robert D'Amato, MD, PhD
- Distinguished Research Achievement Award: Anthony Adamis, MD
- Distinguished Clinical Achievement Award: Donald D'Amico, MD
- Department Update: Joan W. Miller, MD

eye.hms.harvard.edu/annualmeeting

*View the Accreditation tab on the event web page for complete CME information.



October 12-14, 2017 | Boston, MA

Explore current basic and clinical research at the Biennial Cornea Conference, now in its 6th decade. Session topics include: Ocular Surface, Immunology & Microbiology, Endothelial Biology, and Innovation & New Techniques. Highlights include:

- J. Wayne Streilein Lecture: Reza Dana, MD, MPH, MSc
- Claes H. Dohlman Lecture: Kazuo Tsubota, MD, PhD

The conference will culminate in a celebration of Claes Dohlman, MD, PhD.

eye.hms.harvard.edu/cornea/conference