



HARVARD
MEDICAL SCHOOL

DEPARTMENT OF
Ophthalmology

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EYE WITNESS



LISTENING, INNOVATING, AND ADAPTING IN DIFFICULT TIMES

- ▶ **COVID-19: Rising to the Challenge**
- ▶ **2020 Vision: A World-Class Education to Develop Future Leaders in Ophthalmology**
- ▶ **C. Stephen Foster: A Generous Mentor and Innovative Leader**

Listening, Innovating, and Adapting in Difficult Times

Now more than ever, it is important to express Harvard Ophthalmology's commitment to advancing racial and health equity. Building a culture that is diverse and values inclusiveness is essential to us—our strength as a department and community is rooted in the uniqueness of our people. As health care providers and responsible individuals, we must always remember to be thoughtful as we listen and learn from each other—even when that is uncomfortable.

As we work through the careful and thoughtful process of reopening health care in the time of COVID-19, our faculty, trainees, and staff are honored to serve an inclusive community of patients and families who inspire us to provide the highest quality of care.

Over the past few months, I have been heartened and thankful for how our entire department has risen to the challenges of these unprecedented times. Our faculty, trainees, and staff have supported each other and responded with dedication, creativity, flexibility, and resiliency. Here are a few highlights of how the department continues to innovate and adapt.

AAVCOVID Vaccine Program

Luk Vandenberghe, PhD, Director of the Grousbeck Gene Therapy Center at Mass. Eye and Ear and Associate Professor of Ophthalmology at Harvard Medical School, is leading an effort, along with Mason Freeman, MD, Mass General Hospital, and James M. Wilson, MD, PhD, Perelman School of Medicine at the University of Pennsylvania, to develop a genetic vaccine for COVID-19. The multi-institutional vaccine program, known as AAVCOVID, is based on adeno-associated viral (AAV) vector gene transfer technology developed by Dr. Vandenberghe 12 years ago and appears to be an effective vaccine carrier that is applicable to broad populations. Dr. Vandenberghe started making the experimental vaccine in mid-January following the Wuhan outbreak and the first publication of genetic sequences of the novel coronavirus.

In an effort to move this vaccine development effort full speed ahead, former Mass. Eye and Ear Board Chair Wyc Grousbeck and Emilia Fazzalari generously gave a lead gift of \$1 million. Additional philanthropic gifts from generous friends and awards from FastGrants and the Massachusetts Consortium on Pathogen Readiness



contributed another \$2.2 million. Partnerships with the Gene Therapy Program at the University of Pennsylvania; Viralgen; Aldevron; Catalent; and AveXis, a Novartis Company, will help the program reach its goal of developing a safe, effective, and highly scalable vaccine. Clinical trials are expected to commence in the second half of 2020.

Education and Telemedicine

Our educational team—led by Alice Lorch, MD, MPH; James Chodosh, MD, MPH; and 2019-2020 Chief Resident Grayson Armstrong, MD, MPH—continues to devise creative approaches to virtual education, including surgical education and gatherings.

We launched joint Grand Rounds with Boston University, Tufts University, Brown University, and University of Massachusetts Medical School via Zoom, and a joint educational program that included up to five or six lectures a day in addition to wellness sessions.

In addition, Dr. Armstrong and 2020-2021 Chief Resident Margot Weinert, MD, spearheaded the development of a

weekly virtual cataract surgical training curriculum. Each week, they tackled a topic in cataract surgery by putting together readings and videos online. The week culminated in a Zoom case conference on Tuesdays. The program has been extremely successful and was shared nationally to Residency Program Directors through the Association of University Professors of Ophthalmology, enabling residents in other programs to participate. We are hoping to expand this virtual education offering to other subspecialty areas outside of cataract.

Ankoor Shah, MD, PhD, developed an online HMS course for medical students who are interested in ophthalmology.

Dr. Chodosh continues to be a principal author for the American Academy of Ophthalmology's COVID-19 clinical resource website.

Many of our faculty are successfully providing Epic-integrated virtual visits. A special thanks to Dr. Lorch; David S. Friedman, MD, PhD, MPH; and Debra Rogers, Senior Vice President of Ophthalmology and Ambulatory Services, who were instrumental in rolling out this program for ophthalmology.

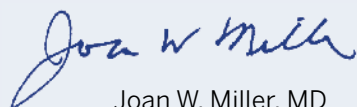
Training Tomorrow's Leaders

Given the educational team's impressive response to the pandemic, it is fitting that this issue highlights our world-class training of future leaders in ophthalmology.

In the following pages, we spotlight major milestones in education and faculty development over the past 20 years. Some of these include:

- Holding our first Annual Meeting in 2004, which expanded to a two-day Annual Meeting and Alumni Reunion in 2011
- Initiating the Intensive Cataract Surgical Training Course for Second-Year Residents in 2005 and the Vitrectomy Course for first-year retina fellows in 2010
- Creating the Harvard Ophthalmology Mentoring Program in 2014
- Opening the Samuel and Nancy Jo Altschuler Surgical Training Laboratory in 2016

As you read through this issue, I hope that you will be encouraged by our ongoing commitment to train tomorrow's ophthalmology leaders—the future innovators who will be equipped to tackle whatever challenges come their way.



Joan W. Miller, MD
Chief and Chair

Your Generous Gifts Make a Difference: Jakobiec Education and Information Center

In 2019, Frederick A. Jakobiec, MD, DSc, announced his intention to bequest a groundbreaking \$4.5 million gift to support four endowments in ophthalmology. Recently, he decided to further support the institution with an additional bequest of \$1 million as a long-term investment in the libraries at Mass. Eye and Ear.

The gift will support the renovation of the library space that will be known as the Frederick A. Jakobiec, MD, DSc, Education and Information Center. It will house the Lucien Howe Library of Ophthalmology, the LeRoy A. Schall Library of Otolaryngology, and the Abraham Pollen Archives. The space will provide a significantly improved academic setting for the Mass. Eye and Ear community to read, research, contemplate, and collaborate.



Donors like C. Stephen Foster are the reason Harvard Ophthalmology can continue to educate tomorrow's ophthalmology leaders. From left to right: Frances Foster; C. Stephen Foster, MD; and Joan W. Miller, MD.

C. Stephen Foster: A Generous Mentor and Innovative Leader

Harvard Ophthalmology alumnus C. Stephen Foster, MD, will be honored with an official portrait to recognize his contributions to ophthalmology and Mass. Eye and Ear. The portrait is a gift from The Foster Ocular Immunology Society, a group of Foster's former fellows.

Dr. Foster's most recent contribution is endowing the C. Stephen and Frances Foster Lecture in Ocular Immunology at Mass. Eye and Ear in perpetuity. The inaugural lecture was held on November 4, 2019.

"I want to wholeheartedly thank Steve and Frances for their generous support of our mission," says Joan W. Miller, MD, Chief and Chair. "By establishing the lecture, the Fosters will continue to inspire and educate generations of ocular immunologists."

A Distinguished Career

In 1975, Dr. Foster joined Mass. Eye and Ear as a Cornea and External Disease fellow. In 1976 while still a fellow, he was appointed Director of the Ophthalmology Residency Program. During his time as director, he redesigned the program, moving from pairs entering every three months to a class of eight starting in July.

In 1977, Dr. Foster joined the full-time faculty at Mass. Eye and Ear and was quickly recognized as an expert in inflammatory conditions. In 1981, he established the Ocular Immunology and Uveitis Service at Mass. Eye and Ear.

After 30 years at Mass. Eye and Ear, Dr. Foster transitioned to private practice—The Massachusetts Eye Research and Surgery Institution.

An Accomplished Ophthalmologist and Pioneer in Uveitis

An internationally acclaimed clinician scientist and gifted surgeon, Dr. Foster pioneered the use of a variety of immunomodulatory drugs for the treatment of ocular inflammatory diseases. He also advocated for achieving remission of ocular inflammatory disease by avoiding dependency on corticosteroids.

A generous mentor, Dr. Foster has trained numerous ocular immunologists who have gone on to practice and teach across the United States and around the world. As a testament to his teaching contributions, Dr. Foster's former fellows started the Foster Ocular Immunology Society, which meets twice a year at the American Academy of Ophthalmology and Association for Research in Vision and Ophthalmology annual meetings.

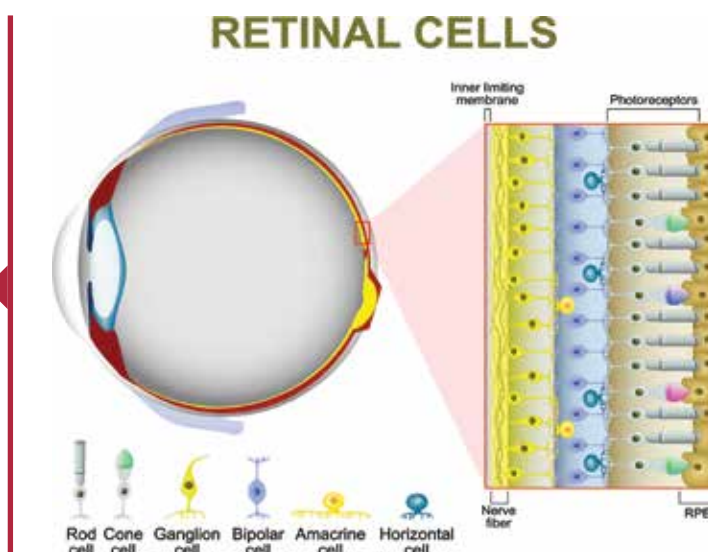


Gene Mutation May Slow Alzheimer's Disease Progression

As reported in *Nature Medicine*, co-first author Joseph Arboleda-Velasquez, MD, PhD, of Schepens Eye Research Institute of Mass. Eye and Ear, and a team of researchers studied a woman who showed no signs of dementia until her 70s despite having an Alzheimer's-causing mutation on the gene presenilin 1 (*PSEN1*). The team demonstrated that she has two copies of a very rare mutation of the *APOE3* gene called Christchurch (*APOEch*) and, in spite of unusually high brain amyloid levels, had limited tau accumulation and neurodegeneration. These findings have implications for the role of *APOE* in the pathogenesis, treatment, and prevention of Alzheimer's disease, and may have applications for protection against other neurodegenerations, such as age-related macular degeneration and inherited retinal disorders.

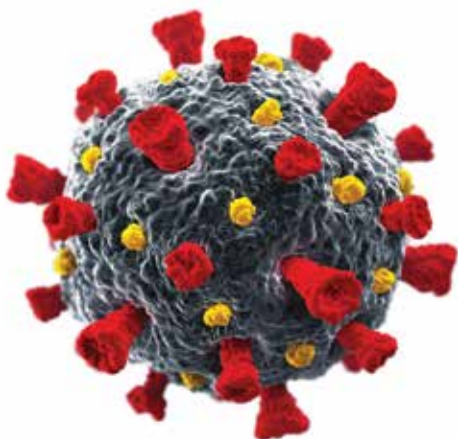
First Patient Treated With ONL1204 for Retinal Detachment

ONL Therapeutics recently announced the treatment of the first patient in their study of ONL1204, a Fas-inhibitor designed to protect retinal cells from cell death caused by a number of retinal diseases and disorders. Based on technology and licenses from the University of Michigan and Mass. Eye and Ear (Harvard Ophthalmology alumni David Zacks, MD, PhD, now of the Kellogg Eye Center, and Joan W. Miller, MD, Chair of Harvard Ophthalmology), this is the first in-patient use of neuroprotection therapy for the treatment of retinal detachment, a condition for which ONL1204 has been granted orphan drug designation by the FDA.



Novel Gene-Based COVID-19 Vaccine Candidate

A team of scientists, including Luk Vandenberghe, PhD, Director of the Grousbeck Gene Therapy Center at Mass. Eye and Ear; Mason Freeman, MD, Mass General Hospital; and James M. Wilson, MD, PhD, Perelman School of Medicine at the University of Pennsylvania, are developing a novel gene-based vaccine candidate against SARS-CoV-2, the virus that causes COVID-19. The vaccine uses an adeno-associated viral (AAV) vector, a clinically established gene transfer technology leveraging the properties of a harmless viral carrier, to deliver genetic sequences of the SARS-CoV-2 Spike antigen so the body can develop an immune response to COVID-19.





A World-Class Education to Develop Future Leaders in Ophthalmology

Harvard Ophthalmology's educational programming aims to inform and inspire trainees, faculty, alumni, and the broader ophthalmology and vision research community. It includes nine hospital affiliates and three international partners.

Over the past 20 years, the academic department and its clinical affiliates have reinvigorated, reorganized, and refined the education programs to challenge professionals at every level—from medical students to ophthalmology residents and fellows to faculty and emerging leaders—and help them develop into leaders in their fields. Today, about 1 in 4 ophthalmology department chairpersons in academic institutions across the United States and Canada received postdoctoral training through Harvard Medical School.

Education is provided both in the clinical setting and through didactic sessions with world-renowned faculty. Routine didactics are complemented by an annual series of conferences and named lectureships, which attract



Trainees at Harvard Ophthalmology and Mass. Eye and Ear receive the finest medical education in the world.

distinguished speakers and lead to an exchange of ideas. Faculty development and mentoring programs reinforce this culture of learning by offering opportunities to gain valuable guidance from senior faculty. Through Harvard Medical School, the department participates in several mentoring events for underrepresented minority students as part of a focus on increasing diversity within ophthalmology.

Education is essential to Harvard Ophthalmology's mission. The department provides a stimulating learning environment and continues to enhance its offerings to ensure that it develops outstanding academicians and clinician scientists who are primed to become tomorrow's leaders.



Harvard Ophthalmology nurtures a culture of learning. It does not matter whether you are a trainee or a senior faculty member, the same rules apply: Be curious, ask questions, share your talents, and participate fully. We learn from each other.”—James Chodosh, MD, MPH, Vice Chair of Ophthalmology Education



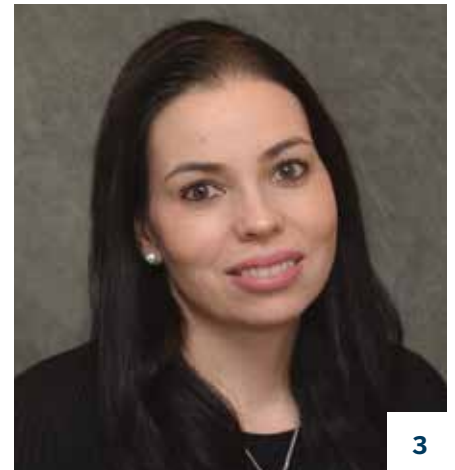
Meet the Education Leadership Team



1



2



3



4



5

1. JAMES CHODOSH, MD, MPH

Harvard Medical School: Vice Chair of Ophthalmology Education; Director of Diversity and Inclusion for the Department of Ophthalmology; Ophthalmology Champion for the AAO/AUPO Minority Ophthalmology Mentoring Program

Mass. Eye and Ear: Associate Chief of Ophthalmology Education

2. ALICE LORCH, MD, MPH

Harvard Medical School: Director of Ophthalmology Residency Training Program

3. AISHA TRASH, MD

Harvard Medical School: Associate Director of Ophthalmology Residency Training Program

4. ANKOOR SHAH, MD, PhD

Harvard Medical School: Director of Medical Student Ophthalmic Education Program; Editor, *Digital Journal of Ophthalmology*

5. NICHOLAS BUTLER, MD

Harvard Medical School: Faculty Advisor for the Residency Wellness Committee



20 YEARS OF MAJOR EDUCATION AND FACULTY DEVELOPMENT ADVANCES

HMS Professorships Expanded

- Sir William Osler Professorship
- Charles L. Schepens Professorship
- Claes Henry Dohlman Professorship
- David G. Cogan Professorship in Neuro-Ophthalmology now Simmons Lessell Professorship
- Stelios Evangelos Gragoudas Professorship*
- Solman and Libe Friedman Professorship
- Charles Edward Whitten Professorship*
- David G. Cogan Professorship in Cornea and External Disease now Edith Ives Cogan Professorship

2003-2011

**To be renamed on the retirement of Drs. Gragoudas and Miller to the Evangelos Stelios Gragoudas and Joan Whitten Miller Professorship*

2003-2019



Symposia Initiated

- Military Vision Symposium
- Neuro-Ophthalmology Festival
- Biennial International Symposium on AMD
- Boston Area Antimicrobial Research Network Meeting
- Strabismus Symposium
- Ocular Genetics and Genomics Symposium
- Biennial International Ocular Regeneration Symposium
- Institutes/Centers of Excellence Seminar Series

2004

Residency program renamed Harvard Ophthalmology Residency Training Program



2005-2010

National Training Courses Initiated

- Cataract Course
- Vitrectomy Course



2006-2019

Named Lectures Expanded (partial list)

- Ephraim Friedman Lecture
- Ruthanne B. Simmons Lecture in Ophthalmology
- Pei-Fei Lee Lecture in Ophthalmology
- C. Stephen and Frances Foster Lecture in Ocular Immunology





Mass. Eye and Ear Chairs Established

- Grousbeck Family Chair in Gene Therapy
- Monte J. Wallace Ophthalmology Chair in Retina
- Albert and Diane Kaneb Chair in Ophthalmology
- Thomas Y. and Clara W. Butler Chair in Ophthalmology

Boston Children’s Hospital Chairs Established

- Children’s Hospital Ophthalmology Foundation (CHOF) Professor Chair
- CHOF Faculty Chair
- CHOF Clinical Research Chair
- CHOF Clinical Scientist Chair
- Neuro-Ophthalmology Research Chair
- Children’s Hospital Vision Science Research Chair

2005-2019

Alumni Outreach Initiated

- Harvard Ophthalmology Alumni Association established
- Annual Meeting and Alumni Reunion created (built on earlier Annual Meeting that began in 2004)

Mass. Eye and Ear Scholars Created

- Joan W. Miller Scholar in Retina Research
- Evangelos S. Gragoudas Distinguished Scholar in Retina Research
- Mass. Eye and Ear Ophthalmology Department Scholars
- Mass. Eye and Ear Ophthalmology Department Distinguished Scholars
- Henry Freeman Allen Cornea Scholar

2011

Mentoring Highlights

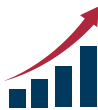
- Harvard Ophthalmology Mentoring Program created
- Harvard Ophthalmology Excellence in Mentoring Award established



2014-2019

2007-2016

Mass. Eye and Ear fellowships meet and exceed national guidelines, and new fellowships added.



2011-2019

Awards Expanded for Trainees and Faculty

- Gragoudas Prizes for Best Basic/Translational and Clinical Retina Research Paper by a Mass. Eye and Ear trainee
- Best Clinical Trainee Research Award in Cornea and Refractive Surgery
- Gragoudas-Folkman Award
- Simmons Lessell Teaching Award
- Iraty Award



2016

Samuel and Nancy Jo Altschuler Surgical Training Laboratory opened



20 Years of Inspiring, Mentoring, and Challenging the Next Generation of Ophthalmologists

Those who train at Harvard Ophthalmology receive the finest ophthalmic education in the world. In the following pages, the department's key educational achievements over the past 20 years are highlighted. Harvard Ophthalmology's community of superb educators will continue to innovate to tackle the challenges of tomorrow.

Exposing Medical Students to Ophthalmology

Over the years, Harvard Ophthalmology has enhanced the quantity and quality of the ophthalmology education offered to Harvard Medical School (HMS) students.

From 2004 to 2014, the late Simmons Lessell, MD, was Director of Ophthalmic Medical Education for HMS. During his tenure, he redesigned the ophthalmic elective program to emphasize faculty mentorship, conference participation, and emergency department training. In 2014, Ankoor Shah, MD, PhD, became director and built on this foundation by leading efforts to increase elective offerings and to capture pre-clerkship exposure to ophthalmology. Former Harvard Ophthalmology faculty

member Carolyn Kloek, MD, initiated the program's case-based style of learning, with continued development by Dr. Shah.

"We expose all medical students to the eye with the tools needed to triage an eye complaint to ensure our future colleagues have this basic understanding. The program also helps recruit and nurture those students who are interested in ophthalmology as a profession," says Dr. Shah. "We are proud that our course offerings receive outstanding feedback from students and are recognized by HMS."



Over the years, Harvard Ophthalmology has enhanced the quantity and quality of the ophthalmology education offered to HMS students.



ENCOURAGING DIVERSITY IN OPHTHALMOLOGY

Harvard Ophthalmology joined the work of colleagues in the American Academy of Ophthalmology (AAO) and Association of University Professors of Ophthalmology (AUPO) to increase the representation of minority groups in ophthalmology. James Chodosh, MD, MPH, was appointed the Ophthalmology Champion at Harvard Ophthalmology for the AAO/AUPO Minority Ophthalmology Mentoring (MOM) Program. Dr. Chodosh is also the Director of Diversity and Inclusion for Harvard Ophthalmology.

A major goal of the MOM Program is to provide mentors to first- and second-year underrepresented medical

students who have an interest in ophthalmology. A second goal is to help underrepresented third- and fourth-year students, who already know they want to study ophthalmology, identify gaps, match in residencies, and begin their careers.

“Mentors provide valuable advice and guidance on creating a proper application and obtaining letters of recommendation,” says Dr. Chodosh. “For example, I have a medical student mentee who is the first person in her family to go to college. Mentorship by someone who has been through the process can be game-changing.”

Dr. Chodosh collaborates with Dr. Shah and Alice Lorch, MD, MPH, Director of Ophthalmology Residency Training Program.

An Innovative Residency Training Program

Acceptance into the Harvard Ophthalmology Residency Training Program, one of the best programs in the country, remains highly competitive. In 2019, the program received 486 medical student applications for eight resident positions.

The resident interview process was refined in 2019 with standardized questions and behavioral interview techniques to reflect best practices in interviewing. The Residency Selection Committee also underwent Unconscious Bias training prior to the interview days.

“We select residents with potential to be leaders in the field of ophthalmology and support them throughout their training so that they can achieve the diverse goals they arrive with,” says Alice Lorch, MD, MPH, Director of Ophthalmology Residency Training Program. “We make sure they have broad patient exposure and increasing clinical responsibility during their three years of training. We also provide them access to global health opportunities.”

Third-year residents can participate in an international rotation at Aravind Eye Hospital in India, where they participate in cornea, glaucoma, and uveitis clinics with exposure to inflammatory and infectious diseases that are uncommon in the United States. Residents also spend time in the operating room, where they serve as primary surgeons for cataract surgeries.

Dr. Lorch succeeds former Harvard Ophthalmology faculty member Carolyn Kloek, MD, who was the Director of Ophthalmology Residency Program from 2014 to 2018.

John Loewenstein, MD, was the director from 2002 to 2014. Anthony Adamis, MD, was director from 1992 to 2002.

SURGICAL TRAINING

Over the past 20 years, numerous programs and innovations have created a more effective training environment for residents, including:

- **Cataract Course:** In 2005, this course was launched with Harvard Ophthalmology faculty members Bonnie An Henderson, MD; Sherleen Chen, MD; and Roberto Pineda II, MD, as course co-directors. In 2016, Sheila Borboli-Gerogiannis, MD, joined as a co-director. This program teaches cataract techniques through didactic and hands-on tutorials, and is now attended by 120 second-year residents across the country. It is nationally recognized as a premier training program, and the Association of University Professors of Ophthalmology plans to emulate it.
- **Surgical Morbidity and Mortality:** Since 2007, senior residents use this conference to present complications of surgical cases to colleagues, the chief resident, and faculty from the Comprehensive Ophthalmology and Cataracts Service.
- **Stepwise Introduction to Cataract Surgery:** In 2009, a carefully planned, stepwise approach to training of phacoemulsification surgery was introduced by Drs. Loewenstein and Kloek and has continued to be refined.



- **Surgical Training Laboratory:** In 2009, the department invested in a surgical training laboratory with the most advanced teaching tools available, including an Eyesi® Virtual Reality Surgical Simulator (VRmagic). Then in 2016, thanks to a \$1 million gift from Samuel and Nancy Jo Altschuler, the laboratory was renovated to become the state-of-the-art Samuel and Nancy Jo Altschuler Surgical Training Laboratory. The laboratory offers trainees opportunities to refine their surgical skills in a preoperative environment. It includes:
 - nine workstations with ophthalmic microscopes
 - two vitrectomy machines
 - six phacoemulsification machines
 - bench area for dissection with fully prepped surgical tools
 - advanced audio-visual system for group training
 - video streaming for virtual teaching and video recording capabilities
- **Cataract Master:** Drs. Henderson and Loewenstein led the team that launched the Cataract Master in 2012. This innovative, computer-based simulation tool bridges the learning gap that trainees must navigate prior to performing actual surgery. In 2019,



This facility opens doors to so many new ways of teaching,” says Lucy Young, MD, PhD, Director of the Samuel and Nancy Jo Altschuler Surgical Training Laboratory. “Learning not only comes from watching experts do their beautiful work but also from watching mistakes. In the laboratory, instructors can critique a trainee’s work on the central plasma screen. This helps prepare them for real-life challenges in the operating room.”



Katie Luo, MD, PhD, assists a trainee in the Samuel and Nancy Jo Altschuler Surgical Training Laboratory.



the Cataract Master became available to all American Academy of Ophthalmology members, including residents, at no cost.

- **Innovation & Interaction Workshops:** In 2018, this monthly program was developed by then Chief

Resident and Director of the Mass. Eye and Ear Trauma Service, Elizabeth Rossin, MD, PhD, to provide residents of all levels focused surgical training in all areas of ophthalmology. On a monthly basis, residents and faculty spend time in the training laboratory in faculty-designed workshops on selected surgical topics.

Fellowships: Subspecialty Leaders in Training

The ophthalmology clinical fellowship programs at Mass. Eye and Ear comprise 14 subspecialty areas at several affiliated hospitals.

From 2007 to 2009, seven Mass. Eye and Ear fellowships were certified by the Association of University Professors of Ophthalmology Fellowship Compliance Committee (AUPO FCC), which was created in 2005 to provide training and educational requirements for eligible ophthalmology fellowships. Each compliant fellowship meets or exceeds the standards set by the program requirements that cover medical and surgical training,

research, academics, faculty, benefits, and employment standards. The program requirements are established by the specific subspecialty society/societies in conjunction with the AUPO FCC.

In recent years, the following fellowships have been established at Mass. Eye and Ear:

- Ophthalmic Plastic and Reconstructive Surgery (ASOPRS), Mass. Eye and Ear, Program Director: Suzanne Freitag, MD (even years, *established in 2011*) and Michael Yoon, MD (odd years, *established in 2017*)



Faculty such as Ula Jurkunas, MD, provide fellows with valuable expertise.



- Medical Retina, Mass. Eye and Ear, Program Director: Deeba Husain, MD—*established in 2014*
- Anterior Segment, Mass. Eye and Ear, Program Director: Kathryn Hatch, MD—*established in 2016*

For a full list of fellowships offered at Mass. Eye and Ear, visit eye.hms.harvard.edu/education.

ENDOWED FELLOWSHIPS

In an effort to further support our outstanding fellowship programs, Harvard Ophthalmology has sought donations to endow fellowships. Through the support of generous alumni and other donors, the department now offers:

- The Abelson Family Fellowship in Cornea
- The Richard and Ruthanne Simmons Glaucoma Fellowship
- The Simmons Lessell Fellowship in Neuro-Ophthalmology
- The Thomas J. Madden Fellowship in Retina

A planned gift has been made for the Marjorie and Philip Gerdine Fellowship in Ophthalmology.

HEED FELLOWSHIPS

Many clinical fellows—both at Mass. Eye and Ear and graduating residents heading to other programs—receive Heed Fellowships from the Heed Ophthalmic Foundation. The fellowships support postgraduate training in ophthalmic patient care, education, and research.

VITRECTOMY COURSE

Designed exclusively for first-year retina fellows, the vitrectomy course was established in 2010 by Dr. Loewenstein and Demetrios Vavvas, MD, PhD. In 2011, Dean Elliott, MD, joined as a co-director, and in 2016, John B. Miller, MD, joined as a co-director. Recognized nationally as the premier vitrectomy course for fellows, it combines didactics and video with time in the simulation laboratory and surgical training laboratory. Training is directed by a group of eminent faculty from across the country in a setting with a low student-to-teacher ratio.

Faculty Development

In the past 20 years, Harvard Ophthalmology has enthusiastically supported faculty's professional and leadership development.

- **Professorships:** From 2003 to 2011, eight HMS professorships were created to attract and support the endeavors of world-class clinician scientists and investigators (see pages 8-9 for list).
- **Harvard-Vision Clinical Scientist Development Program (K12):** In 2004, the NIH awarded Mass. Eye and Ear/Harvard Ophthalmology a K12 grant to support this program. The program was renewed in 2010 and 2016. Led by Reza Dana, MD, MSc, MPH, the program awards three- to four-year career development grants to aspiring clinician scientist junior faculty. It provides them with financial support, mentorship, and 75% protected research time to pursue and build independent research careers. It is important to emphasize that the scholars who have completed the program have succeeded in securing independent funding for their research programs.
- **Chairs:** From 2005 to 2019, four Mass. Eye and Ear chairs and six Boston Children's Hospital Chairs were created to attract and support the endeavors of

world-class clinician scientists and investigators (see pages 8-9 for list).

- **HMS Leadership Development for Physicians and Scientists:** Since 2007, the department has sponsored faculty for this three-day program that focuses on human resource management, negotiation, finance, self-assessment, communications, and personal career development.
- **Mass. Eye and Ear Scholars:** In 2011, funds to support Mass. Eye and Ear Scholars were set aside from a number of sources, including Individual Research Funds of Joan W. Miller, MD, and Evangelos S. Gragoudas, MD, and departmental scholar funds that came as a result of the QLT judgment. In addition, funds were set aside from the Boston Keratoprosthesis Program. These scholar funds support faculty, particularly those clinician scientists in the years between K awards and independent funding, and clinician-educators (see pages 8-9 for list.)
- **Harvard Ophthalmology Mentoring Program:** In 2014, this program was created to support faculty in the promotion process and professional development. Directed by David G. Hunter, MD, PhD; Patricia D'Amore,



Senior faculty such as James Chodosh, MD, MPH, provide advice and perspective to younger faculty.

PhD, MBA; and Joan W. Miller, MD, the program currently has 151 faculty members being mentored by 71 fellow faculty members. A Harvard Ophthalmology Excellence in Mentoring Award was initiated in 2019

and given to Lucia Sobrin, MD, MPH. Also in 2019, the Harvard Ophthalmology Mentoring Program received the Program Award for a Culture of Excellence in Mentoring at HMS.

2020 Vision

Here are some ways Harvard Ophthalmology's education leaders are preparing for the challenges of tomorrow.

RECRUITING A DIVERSE WORKFORCE

Evidence suggests that diversity throughout an organization—from residents, fellows, and faculty to administrative and leadership staff—leads to better decision-making, and an organization that can better serve a diverse population through expanded capacity to understand patients' needs and values.

The department's goal is to increase diversity at all levels.

With this in mind, Harvard Ophthalmology is developing a program, tentatively called Scientists Underrepresented in Vision, to expose medical students who are underrepresented in medicine to the field of ophthalmology. In the coming years, these types of programs will be promoted by the Association of University Professors of Ophthalmology and the American Academy of Ophthalmology and will continue to expand.



IMPROVING THE WAYS WE LEARN

- **Case-based, Collaborative Learning:** A flipped classroom style of learning will increasingly replace the lecture-based model of teaching as it has been shown to increase analytical, problem solving, and teamwork skills. Harvard Ophthalmology is gradually changing to this collaborative style of teaching that has been proven to enhance adult learning and retention.
- **Hands-On, Interactive Training:** Surgical simulation and formalized surgical training laboratory curricula allow trainees the chance to practice their surgical skills in a safe environment prior to entering the operating room. A focus on the creation of cutting-edge simulations and surgical training laboratories are a high priority for Harvard Ophthalmology. These will take place in one-on-one trainee and expert interactions, large-group surgical training laboratories, and even at a distance through simulators that recognize correct and incorrect surgical approaches and real-time video teleconferencing. The department is well prepared for

the future with the Samuel and Nancy Jo Altschuler Surgical Training Laboratory, which includes an Eyesi® Virtual Reality Surgical Simulator (VRmagic) and video streaming capabilities. As technology advances, the department will continue to invest in the latest equipment.

- **Virtual Learning:** The COVID-19 pandemic has made social distancing and, therefore, virtual learning a necessity. When in-person lectures and surgical training opportunities were cancelled due to the pandemic, Harvard Ophthalmology organized a collection of virtual clinical and surgical didactics that have been attended by trainees and attendings across all of the leading academic institutions in the area. The department will continue to devise creative ways to offer surgical education and hold virtual gatherings to advance the mission of premier ophthalmic education.

Furthermore, videoconferences and webinars will continue to play a large role in facilitating faculty development and engaging global alumni who support faculty. The 2020 Annual and Alumni Meeting was



The department is well prepared for the future with the Samuel and Nancy Jo Altschuler Surgical Training Laboratory, which includes an Eyesi® Virtual Reality Surgical Simulator (VRmagic) and video streaming capabilities.



reimagined as a virtual meeting. In the coming years, department conferences will continue to be available virtually, opening up new opportunities for collaboration that are not limited by geography.

- **Expanding Educational Tools:** In a world where medical knowledge is constantly growing, podcasts and apps can play a major role in ensuring clinicians have the most up-to-date data. To this end, the department is organizing a novel web-based platform to host previous didactics and Grand Rounds for trainee and alumni review.

CREATING A SUPPORTIVE ENVIRONMENT FOR THE WHOLE WORKFORCE

- **Wellness:** Trainee and faculty development of the future will include an assessment of and attention to wellness and resilience, including community building, work-life balance, and mental health support. The department has begun to address these issues by creating the Harvard Ophthalmology Resident Wellness Committee in 2018. In 2019, the Harvard Ophthalmology Faculty Retreat included breakout sessions designed to gather faculty input and actionable insight concerning wellness issues. In the next few years, Harvard Ophthalmology/Mass. Eye and Ear will increase wellness programs that focus on building resiliency.

- **Inspiring Faculty:** Harvard Ophthalmology will support faculty, whether a clinician scientist or a clinician educator, to be the best they can be by providing guidance in their career development. Faculty development will continue to expand in the coming years with the goal of engaging faculty earlier in their careers, improving feedback, encouraging training through organizations like the Association of University Professors of Ophthalmology and American Academy of Ophthalmology, and creating more opportunities for junior faculty to lead committees and programs.

The Harvard Ophthalmology Mentoring Program is launching a peer mentoring component for new clinician scientists and educators. It will continue to add resources to the Harvard Ophthalmology website for both mentors and mentees and recognize the best-of-the-best mentors. The mentoring program will collaborate with other accomplished Harvard Medical School (HMS) mentoring programs, including the Mass General Hospital Center for Faculty Development, the goals of which include creating a Center of Excellence to bring experts across HMS together to discuss best practices in mentoring. The mentoring program's impact will be shared through structured surveys and academic reports.

Interested in Learning More About Mentoring?

The Harvard Ophthalmology Mentoring Program resource page is full of helpful tips and information.

EYE.HMS.HARVARD.EDU/MENTORING

- ▶ Mentor Guidelines
- ▶ Mentee Guidelines
- ▶ Mentoring Program Survey Results
- ▶ Links to affiliate and HMS mentoring program websites
- ▶ The Science of Effective Mentorship in STEMM online guide and mentoring curricula
- ▶ HMS Teaching Opportunities
- ▶ Tips from the Academy at HMS
- ▶ Links to articles on Best Practices in Mentoring

Rising to the Challenge

During COVID-19, Harvard Ophthalmology has led innovative and collaborative initiatives to move its mission forward. As the pandemic continues to evolve, the department remains committed to performing transformational research, offering world-class training to the next generation of ophthalmology leaders, and providing the best clinical care to patients with attention to their experience.

Clinical Care Changes

The department's immediate clinical response to COVID-19 was to reduce patient care to only urgent and emergent cases, while keeping all sites open. Harvard Ophthalmology's primary hospital affiliate Mass. Eye and Ear converted its 10th floor inpatient unit to a temporary COVID-19 recovery unit for patients discharged from Mass General Hospital.

With all elective and nonurgent cases postponed during the height of the pandemic, the department quickly implemented virtual visits, as well as hybrid visits that combine remote imaging with video conferencing. This advanced technology allows clinicians to meet patient care needs while still following social distancing protocols.

Essential Research

On-site research activities were immediately limited to essential activities such as maintaining key animal strains and cell lines, conducting safety visits for research subjects, and other crucial needs. Working remotely, faculty and staff continued to analyze data, submit a vast number of grant applications, author manuscripts, and conduct virtual clinical research visits. While most on-site research activities ramped down during this time, COVID-19-related research projects accelerated quickly. Most notably, Luk Vandenberghe, PhD, and his team have been working diligently on an exciting gene-based COVID-19 vaccine program (see page 2 and 5 for more details).

Innovations in Education

Harvard Ophthalmology residents continued to provide patient care and learn with selflessness and grace under significant pressure during COVID-19. For several months, they were pulled from clinical activities to cover urgent and emergent care across Harvard Ophthalmology affiliates.



Mayli Ochoa was the last patient discharged from Mass. Eye and Ear's 10th floor inpatient unit for COVID-19.

Several residents volunteered to staff Mass. Eye and Ear's 10th floor inpatient unit.

Harvard Ophthalmology was among the first in the country to make critical changes to its clinical training program. Notably, the department spearheaded a regional ophthalmology Grands Rounds with Tufts University, Boston University, University of Massachusetts Medical School and Brown University via Zoom.

The department also launched a weekly virtual surgical training curriculum that combines readings, videos, and a virtual case conference. The program was shared nationally to Residency Program Directors through the Association of University Professors of Ophthalmology enabling residents in other programs to participate.

Recovery

Harvard Ophthalmology has begun a measured recovery of its clinical, research, and education operations that closely follows state guidelines. The phased approach includes an increase in ambulatory and surgical volume. Highlights of these efforts include Cataract Saturdays at Mass. Eye and Ear and a seven-day OR schedule at Boston Children's Hospital. Basic and clinical research programs are undergoing a measured ramp-up, with many continuing to run on a limited capacity. The education team is preparing to conduct virtual resident and fellow interviews in the fall.

Integrated PGY1 at Newton-Wellesley Hospital Benefits Residents

Starting in July 2021, the Harvard Ophthalmology Residency Training Program will be a four-year program thanks to a partnership with Newton-Wellesley Hospital. Prior to beginning their three-year residency program, trainees will be placed in the Newton-Wellesley Transitional Year Internship Program, which includes nine months of medicine and surgery training and a three-month rotation at Mass. Eye and Ear.

This partnership was formed in response to a new mandate by the Accreditation Council for Graduate Medical Education for a joint or integrated PGY1 as part of all ophthalmology training programs. Trainees benefit from a standardized internship experience that exposes them to training in ophthalmology before they start their residency.

“We are excited to build a foundation of ophthalmic examination skills and clinical knowledge earlier in training

for our residents,” says Alice Lorch, MD, MPH, Director of Harvard Ophthalmology Residency Training Program. “Residents will be set up to thrive because they will have continuity of mentoring relationships and hospital systems.”

There are many excellent internship programs available in the Boston area. Various factors were considered in selecting a partnership, including a program where all trainees would train together and the selection process for interns. The Newton-Wellesley Transitional Year Internship Program is known to be collegial and welcoming while still academically rigorous. Many current residents have enjoyed their internships in this program.

Newton-Wellesley Hospital is a 200-bed community hospital that is part of Mass General Brigham.



Faculty Updates

HMS APPOINTMENTS/PROMOTIONS

To Professor of Ophthalmology:

- David S. Friedman, MD, PhD, MPH, Mass. Eye and Ear

To Associate Professor of Ophthalmology:

- Magali Saint-Geniez, PhD, Mass. Eye and Ear

To Assistant Professor of Ophthalmology:

- Rosario Fernandez-Godino, PhD, MSc, Mass. Eye and Ear
- Eric Gaier, MD, PhD, Boston Children's Hospital
- Alice Lorch, MD, MPH, Mass. Eye and Ear
- Milica Margeta, MD, PhD, Mass. Eye and Ear
- Aparna Raghuram, OD, PhD, Boston Children's Hospital
- Christian Song, MD, Mass. Eye and Ear
- Daniel Sun, PhD, Mass. Eye and Ear
- Natalie Wolkow, MD, PhD, Mass. Eye and Ear

To Instructor in Ophthalmology:

- Lynette Johns, OD, Mass. Eye and Ear

LEADERSHIP APPOINTMENTS/TRANSITIONS

HARVARD MEDICAL SCHOOL

Aisha Traish, MD, Mass. Eye and Ear, has been named Associate Director, Harvard Ophthalmology Residency Training Program.

MASS. EYE AND EAR

Sheila Borboli-Gerogiannis, MD, Mass. Eye and Ear, will assume the role of Site Director of Mass. Eye and Ear, Longwood.

Han-Ying Peggy Chang, MD, Mass. Eye and Ear, will assume the role of Site Director of Mass. Eye and Ear, Stoneham.

Matthew Gardiner, MD, Mass. Eye and Ear, has been named Associate Chief for Clinical Affairs. Furthermore, Ophthalmology Emergency services have grown during Dr. Gardiner's tenure to include Brigham and Women's Hospital and Brigham and Women's Faulkner Hospital, and he has also led the development and growth of the hospitalist and consult services. These combined services will now be called the Ophthalmology Emergency, Consult, and Hospitalist Services.

LEADERSHIP APPOINTMENTS/TRANSITIONS CONTINUED

Alice Lorch, MD, MPH, Mass. Eye and Ear, has been named Associate Chief for Quality, Ophthalmology.

Jane Schweitzer, MD, Mass. Eye and Ear, has been named Medical Director, Ophthalmology Emergency Service.

Ryan Vasan, MD, Mass. Eye and Ear, will assume the role of Site Director of Mass. Eye and Ear, Malden.

Michael Yoon, MD, Mass. Eye and Ear, has been named President-elect of the Medical Staff at Mass. Eye and Ear.

REGIONAL

Lotfi Merabet, OD, PhD, MPH, Mass. Eye and Ear, has joined the Education Committee of the Board of Trustees at Perkins School for the Blind.

DEPARTURES

Ronald M. Hansen, PhD, a faculty member and researcher at Boston Children's Hospital for 40 years, retired in 2019.

Mohammad Mohammad-Shahi, MD, a faculty member and a member of the Glaucoma Service at Beth Israel Deaconess Medical Center, relocated to Quebec in 2019.

Michael Price, MD, a faculty member, a member of the Comprehensive Ophthalmology and Cataracts Service at Mass. Eye and Ear, and the Medical Director of Mass. Eye and Ear at Malden, retired in May.

Tave van Zyl, MD, a faculty member and a member of the Glaucoma Service at Mass. Eye and Ear, will be relocating in July. She has accepted a position with Yale University and will take on a leadership role at Regeneron Pharmaceuticals.

Richard Watson, MD, MS, a faculty member and a member of the Retina Service at Mass. Eye and Ear, will be relocating to Alabama in August to start a practice.



Awards and Grants

FACULTY AWARDS/HONORS

Roger H. Johnson Award

Patricia D'Amore, PhD, MBA, Schepens Eye Research Institute of Mass. Eye and Ear

ARVO Foundation for Eye Research 2020
Pfizer Ophthalmics Carl Camras Translational Research Award

Kevin Houston, OD, MSc, Mass. Eye and Ear

HMS Excellence in Clinical Instruction
Faculty Award

**David G. Hunter, MD, PhD
Boston Children's Hospital**

Norman Knight Leadership Development Award
in Ophthalmology

Alice Lorch, MD, MPH, Mass. Eye and Ear

ARVO Foundation for Research Oberdorfer Award
in Low Vision Research

Eliezer Peli, OD, MSc, Schepens Eye Research Institute of Mass. Eye and Ear

Boston Children's Hospital Post-Doctoral
Association Best Mentor Award

Lois Smith, MD, PhD, Boston Children's Hospital

The Ophthalmologist's 2020 Power List

Lloyd Paul Aiello, MD, PhD

Reza Dana, MD, MSc, MPH

David S. Friedman, MD, PhD, MPH

Boston magazine's Top Doctors 2020:

Beth Israel Deaconess Medical Center

Mark C. Kuperwaser, MD

Boston Children's Hospital

Linda R. Dagi, MD

David G. Hunter, MD, PhD

Melanie A. Kazlas, MD

Mass. Eye and Ear

Reza Dana, MD, MSc, MPH

Dean Elliott, MD

Jan A. Kylstra, MD

Brendan E. McCarthy, MD

Joan W. Miller, MD

Shizuo Mukai, MD

Roberto Pineda II, MD

Joseph Rizzo III, MD

Lucia Sobrin, MD, MPH

Michael Yoon, MD

Lucy Young, MD, PhD

Part-time Faculty

Jeffrey S. Heier, MD

Ernest W. Kornmehl, MD

Michael Morley, MD

Peter Rapoza, MD

Claudia Richter, MD

Bradford Shingleton, MD

Torsten Wiegand, MD

TRAINEE AWARDS

Abelson Family Fellowship in Cornea

Stephan Ong Tone, MD, PhD, Cornea, External Disease, and Refractive Surgery Fellow

Vitreoretinal Surgery Foundation Research Award

Elizabeth Rossin, MD, PhD, Vitreoretinal Fellow

Best Paper of Session at Cornea Society's
Cornea and Eye Banking Forum Awards

Shruti Sinha, MD, Research Fellow

"Prevalence of persistent corneal epithelial defects in chronic ocular graft-versus-host disease."

GRANTS

National Eye Institute

\$1,327,500 over three years

James Akula, PhD, Boston Children's Hospital

"Noninvasive protection against retinopathy of prematurity"

\$492,500 over three years

Sunil Chauhan, DVM, PhD, Schepens Eye Research Institute of Mass. Eye and Ear

"Contribution of mast cells in non-allergic ocular inflammation"

\$492,500 over four years

Reza Dana, MD, MSc, MPH, Mass. Eye and Ear

"Immunopathogenic mechanisms of dry eye disease"

\$1,576,000 over four years

Darlene Dartt, PhD, Schepens Eye Research Institute of Mass. Eye and Ear

"Construction of conjunctival equivalents using molecular deposition techniques"

\$437,929

Deeba Husain, MD, Mass. Eye and Ear

"Metabolomics: a novel tool for investigating the pathogenesis of age-related macular degeneration"

\$4,300,000 over five years

John Kempen, MD, MPH, MHS, PhD Mass. Eye and Ear

"Fluorometholone as adjunctive medical therapy (FLAME) for trachomatous trichiasis surgery"

\$1,168,014 over three years

Gabriel Kreiman, PhD, MSc Boston Children's Hospital

"Neural dynamics underlying spatiotemporal cognitive integration"

\$702,984 over three years

Milica Margeta, MD, PhD, Mass. Eye and Ear

"The role of APOE signaling in microglia in glaucoma"

\$477,165 over two years

Lotfi Merabet, OD, PhD, MPH, Mass. Eye and Ear

"Assessing spatial processing deficits in cerebral visual impairment using virtual reality"

\$4,600,000 over five years

Eliezer Peli, OD, MSc, Schepens Eye Research Institute of Mass. Eye and Ear

"Visual field expansion through innovative multiperiscopic prism design"

\$3,476,759 over five years

Lucia Sobrin, MD, MPH, Mass. Eye and Ear

"Elucidating novel mechanisms for glucocorticoid-induced ocular hypertension"

\$1,250,000 over four years

Lois Smith, MD, PhD Boston Children's Hospital

"Glucose/lipid metabolism and vessel development in phase I ROP"

Ocugen

\$2,200,000 over two years

Neena Haider, PhD, Schepens Eye Research Institute of Mass. Eye and Ear

"Pre-clinical research for the first broad spectrum treatment of retinopathy of prematurity"

Research to Prevent Blindness

\$375,000 over five years

Career Development Award

Milica Margeta, MD, PhD, Mass. Eye and Ear

\$300,000

Stein Innovation Award

Demetrios Vavvas, MD, PhD, Mass. Eye and Ear (with Kun Ping Lu, MD, PhD, Beth Israel Deaconess Medical Center)

US Army Medical Research

\$984,013 over three years

Magali Saint-Geniez, PhD, Schepens Eye Research Institute of Mass. Eye and Ear

"Targeting metabolic reprogramming for the prevention and treatment of proliferative vitreoretinopathy"

New Faculty

SPRING 2020

Prashant Yadav, MD, joined Mass. Eye and Ear as a Hospitalist and Medical Director of the Ophthalmology Consult Service. Dr. Yadav completed an Ophthalmic Plastic and Reconstructive Surgery Fellowship at Mass. Eye and Ear and was most recently at Wills Eye Hospital.

SUMMER 2020

Thomas Dohlman, MD, joined the Cornea and Refractive Surgery Service at Mass. Eye and Ear. Dr. Dohlman attended University of Massachusetts Medical School and then completed postdoctoral work at Schepens Eye Research Institute of Mass. Eye and Ear. He trained as a resident at Weill Cornell Medical College and completed a Cornea, Refractive Surgery, and External Disease Fellowship at Mass. Eye and Ear.

Anna Stagner, MD, joined Mass. Eye and Ear as the Director of the Eye Pathology Service in the David G. Cogan Ophthalmic Pathology Laboratory. Dr. Stagner completed her ophthalmology residency training and was Chief Resident at the University of Nebraska Medical Center before completing a two-year Ophthalmic Pathology Fellowship at Mass. Eye and Ear. She then went on to Anatomic Pathology residency training at Mass General Hospital before completing a combined Dermatopathology Fellowship at Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, and Mass General Hospital.

Marisa Tieger, MD, joined Mass. Eye and Ear as Chief Resident and Director of the Eye Trauma Service. Dr. Tieger completed her residency at Harvard Ophthalmology.

FALL 2020

Michael Boland, MD, PhD, will join the Glaucoma Service and serve as Medical Director of Practice Innovation for Ophthalmology at Mass. Eye and Ear. Dr. Boland specializes in the medical and surgical management of glaucoma, as well as combined glaucoma and cataracts. In addition to his clinical practice, he will provide expert guidance on needed innovations that will improve patient care

and increase practice efficiency and safety across the department. Prior to joining the faculty, Dr. Boland was Associate Professor of Ophthalmology at Johns Hopkins University, as well as Associate Director of the Residency Training Program and Director of Information Technology at Wilmer Eye Institute.

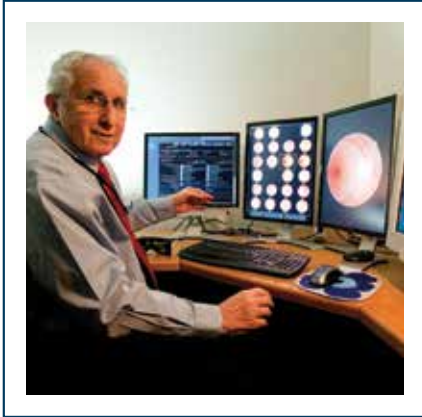
Nimesh Patel, MD, will join the Retina Service at Mass. Eye and Ear, where he will see pediatric and adult retina patients, and Boston Children's Hospital, where he will be the Director of Pediatric Retina. Dr. Patel attended Tufts Medical School and completed a medical internship at Mount Auburn Hospital. He then trained at Bascom Palmer Eye Institute where he completed his residency, served as Chief Resident, and completed a Vitreoretinal Fellowship with an emphasis on pediatric retina.

Natalie Wolkow, MD, PhD, will join the Ophthalmic Plastic Surgery Service at Mass. Eye and Ear. Dr. Wolkow earned her MD and PhD at the University of Pennsylvania before completing her residency training at Harvard Ophthalmology. She then completed an Ophthalmic Pathology Fellowship at Mass. Eye and Ear under the direction of Frederick A. Jakobiec, MD, DSc, and an Ophthalmic Plastic and Reconstructive Surgery Fellowship at Mass. Eye and Ear under the direction of Suzanne Freitag, MD.

Nandini Venkateswaran, MD, will join the Cornea and Refractive Surgery Service at Mass. Eye and Ear. Dr. Venkateswaran will be based in Waltham, where she will work closely with Drs. Kathryn Hatch and Christian Song. Dr. Venkateswaran attended the University of Rochester School of Medicine & Dentistry. She then completed an ophthalmology residency at Bascom Palmer Eye Institute and a Cornea, External Disease, and Refractive Surgery Fellowship at Duke Eye Center.

Daniel Vu, MD, will join the Glaucoma Service at Mass. Eye and Ear. A graduate of Weill Cornell Medical College, Dr. Vu trained as a resident at Duke University Eye Center and completed a Glaucoma Fellowship at Bascom Palmer Eye Institute. He will specialize in both adult and pediatric glaucoma at Mass. Eye and Ear and Boston Children's Hospital.

In Memoriam



Lloyd M. Aiello, MD, an alumnus and former faculty member, passed away on December 30 at the age of 86. A retired Harvard Medical School Professor of Ophthalmology, Part-time, and former Founding Director of

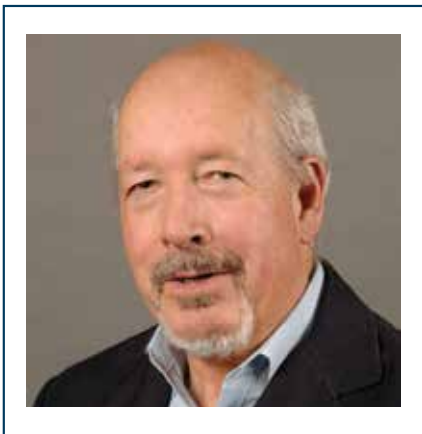
Beetham Eye Institute, Dr. Aiello was a pioneer in the treatment of diabetic retinopathy.

In 1962, Dr. Aiello joined Joslin Diabetes Center after earning his medical degree from Boston University and completing postgraduate training at Harvard Medical School and Mass. Eye and Ear. In 1967, Dr. Aiello and his father-in-law, William P. Beetham, MD, pioneered the use of laser photocoagulation for the treatment of diabetic retinopathy.

Over the next two decades, Dr. Aiello helped lead two multicenter randomized clinical trials—the Diabetic Retinopathy Study and the Early Treatment Diabetic

Retinopathy Study—that proved the effectiveness of photocoagulation. As a result, photocoagulation remained the standard-of-care for diabetic retinopathy for almost 50 years and dramatically reduced the risk of blindness in these patients.

Another important focus of Dr. Aiello's work was the early detection of diabetic eye disease in remote areas. In 1990, he collaborated with Sven-Erik Bursell, PhD, to develop the Joslin Vision Network—a telemedicine system that uses advanced video technology to detect early signs of retinal damage from diabetic eye disease. This approach has now been applied to many other medical conditions throughout the United States and the world.



Richard H. Masland, PhD, passed away on December 13. A talented retinal neuroscientist, Dr. Masland was the Distinguished David G. Cogan Professor of Ophthalmology and

Professor of Neurobiology at Harvard Medical School (HMS).

Trained in neurophysiology, Dr. Masland joined HMS and Mass General Hospital in 1971. He was also an Investigator at the Howard Hughes Medical Institute from 1993 to 2006, and he later became the Director of the Howe Laboratory and Associate Chief for Ophthalmology Research at Mass. Eye and Ear in 2009.

In a career spanning multiple disciplines and over four decades, he achieved international recognition for his retinal neurobiology research. Notably, he was the first to describe the neuronal organization of the retina—a system containing more

than 60 cell types. His ambitious and collaborative retinal atlas project was fundamental to the understanding of vision and retinal disease and has opened up new avenues of investigation and potential therapies for a host of ophthalmic disorders.

A beloved faculty member and generous teacher, Dr. Masland trained more than 25 postdoctoral trainees. He recently completed a book entitled, *We Know It When We See It: What the Neurobiology of Vision Tells Us About How We Think*. The book describes the wonders of vision and perception in an approachable but profound way.



James D. Zieske, PhD, passed away on Tuesday, January 7. Dr. Zieske was an Associate Professor of Ophthalmology at Harvard Medical School (HMS) and a member of Harvard Ophthalmology's

Cornea Center of Excellence and Ocular Regenerative Medicine Institute. He was a Senior Scientist at Schepens Eye Research Institute of Mass. Eye and Ear.

Dr. Zieske earned his PhD in biological chemistry and completed a research fellowship at the University of Michigan. He subsequently completed a cornea research fellowship at Schepens Eye Research Institute of Mass. Eye and Ear under the mentorship of Ilene K. Gipson, PhD, before joining the Institute as an Assistant Scientist. Over the years, he rose through the ranks to Senior Scientist and served as Associate Director of Research from 2000 to 2002.

With continuous support from the National Eye Institute since 1984, Dr. Zieske's research has helped advance our understanding of the mechanisms involved in corneal wound repair. To date, his laboratory has published more than 90 peer-reviewed articles in this area.

A generous educator and mentor, Dr. Zieske participated in the HMS Molecular Bases of Eye Diseases Training Program and supervised graduate students, postdoctoral fellows, and visiting scientists. From 1999 to 2007, he was a co-organizer of the Biennial Cornea Conference, the premier global cornea and ocular surface academic research conference.

Alumni Corner

THE FOLLOWING ALUMNI WERE FEATURED IN BOSTON MAGAZINE'S TOP DOCTORS 2020

Ann M. Bajart, MD
Ophthalmic Consultants of Boston

Amita K. Bhatt, MD
Newton-Wellesley Hospital

Michael A. Chang, MD
Eye Health Services

Mark P. Dacey, MD, Eye Health Services

Nicoletta Fynn-Thompson, MD
Ophthalmic Consultants of Boston

David S. Gendelman, MD
Eye Associates

Phillip M. Gendelman, MD
Eye Associates

Thomas R. Hedges III, MD
New England Eye Center

Bonnie An Henderson, MD
Ophthalmic Consultants of Boston

Michael B. Raizman, MD
Ophthalmic Consultants of Boston

Susannah G. Rowe, MD, MPH
Boston Medical Center

Kailenn Tsao, MD
American Vision Associates

Gisela Velez, MD
Valley Eye Physicians & Surgeons

Paul J. Wasson, MD
Eye Health Services

David M. Wu, MD, PhD
Wilmer Eye Institute

Helen K. Wu, MD
New England Eye Center

Deborah E. Zuckerman, MD
Eye Associates

ALUMNI LEADERSHIP APPOINTMENTS

Appointed Head of the Department of Ophthalmology and Visual Sciences at the University of Illinois College of Medicine, **R.V. Paul Chan, MD, MSc, MBA**

Appointed Dean of the University of Illinois College of Medicine, **Mark Rosenblatt, MD, PhD, MBA**

SEVERAL ALUMNI MADE THE OPHTHALMOLOGIST'S 2020 POWER LIST:

Dimitri Azar, MD, MBA
Verily Life Sciences

Neil Bressler, MD, Wilmer Eye
Institute, Johns Hopkins University

Stanley Chang, MD, Columbia
University Medical Center

Damien Gatineau, MD
Rothschild Foundation, Paris

Bonnie An Henderson, MD
Ophthalmic Consultants of Boston

Oliver Findl, MD, MBA
Hanusch Hospital, Vienna

Tsontcho A. Ianchulev, MD, Icahn
School of Medicine at Mount Sinai

Antonia M. Jousseaume, MD
Charité—University Medicine Berlin

Peter Kaiser, MD
Cole Eye Institute, Cleveland Clinic
Lerner College of Medicine

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

Douglas Rhee, MD
University Hospitals Eye Institute,
Case Western Reserve University

Philip J. Rosenfeld, MD, PhD
Bascom Palmer Eye Institute,
University of Miami

Joel S. Schuman, MD
NYU Langone Eye Center

Dawn Sim, MBBS, PhD
Moorfields Eye Hospital, London

Audrey Talley-Rostov, MD
Northwest Eye Surgeons, Seattle

Roberto Zaldivar, MD
Instituto Zaldivar, Argentina

ALUMNI RECIPIENTS OF THE SANFORD AND SUSAN GREENBERG PRIZE TO END BLINDNESS BY 20/20

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

Masayo Takahashi, MD, PhD, Riken Center for Development Biology

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EVENTS UPDATE...

As part of our ongoing efforts to protect the health and safety of our community, some meetings and events have been reimagined as virtual events, while others have been postponed. Please check the Harvard Ophthalmology event calendar at eye.hms.harvard.edu/events/calendar or contact the events department at Ophthalmology_Events@meei.harvard.edu for more information.