



Spring 2016 Volume 34 Number 2

# Stein Eye Institute 50 Years of Vision: Education

With clinical innovation and advanced technology, the Stein Eye Institute trains doctors as a career-long experience—globally advancing sight-saving care.

or 50 years they have come to the UCLA Stein Eye Institute representing every level of knowledge and skill: students at the David Geffen School of Medicine at UCLA experiencing ophthalmology and vision science for the first time; residents beginning their three-year passage to becoming ophthalmologists; clinical fellows seeking subspecialty training; research fellows expanding the frontier of knowledge about the eye; practicing physicians honing their professional skills; and doctors from regions worldwide gaining additional training and bringing sight-saving procedures back to their home countries.

"Education in every subject changes constantly, and even more so in medicine," says **Bartly J. Mondino, MD**, director of the Stein Eye Institute and chairman of the UCLA Department of Ophthalmology. "The training, procedures, and tools we use continually evolve as research produces new developments in vision science."



Education about the eye is a challenging four-part mission at the Institute: teaching the fundamentals of ophthalmology and vision science to UCLA medical students, educating residents, fellowship training in ophthalmic subspecialties, and fine-tuning the skills of practicing physicians.

A continuing theme of training is collaboration—creating partnerships in diagnosis, review of challenging patient problems, and learning new techniques. Exemplifying this synergy, Dr. Federico Velez, Stein Eye Institute faculty member and strabismus specialist, studies a patient's ultrasound results with his pediatric ophthalmology team prior to surgery.

Left to right: Ultrasound Technician Robert Almanzor, Second-Year Resident Dr. Daniel Su, Dr. Velez, Pediatric Ophthalmology Fellow Dr. Melinda Chang, and Visiting International Professor Dr. Luigi Calandriello.

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### **Letter from the Chair**

In the first years of the 1960s, the goal of creating a focal point for vision science at UCLA was an idea—a bold idea shared by dynamic leaders in academia, government, and philanthropy. And, through a distinctive collaboration of efforts and shared purpose, the Jules Stein Eye Institute opened its doors on November 3, 1966.

Dr. Jules Stein—and his enlightened philanthropy—was instrumental in establishing our visionary foundation. At an event preceding the Institute's groundbreaking on September 22, 1964, Dr. Stein said:

While the tools of modern medicine are extending the lifespan, the rate of blindness continues its alarming upward climb. The Jules Stein Eye Institute has been built for people—for the people of today and tomorrow... The deepest gratitude will never be expressed. It will be found in the eyes of those who will drink in the beauty of life and will say to themselves, in acknowledgement of this magnificent gift, "It is wonderful to see."

As we embark on our 50th anniversary year, the Stein Eye Institute has transformed into a vision-science campus. And patients across the southland now have access to the finest ophthalmologic care available through the opening of the Stein Eye Center–Santa Monica and Doheny Eye Center UCLA locations in Arcadia, Orange County, and Pasadena.

Through contributions of outstanding faculty and staff—research scientists, clinician-scientists, and specialists of outstanding quality, the Stein Eye Institute has grown into one of the world's premier facilities for the care of eye disease, vision research, and ophthalmic education.

It is indeed, wonderful to see. To everyone involved in the Institute's past, present, and future, thank you for your support of the Stein Eye Institute and for your dedication to the preservation and restoration of sight.

Sincerely,

Bathy & Women

Bartly J. Mondino, MD
Director, Stein Eye Institute
Chairman, UCLA Department of Ophthalmology



For 50 years, the Stein Eye Institute's residency program has been cultivated into one of the nation's premier training programs for the next generation of ophthalmologists. Reflecting the high level of training received, second-year resident Dr. Daniel Su (left) gains hands-on experience performing strabismus surgery with Institute Faculty Member Dr. Federico Velez (center), while Visiting International Professor Dr. Luigi Calandriello (right) observes.

#### **Teaching Medical Students About the Eye**

"Our main job, of course, is to train new ophthalmologists," says **Gary N. Holland, MD**, Jack H. Skirball Chair in Ocular Inflammatory Diseases, who shares administrative responsibility for medical student education at the Institute with **JoAnn A. Giaconi, MD**, health sciences associate professor of ophthalmology. "But educating medical students about the eye and vision has been a major responsibility for the Stein Eye Institute since the day it was founded."

"Most UCLA medical students will not become ophthalmologists," says Dr. Giaconi, "but it is vital that even non-ophthalmologist physicians have basic insights about eye disease and its management."

"We empower general practitioners with the skills and tools they need to evaluate patients with eye conditions in a general medical practice," explains Dr. Holland. "We think this approach is important because many eye problems are first seen at a visit to the family doctor or the emergency room, where as much as 20 percent of problems are somehow eye related."

Especially important, says Dr. Holland, is that medical students are trained to know how to identify the risk factors for, and signs of, serious eye disease, and to understand when patients should be referred to an ophthalmologist. "We teach the red flags that will prompt a general practitioner or emergency room doctor to send the patient immediately to an ophthalmologist, such as decreased vision, pain, and sensitivity to light."

### **Team tactics for medical students**

In the Institute's 50 years of evolving instruction for all four years of medical school, perhaps the most fundamental change has been the shift from observation in the classroom to a teaching philosophy that shows medical students how to work together to solve problems in a clinical setting—a team tactic based on cases.

"In a case-based curriculum, students start off with a patient complaining of a problem, just as a doctor may see in clinic," explains Dr. Giaconi. "The students collaborate in small groups to figure out what disease may be causing the patient's problem, and they also work together to seek out possible treatments. The instructor guides the students through the patient puzzle and adds in information that the students do not find in their own investigations and research."

"This team approach is more powerful than teaching hours of facts and figures in a classroom," says Dr. Holland. "As a result, UCLA medical students are learning how ophthalmology is part of their basic skills for treating the whole patient."

#### Residency: A Three-Year Journey to a Career in Ophthalmology

At the core of vision training at the Institute is the residency program, which for 50 years has been cultivated into one of the nation's premier training programs for the next generation of ophthalmologists.

What do residents learn during three years of training at the Institute?

In the broadest terms, the fundamental philosophy of the residency program has remained unchanged for 50 years: a resident's work represents a progression of responsibility—from initial exposure to ophthalmology with total supervision in the first year; steadily gaining knowledge of the field and becoming more independent in the second year; and exploring complex medical questions and ultimately assuming full responsibility for treating patients in the third year, as residents prepare to receive national accreditation as ophthalmologists.

New residents learn immediately that their talents as medical students will be challenged by the intensity and depth of the work: three years of Institute training involves residents studying the general field of vision science, as well as the range of ophthalmic subspecialties; clinical rotations at the Institute, Ronald Reagan UCLA Medical Center, and three affiliated medical centers; classroom instruction; surgical training; and involvement in original research projects.

"The resident experience is on-the-job training," says **Anthony C. Arnold, MD**, Jerome and Joan Snyder Chair in Ophthalmology and director of the Stein Eye Institute residency program. "When residents are training in a subspecialty they are staffing the

## Fellowships: unique opportunities for advanced study

What is the next step for new ophthalmologists after they complete their residencies?

For some, the path leads to advanced training through the UCLA Clinical Ophthalmology and Vision Science Fellowship Programs. The Institute offers fellowships for clinical experience in all of its principal fields of study, with one to two-year assignments that combine extensive involvement in patient care, surgery, and specialized inquiry.

A clinical fellowship is deep immersion in an ophthalmic subspecialty: participation in faculty medical practices, and extensive diagnosis, disease management, surgery, emergency cases, and increased responsibilities at the teaching hospitals affiliated with the University of California School of Medicine.

The clinical fellowship programs also involve participation in research—an important component of specialty training and a major prerequisite for assimilating future developments in ophthalmology.

For those interested in pursuing a career in science, the Institute provides laboratory-based fellowship training that offers postdoctoral studies as well as predoctoral opportunities for fellows working toward PhDs. Each research fellowship is unique, with work extending beyond the field of ophthalmology into related areas in chemistry or the life sciences.

"Specialized training gives our fellows invaluable experience," says Dr. Mondino. "The scope and nature of each training program is developed in partnership with the trainee and his or her faculty mentor, ensuring that the program meets—or even surpasses—the fellow's intended goals."

clinic and—depending on their level of experience—seeing patients initially, presenting the cases to faculty or senior residents, getting feedback, and then determining how to proceed with treatment."

A resident learns the benefits of working both as an individual clinician and as a participant in a team. They collaborate on cases and handle duty in clinics and emergency cases at the Ronald Reagan UCLA Medical Center. They also serve as the ophthalmology consult service for inpatients, and they staff the ophthalmology emergency center.

Combined with that training is a whirlwind of other obligations: seminars during the day, conferences at night, and surgical practice—both in digital simulation labs and in wet labs working on animal tissue.

#### **Education evolves, assessment expands**

While the rigors of study and the depth of the work have been a common theme for resident education during the Institute's 50 years, the residency itself is in a constant state of evolution. A notable part of that evolution is a philosophical change in how new approaches to training are merged with advanced methods to measure residents' progress.

"Today, there is a more orderly progression to our training than when I was a resident in the UCLA Department of Ophthalmology in 1979," Dr. Arnold says. "And we also require a much higher level of direct supervision. Specific outcomes are set from the start of the residency, with evaluations throughout to ensure that the training was successful."

Every stage of development in the residency program is meticulously assessed in a detailed progress report on

skills and talents—a process that was designed through a national effort in which Institute faculty took a lead role. The Ophthalmology Milestones Evaluations Tool, which measures six major categories of a resident's progress, was created by a national review panel led by Dr. Arnold, and with **Alfredo A. Sadun, MD, PhD**, vice chairman of Doheny Eye Center UCLA, serving on the committee.

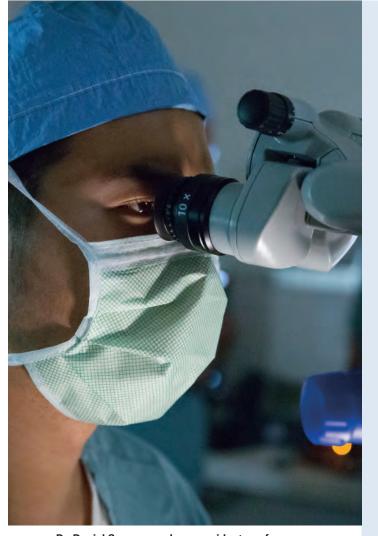
#### A range of educational opportunities

After three years of comprehensive training, Stein Eye residents graduate with advanced tools, refined skills, and enlightened ideas about the benefits of collaborative medicine. From the Institute, the residents travel many paths: into private practice, continued training in ophthalmic subspecialties, or advanced work toward an academic career in the Institute's renowned EyeSTAR (Specialty Training and Advanced Research) program, which combines residency with training in an academic field of vision science.

But whether in 1966 or today, residents at the Stein Eye Institute grow to appreciate the one element of residency training that has remained constant for 50 years: the extraordinary range of opportunities in the educational experience that residents can explore.

"The Institute supported me, and provided great training—the best there is," says **Xuejing Chen, MD**, a resident who came to UCLA from Yale School of Medicine. "The depth of experience and opportunities I had at Stein Eye to develop as a clinician and a researcher were unlike anything else in medical training. The Institute is a place where I learned many skills and learned how to ask the important questions."

Education in every subject changes constantly, and even more so in medicine. The training, procedures, and tools used at Stein Eye continually evolve as research produces new developments in vision science.



Dr. Daniel Su, a second-year resident, performs strabismus surgery under high magnification. "Residents are entranced by operating on the eye in this manner," says Dr. Anthony Arnold, director of the residency program. "They can see their hands working instruments inside the eye, and moving elements that can't be seen without a microscope. It's an amazing experience; no other medical examination or surgery is quite like it.

### Technology: a powerful tool for residents

Today, residents at the Stein Eye Institute refine their skills with tools unheard of when the Institute was founded in 1966.

"The time we have for training is so compacted that we do everything we can to simplify the process of residents being able to learn," says **Stacy L. Pineles, MD**, assistant professor of ophthalmology and assistant director of the residency program. "Fortunately, our technology not only simplifies some aspects of training, but also helps residents develop their work with better results and build their skills more effectively."

For instance, while residents still practice surgery on eyes from human cadavers or pigs as they did a half-century ago, they also employ digital tools, such as the virtual reality simulations made possible by devices such as the EyeSi Surgical Simulator, which allows residents to "perform" cataract or retinal surgeries in the virtual realm.

"Using virtual reality tools for surgical simulation allows residents to build on the concept that 'practice makes perfect,' says Dr. Pineles. "Residents can practice a surgical step as many times as they need until they are perfectly mastered."

Residents also learn the art of diagnosis and treatment for patients at long distance—a critical skill for providing medical support to regions without adequate ophthalmic care.

With new digital techniques, images of the eye can be captured at an outlying clinic where there is no ophthalmologist and sent to us from anywhere in the world for a diagnosis," says Dr. Arnold. "Students are taught to recognize the subtle patterns in the image—to determine, for example, what diabetic retinopathy looks like compared to macular degeneration. That's a level of detail and medical care we never would have been able to do before."

Technology has also transformed how communication and the classroom experience have changed for Stein Eye residents. For residents assigned to work at one of the affiliated medical centers, maintaining connections to the Institute can be a time-consuming challenge of traffic and logistics.

To overcome that problem, the Institute uses videoconferencing technology so residents can "attend" courses, participate in meetings, and communicate in real-time with lecturers and colleagues without leaving their sites. The video conferences are digitally recorded, so residents anywhere in the world can tap into a library of online material.

### **Clinical Focus**

## **Sudden Appearance of Floaters and Flashes Can Signal Serious Eye Issues**

Floaters are specks or lines that sometimes drift into one's field of vision. While typically harmless, floaters that occur suddenly and are accompanied by flashes of light or impaired vision can signal a potentially serious eye problem, particularly among older adults.

If floaters appear in combination with flashes, it is important to consult with an ophthalmologist in a timely manner to determine if the symptoms are produced by a vitreous detachment, or if they indicate a more serious condition, such as a tear or detachment of the retina.

"After the age of 50, about 40 percent of the population already has a vitreous detachment. The more nearsighted the person is, the higher the chance for them to have this condition," says **Gad Heilweil**, **MD**, clinical instructor of ophthalmology at Doheny Eye Center UCLA.

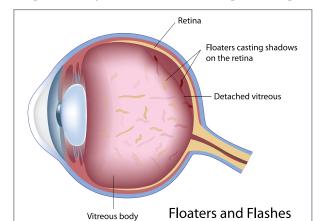
As people age, the gel-like substance in the eye, called the vitreous, begins to liquify and contract. As the vitreous contracts, it peels away from the retina—the light-sensitive tissue that lines the back of the eye. "For most individuals, a vitreous detachment is harmless and causes no symptoms," explains **Pradeep S. Prasad, MD**, chief, Division of Ophthalmology, Harbor-UCLA Medical Center. "For some, however, as the vitreous pulls away from the retina, a retinal tear or detachment may occur."

"It's impossible for a patient to distinguish between a vitreous detachment, which is bothersome, and an associated tear or detachment, which can be vision-threatening and requires urgent medical attention," Dr. Prasad says. "That's why it's so important to see an ophthalmologist and have the symptoms evaluated."

A tear in the retina can almost always be successfully treated with a laser, the doctors say. The outpatient laser procedure requires only a topical anesthetic and is painless. A detached retina, on the other hand, requires surgery, but there is a 90 percent chance or greater that the retina can be reattached.

Delaying care, however, can permanently affect vision. "About 50 percent of peo-

ple wait, which is a pity," says Dr. Heilweil. "They've had symptoms for a week or two, and they think the symptoms will go away. The take-home message is this: If you suddenly experience floaters or flashes, or a combination of these two symptoms, see an ophthalmologist as soon as possible."



### **Institute News**

## Michael Ip Joins UCLA Department of Ophthalmology



Michael Ip, MD

The Stein Eye Institute is pleased to welcome **Michael S. Ip, MD**, health sciences clinical instructor, as a new full-time faculty member of the UCLA Department of Ophthalmology.

"Dr. Ip brings renowned credentials and expertise. He is a division builder who is well liked and respected by his colleagues," says **Bartly J. Mondino, MD**, director of the Stein Eye Institute and chairman of the UCLA Department of Ophthalmology.

Dr. Ip received his medical degree from New York University School of Medicine in 1993. He completed his ophthalmology residency at the University of Pittsburgh School of Medicine in 1997, and completed a fellowship in vitreoretinal surgery at Tufts University New England Eye Center in 1999.

An expert in the field of vitreoretinal surgery and diseases, Dr. Ip's research focuses on retinal vein occlusion and diabetic retinopathy. He is author or co-author of over 60 peer-reviewed publications and has served as principal investigator or co-principal investigator on 19 clinical trials.

Dr. Ip will be seeing patients at the Doheny Eye Center UCLA location in Pasadena.

## **EYELines**

## **Stein Eye Vision Scientists Impacting Sight Worldwide**

The World Ophthalmology Congress® (WOC) of the International Council of Ophthalmology held February 5–9, 2016, in Guadalajara, Mexico, was a global educational event where the world's ophthalmologists shared new developments and learned about advancements in eye care.

Stein Eye Institute alumni and faculty were active participants at WOC2016, holding leadership positions and contributing their expertise to an instructive program covering the full range of ophthalmology. Information gained at the Congress serves to advance vision care throughout the world.

The Congress was hosted by the Mexican Society of Ophthalmology, and the Society's president—and Stein Eye Institute fellowship alumnus—Francisco Beltrán, MD, oversaw organization of many cutting-edge scientific sessions, as well as a festive opening ceremony that welcomed ophthalmologists from over 100 countries. A highlight of the evening included a presentation on the History of Ophthalmology, where Stein Eye Institute Founding Director and UCLA Department of Ophthalmology Founding Chairman, Bradley R. Straatsma, MD, JD, was recognized for his leadership in the field.

To view the WOC2016 scientific program and participants, go to: woc2016. org/archivos/final\_program.pdf. See the History of Ophthalmology video at: https://youtu.be/i4DLNvAWBqo.



### Stein and Doheny Joint Alumni Reception in Chicago

Mark your calendars for the UCLA Stein Eye Institute and Doheny Eye Institute Alumni Reception at the American Academy of Ophthalmology annual meeting. The joint event is **Sunday, October 16, 2016**, from 5:30 to 8 p.m. at the Westin Chicago River North Hotel in Chicago, Illinois. The reception is hosted by the UCLA Stein Eye Institute Alumni Association.

For information email: alumni@jsei.ucla.edu or telephone: (310) 825-4148.

Stay connected with your colleagues by "liking" the UCLA Stein Eye Institute Alumni Association Facebook page at: www.facebook.com/JSEIAlumni.

### **Education**

### **Optometric Symposium on Advances in Eye Care**

The Southern California College of Optometry (SCCO) at Marshall B. Ketchum University in Fullerton, California, was host of the January 24, 2016, symposium "Advances in Eye Care." The joint one-day event is an annual collaboration with SCCO, UCLA Stein Eye Institute, and Doheny Eye Institute. The program included lectures by:

Susan A. Cotter, OD, MS
Brian A. Francis, MD, MS
Hugu Y. Hsu, MD
Peter A. Quiros, MD
William H. Ridder, OD, PhD
Vivian P. Shibayama, OD
Barry A. Weissman, OD, PhD

### **Comprehensive Ophthalmology Review Course**

The Stein Eye Institute and the Doheny Eye Institute teamed up to sponsor the annual Comprehensive Ophthalmology Review course February 18–21, 2016, at the UCLA Stein Eye Institute. The intensive four-day review, which serves ophthalmology training programs in Southern California, was an overwhelming success.

The course co-directors, **John A. Irvine**, **MD**, medical director Doheny Eye Center UCLA, and **Sherwin J. Isenberg**, **MD**, Laraine and David Gerber Chair in Ophthalmology, organized a program concentrating on the epidemiology, clinical presentation, diagnosis, and management of ophthalmological disease.

### International Retinal Imaging Symposium

The UCLA Stein Eye Institute hosted the fourth International Retinal Imaging Symposium (IRIS) on March 19, 2016, which featured a series of lectures focusing on the latest developments in retinal imaging.

The course showcased the integral importance of innovative retinal imaging in the evaluation and management of retinal disease. UCLA Department of Ophthalmology faculty and invited speakers provided insight and understanding in the newest evolving technologies and the application and interpretation of these advanced systems.

**David Sarraf, MD**, and **K. Bailey Freund, MD**, were directors of the symposium, and **SriniVas R. Sadda, MD**, **Richard F. Spaide, MD**, and **Lawrence A. Yannuzi, MD**, were the event's co-directors.

### **Incoming Ophthalmology Residents**

The process of selecting ophthalmology residents takes place in the fall of each year for residents who will be entering the ophthalmology program a year-and-a-half later. The four-month process includes the review of over 400 applications, the selection of approximately 50 applicants to be interviewed, and a final meeting where the applicants are ranked in order of preference. This rank-order list is submitted to the nationwide San Francisco Match Service where it is compared to the participating medical students' preferences. When both the student and ophthalmology program rank each other at the same level, a "match" has occurred and a new resident is then contracted to join the program.

In late January of last year, Residency Selection Chairman **Robert Alan Goldberg, MD**, was informed of the results of the ophthalmology residency "match" for 2016. The following applicants, selected over a year ago, will serve as Stein Eye Institute House Officers beginning July 1, 2016:

**Benjamin Campbell, MD**Baylor College of Medicine

Elisha Garg, MD UCLA David Geffen School of Medicine

**Kirk Hou, MD**Washington University in St. Louis

Patrick Lee, MD
UCLA David Geffen School

of Medicine

Xiongfei Liu, MD University of Miami Miller School of Medicine

**Eric Shieh, MD** Harvard Medical School

**Victoria Tseng, MD**-EyeSTAR Brown University

### **Master's Orbital Surgery Symposium**

The Orbital and Ophthalmic Plastic Surgery Division hosted a Master's Symposium on Orbital Surgery at the UCLA Stein Eye Institute March 4–5, 2016. The course, which included both laboratory and didactic components, was highlighted by the inaugural Jack Rootman Lecture, "Reimagining Orbital Surgery," given by Jack Rootman, MD.

Attended by practicing ophthalmologists and orbital surgeons from across the world, the symposium highlighted advancements that have characterized the 25 years of the UCLA Orbital Disease Center, including development of minimally

invasive surgical approaches for orbital decompression, orbital reconstruction, orbital tumor surgery, and aesthetic orbital surgery. Some of the nonsurgical treatments developed at the Center, including combined medical treatment of orbital vascular tumors, were also featured.

Robert Alan Goldberg, MD, and Jack B. Rootman, MD, MS, were the program chairs and Catherine J. Hwang, MD, was the dissection laboratory chair.



Dr. Giulio Bonavolonta lectures in the dissection laborate



At the inaugural Jack Rootman Lecture, Dr. Jack Rootman presented an illustrative discussion regarding the future of orbital surgery.



Dr. Robert Goldberg demonstrates transcaruncular medi

### **Incoming Ophthalmology Fellows**

We are pleased to introduce the following ophthalmologists entering clinical and international fellowships at the Stein Eye Institute in the 2016–2017 academic year:

### Stein Eye Clinical Fellows

Saba Al-Hashimi, MD

Bora Chae, MD Medical Retina

Melinda Chang, MD

**An Huynh, MD** *Medical Retina* 

Sathyadeepak "Deepak" Ramesh, MD Oculoplastics

Christian Sanfilippo, MD

Nathaniel Sears, MD

Glaucoma

Sanket Shah, MD
Retina

David Truong, MD Cornea

**Laura Vickers, MD** Glaucoma

**Rui Zhang, MD** *Pediatric Ophthalmology* 

#### Stein Eye International Fellows 2016–2017

Reza Alizadeh, MD Glaucoma

**Diana Cifuentes, MD**Pediatric Ophthalmology
Colombia

Ramin Daneshvar, MD Glaucoma

Patricio Dodds, MD

Iran

Argentina

Andrea Govetto, MD
Retina

Italy

Adit Gupta, MD

Oculoplastics
India

Marcela Lonngi, MD
Pediatric Ophthalmology
Colombia

**Nucharee Parivisutt, MD** *Glaucoma Thailand* 

Nopasak Phasukkijwatana, MD, PhD Retina

Thailand

Eva Platner, MD

Israel

Pitchaya Prapaipanich, MD Cornea Thailand

Mansour Rahimi, MD Retina

Ghada Rajab, MBBCh, MSc

Pediatric Ophthalmology
Egypt

Pablo Romero, MD, MSc

Cornea Chile

Pornlada Sunlakaviset, MD Cornea Thailand

Ningling Wu, MD, PhD
Cornea
People's Republic of China

Doheny Clinical Fellows 2016–2017

Brett McKnight, MD
Glaucoma

Victoria Yom, MD

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### **Faculty Focus**

### Gabriel H. Travis, MD

Charles Kenneth Feldman Chair in Ophthalmology Professor of Ophthalmology and Biological Chemistry Co-Chief of the Vision Science Division Associate Director of the Stein Eye Institute

A native Californian, Dr. Gabriel Travis is a proud alumnus of UCLA. He received his Bachelor of Science degree in chemistry from UCLA in 1973; his medical degree from UCLA in 1977; and he conducted his first postdoctoral fellowship at the UCLA Molecular Biology Institute. It was during his neurology residency that he realized he had little interest in pursuing a career as a physician and instead followed his burgeoning fascination in the genetics of neurologic diseases, becoming an associate professor at the University of Texas Southwestern Medical Center, Center for Basic Neuroscience. Dr. Travis returned to UCLA in 2001, where his laboratory uses biochemical and genetic approaches to study the visual cycle and its role in retinal and macular degenerations.



Gabrial H. Travis, MD

#### What sparked your interest in science?

My uncle, Dr. Norman Kroll, was a particle physicist and professor at UCSD. When I was a child, Norman and I would talk for hours about physics and the natural world. He told me how people often thought they understood a physical phenomenon until someone came along and made an observation that didn't fit with the understanding. I learned that no hypothesis could ever be proven experimentally; it could only be *disproven*. I loved the interplay between the dreamy speculations that led one to formulate a hypothesis and the intellectual rigor required to design and perform an experiment that tested it. I also admired the ruthless honesty required to abandon a favored hypothesis after it had been disproven experimentally. Norman brought the scientific method to life for me before I even knew what it was called. I could not imagine a more satisfying life than to be a scientist like him.

#### What drew you to the study of vision science?

My interest was in the genetics of neurologic diseases. I began a second postdoctoral fellowship at Scripps Research Institute in 1984—a time when molecular biology was starting to be used to study neurons. I developed a molecular technique that allowed us to clone mRNA's expressed in one tissue but not in another. Then, I used that approach to identify the molecular defect in several mouse lines with spontaneous mutations causing neurologic phenotypes. One of these mutants was the *retinal degeneration slow (rds)* mouse, which had the phenotype of absent photoreceptor outer segments and slow photoreceptor degeneration. *Rds* was the first gene I identified, and my work was published in the journal *Nature*. Ever since that discovery in 1989, I have been working in vision science.

#### How did you come to the Stein Eye Institute?

Professor Wayne Hubbell at the Stein Eye Institute invited me to consider a faculty position here. After visiting UCLA, I realized how valuable it would be to have colleagues who understood my research and were available for collaboration.

### What have been some of your most important findings?

First, I identified the molecular defect in the *rds* mutant mouse. Currently over 90 mutations in the *rds* gene have been shown to cause a range of retinal and macular degenerations in humans. Second, my laboratory determined the function of *abca4* and the likely mechanism of photoreceptor degeneration in Stargardt macular degeneration, which explains multiple clinical features of the disease. Third, we discovered an alternate visual cycle in Müller cells of the retina and subsequently identified two enzymes of this pathway. Knowledge of Müller cell function and responses serves the development of new therapeutic approaches for retinal diseases. And fourth, we identified the retinoid isomerase in RPE cells as *rpe65*. Bleaching and the subsequent regeneration of rhodopsin are major steps in the visual cycle, and the critical step in this pathway is the isomerization of vitamin A. We identified this enzyme, which plays a role in the inherited blinding disease Leber congenital amaurosis.

### What do you enjoy most about your profession?

I am continuously challenged by the inherent difficulties of the scientific problems that we are attempting to solve. My greatest enjoyment comes from making new discoveries in our research, and I feel fortunate to have such strong colleagues and collaborators at the Stein Eye Institute.

### What do you do when you're not working?

I enjoy spending time with my wife Robyn and my daughter Chloe. I am an endurance road cyclist and ride several times a week, and I also fly high-performance radio-controlled sailplanes.

### Build a Legacy and Ensure Advances in Vision Science

The Stein Eye Institute is dedicated to advancing innovative and groundbreaking research, delivering cutting-edge patient care, key community engagement, and providing the education necessary to diagnose and treat eye disease.

## Charitable gifts made through your estate are a wonderful way to provide lasting support for Stein Eye.

If you are interested in learning more about ways to include the Stein Eye Institute in your will or living trust, or if you have already included Stein Eye in your estate plans, please let us know so we can ensure your wishes are clearly understood.

### We would love to hear from you!

And best of all, you know that you are helping to ensure that the Stein Eye Institute can uphold its mission to preserve sight and restore vision for generations to come.

For more information on estate gifts, bequests, charitable gift annuities, and other philanthropic strategies, please visit UCLA's Planned Giving website at: www.legacy.ucla. edu, or contact Stein Eye's Development team at:

Stein Eye Institute, UCLA 100 Stein Plaza, Room 1-124 Los Angeles, CA 90095-7000 Telephone: (310) 206-6035 Email: giving@jsei.ucla.edu

All inquiries are confidential and without obligation.



### **Philanthropy**

### "I Owe My Life and My Sight to UCLA"

ore than 20 years ago, Bert Levy was referred to Anthony C. Arnold, MD, Jerome and Joan Snyder Chair in Ophthalmology, and chief of the Neuro-Ophthalmology Division at UCLA Stein Eye Institute, for ischemic optic neuropathy, a serious blinding eye condition that affects 1 in 6,000 people. Dr. Arnold took control, and today at 86 years old, Mr. Levy has near perfect vision in his good eye.

"I owe my life and my sight to UCLA." So begins the legacy and enduring philanthropy from a grateful patient whose words echo in the halls of the Stein Eye Institute. In 1995, Mr. Levy began what was to become a lifetime of giving to Stein Eye, enhancing the educational opportunities of the Institute's vision-science scholars and advancing global research in neuro-ophthalmology.

Three years ago, an aggressive, life-threatening cancer was discovered in Mr. Levy's left eye. Under the strategic watch and strict care of Anthony J. Aldave, MD, Walton Li Chair in Cornea and Uveitis, and chief of the Cornea and Uveitis Division, Mr. Levy was cancer free within six months of treatment and delivered a clean bill of health. It was at this time that Mr. Levy extended his philanthropic reach at Stein Eye by using charitable gift annuities as a vehicle for his gratitude and impact. Concurrently, Mr. Levy also began supporting the Orbital and Ophthalmic Plastic Surgery Division in tribute of Division Chief Robert Alan Goldberg, MD, Karen and Frank Dabby Endowed Chair in Ophthalmology, and his team.

To date, Mr. Levy has gifted in excess of 17 charitable gift annuities that serve to extend, inspire, and recognize the transformative work of Drs. Arnold, Aldave, and Goldberg. It is Mr. Levy's ultimate wish to acknowledge

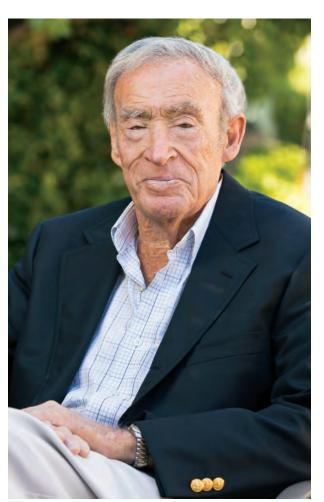
these doctors with the highest of academic and philanthropic awards: three Endowed Chairs, which will carry out Mr. Levy's targeted giving objectives in perpetuity along with the promise of transforming even more lives along the way.

Mr. Levy's charitable mindset was cultivated by his Depression Era father who took his then six-year-old son to downtown Philadelphia to see where the homeless lived and struggled to survive. "No matter what we have—we have to first give to charity," insisted his father; and it was with those words, utilized as both a personal and professional roadmap, that Bert Levy embarked upon a lifetime of giving.

By age 40, Mr. Levy had retired from a profitable East Coast manufacturing and textile company that he had started, and moved with his late wife and two children to retire on the West Coast. After 20 years, the concept of retirement ultimately lost its allure due in no small part to the maverick nature of the man himself and his natural quest for learning. Mr. Levy then re-invented himself as a mediator, pioneering securities mediations throughout the United States—all the while guided by the same ethos of giving handed down by his father so many years ago.

The Stein Eye Institute benefits from Mr. Levy's philosophy of philanthropy to this day. Through his generous giving, others may too echo Mr. Levy's words: "I owe my life and my sight to UCLA."

If you would like to learn more about how to include the UCLA Stein Eye Institute in your estate plans, please call the Development Office at (310) 206-6035.



Bert Levy

### **Affiliates**



Ruth Straatsma

IN MEMORIAM

### **Ruth Straatsma**

July 17, 1928–January 21, 2016

**Ruth Straatsma, BM, MM**, co-founder of the JSEI Affiliates, passed away at her home on January 21, 2016, following an extended illness.

Ruth received both her Bachelor and Master of Music degrees at the University of Michigan, and it was there that she met her future husband, **Bradley R. Straatsma, MD, JD**, then a pre-med student. In 1959 the couple moved to Los Angeles, where Dr. Straatsma commenced appointment as chief of the UCLA Division of Ophthalmology and was later appointed the founding director of the Jules Stein Eye Institute (JSEI).

Ruth was the devoted mother of three children, active in the community, and an enthusiastic sup-

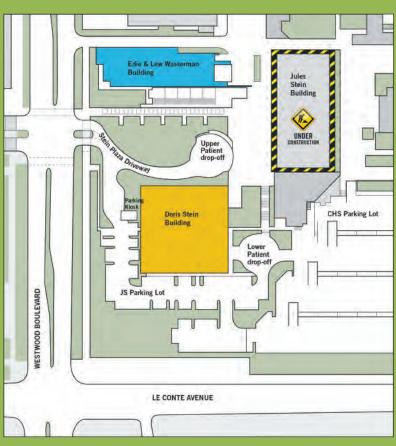
porter of JSEI. She co-founded the Institute's volunteer arm, the JSEI Affiliates, serving as its president from 1990 to 1995, and was an active member of the Advisory Board from 1995 to 2016. During Ruth's tenure, vital community outreach programs were established, providing education and vision-screening services to children.

Reflecting her love of music, Ruth sang in the choir and directed the children's choir at Bel Air Church for many years. She was president of the Los Angeles Philharmonic Committee, president of the Los Angeles Philharmonic Encore Society, and a long-term advocate of the Philharmonic's "Symphonies for Youth."

An accomplished artist, Ruth also enjoyed travel, swimming, and scuba diving.

Ruth is survived by her husband of 65 years; children, Cary (Sam) Ewing, Greer, and Derek; and two grandchildren, Cavan and Carlin Ewing. Ruth will be remembered for her warmth, wisdom, and kindness, all of which she shared with abundance.

## Jules Stein Building Under Construction



With the current renovation and temporary closure of the Jules Stein Building, patient-care services are being conducted in the Doris Stein Building and the Edie & Lew Wasserman Building.

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