

Stein Eye Institute 50 Years of Vision: Research

Almost three hundred years ago, a Dutch merchant and self-taught scientist named Antonie van Leeuwenhoek looked through a hand-held device of his own design to see the first microscopic view of the human eye.

This journey into a previously invisible realm was a wondrous achievement in the study of the eye—yet another milestone for a field that had intrigued scientists since Egyptian doctors to the pharaohs diagnosed ocular disorders in 2400 B.C.

Only in the 20th century did ophthalmology begin to flourish. The growing body of basic findings, innovative methods of diagnosis, and creation of new scientific disciplines all helped open doors to discovery and treatment of diseases that affect the eye.

“Vision-scientists before 1900 faced huge obstacles,” says **Bartly J. Mondino, MD**, chairman of the UCLA Department of Ophthalmology and director of the Stein Eye Institute. “The eye is one of the most sophisticated structures in nature; early researchers could not even begin to articulate the core functions of the eye or the complexities of the visual process, and the myriad ways those processes are affected.”

Bringing clarity to those issues has been a driving force in research and discovery by Stein Eye Institute vision-scientists, who for more than a half-century have produced vast new knowledge about how the eye flourishes, fails, defends against infection, or becomes vulnerable at the cellular level.

An expansive research agenda

Research at the Institute is a tapestry of many interwoven approaches to discovery; study of individual diseases and conditions that translate directly to patient care are conducted along with explorations of fundamental biological processes.

“Our research offers tremendous opportunities for better understanding of eye disease—better detection, better limitation, and better prevention,” says **Anthony C. Arnold, MD**, Jerome and Joan

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The Stein Eye Institute’s award-winning vision-scientists—like Dr. Debora Farber, who has identified genetic variations that contribute to hereditary degeneration of the retina—have created a spectrum of discovery in specialties across ophthalmology.

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Letter from the Chair

The UCLA Stein Eye Institute is the fulfillment of a dream—an ambitious plan developed by Jules Stein, MD, to prevent blindness by transforming the quality of vision research, education, patient care, and community outreach.

The Institute exists because of Dr. Stein, one of the most influential executives in entertainment, who returned to his roots as an ophthalmologist to become a national advocate for vision science; and Bradley R. Straatsma, MD, JD, who created a bold plan for building the scope of ophthalmology in the UCLA School of Medicine.

In 30 years as an entertainment executive, Dr. Stein earned a well-deserved reputation for imaginative leadership and far-sighted thinking. But in the late 1950s, the field of vision science that Dr. Stein had left behind three decades earlier still called; and he asked himself two fundamental questions that would change vision science forever and be the first step toward creation of the Institute—and ultimately the vision-science campus—that would bear his name: Why are people blind? What can be done to prevent blindness?

Dr. Stein’s questions held particular resonance, because at the time, the dominant view of ophthalmology was that it was primarily a surgical discipline and much less an academic field for advanced research.

“In conference with Chancellor Franklin Murphy, Dean Stafford Warren, and Dr. Bradley Straatsma,” wrote Dr. Stein, “I have become increasingly impressed with the potentialities for medical research being planned at UCLA, and particularly, with the vision and dedication evidenced in laying out an attack on the blinding eye diseases—which are my particular field of interest.”

Today, as we celebrate our 50th anniversary, the Stein Eye Institute is home to some of the world’s finest researchers, and the Institute has taken a central role in transforming vision science as a powerful platform for discovery.

We look forward to continued partnership with our friends and colleagues in our next 50 years of scientific exploration. Together we will work towards realizing Dr. Stein’s dream of eradicating one of the great scourges of human existence: blindness.

Sincerely,

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

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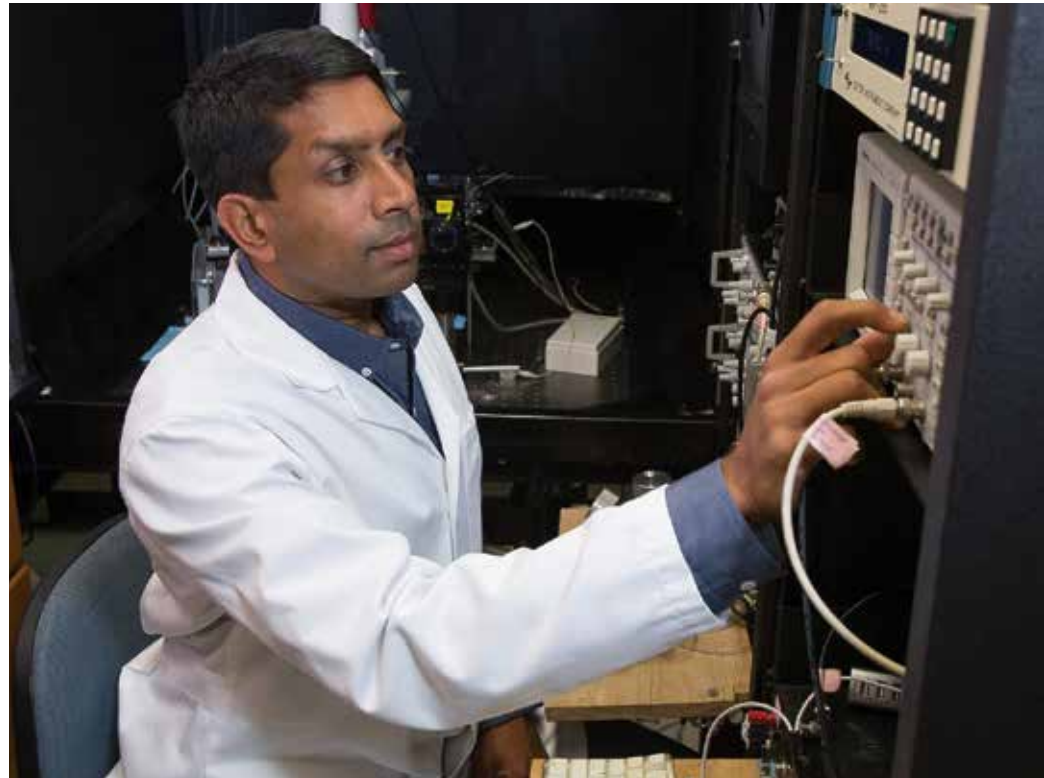
Snyder Chair in Ophthalmology, who directs a research program that includes development of new techniques for imaging the optic nerve and its blood supply. “This is work that can significantly impact the quality of people’s lives.”

Vision-scientists in the Institute’s 11 divisions probe new therapies like genetic and stem cell research, and explore conditions that threaten eyesight worldwide, such as cataract, glaucoma, inflammatory and infectious diseases, macular degeneration, ocular melanoma, pediatric eye issues, and retinal disease. Investigations also extend to the next level of eye surgery—robotic technology for surgical procedures and the use of bioelectronic chips to restore retinal vision.

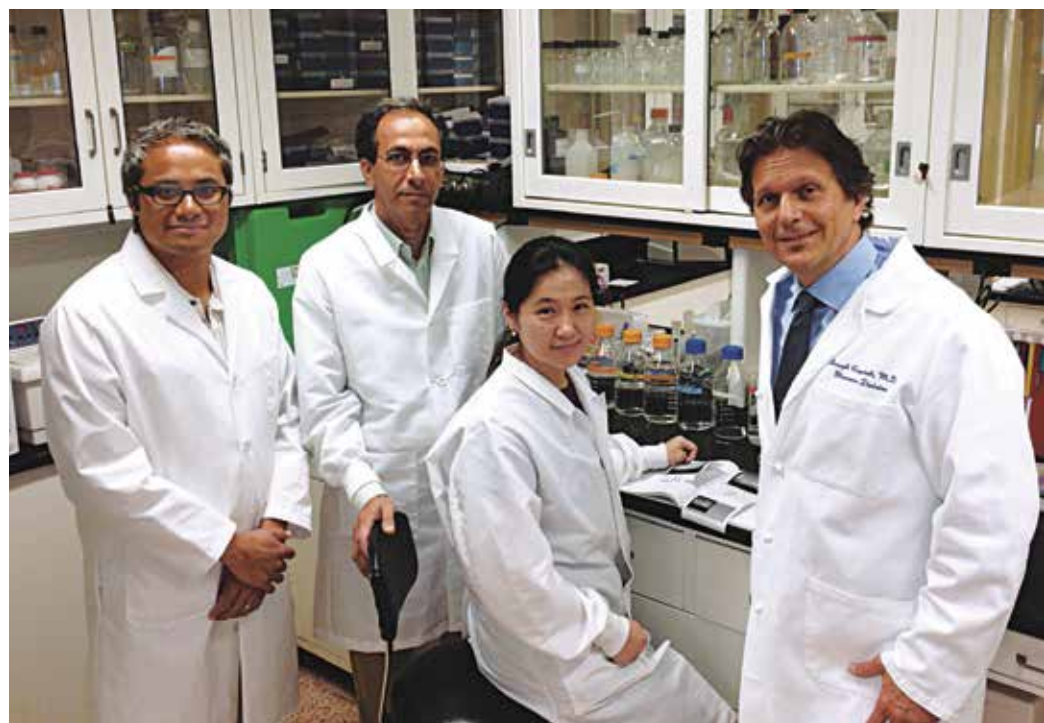
The Institute has developed a research agenda that spans extremes both large and small: at its most wide-ranging, sweeping studies analyze thousands of individuals to determine how vision problems are responsible for seemingly unrelated health issues; at the opposite boundary, explorations at the molecular scale determine how faults in the human gene can trigger cell degeneration within the eye.

“Our research constantly leads us closer to new approaches that support improved patient care and also sets a new course for developments to come,” says **Debora B. Farber, PhD, DPhhc**, Karl Kirchgessner Foundation Chair in Vision Science, a pioneer in the use of mouse models for investigations of the human retina and whose research includes identifying genetic variations that contribute to hereditary degeneration of the retina.

Such methods, continues **Michael Gorin, MD, PhD**, Harold and Pauline Price Chair in Ophthalmology, “weren’t even imagined when the Institute was founded. The challenge is to use these approaches to deepen our understanding of the fundamental causes of eye disease and how to cure them.”



The molecular mechanisms underlying early visual processing are being investigated by Dr. Alapakkam Sampath. His research of nyctalopia (night blindness) uses physiological and genetic methods to study signal transmission and identify how these processes are optimized for visual sensitivity.



Conventional wisdom holds that glaucoma treatment may preserve vision but cannot reverse damage. A 2016 study by Stein Eye researchers, however, challenges this view, and the implications for clinical treatment are profound. Researchers found that 80 percent of patients who underwent trabeculectomy showed improvement in their glaucoma symptoms, with pressure declining by an average of 32 percent. Says Dr. Joseph Caprioli (right), “Sustained improvement of visual function for glaucoma patients is possible and even likely under certain circumstances.”



“Our research constantly leads us closer to new approaches that support improved patient care and also sets a new course for developments to come.”

Dr. Debora Farber

“The eye is essentially its own galaxy, encapsulating the complexity of all of human biology. It is influenced by every physiological condition that affects the entire individual—whether it is the central nervous system, infectious disease, autoimmune and inflammatory disorders, cancer, hereditary problems, or degenerative illness.”

Dr. Michael Gorin

Benefiting patients and their families

Research at Stein Eye extends beyond the functions of sight and into investigations to better understand the impact of vision on the rest of the human system—both physical and psychological.

“Vision issues are responsible for many consequences beyond eyesight,” says **Anne L. Coleman, MD, PhD**, The Fran and Ray Stark Foundation Chair in Ophthalmology, and director of the Center for Community Outreach and Policy. “Our research is showing that impaired vision has a much broader impact than what might be expected—from better school performance for children to discovery that cataracts are a significant risk factor for falls and fractures—an especially significant finding, since one in five seniors die within a year of fracturing a hip.”

The bench-to-bedside harmony of clinical studies being conducted in collaboration with basic science has driven the Institute’s research mission since its inception and for more than 50 years the Institute has created a spectrum of discovery in specialties across ophthalmology.

“The personal benefits to our patients and their families are incalculable,” says **Richard S. Baker, MD**, associate professor of ophthalmology, who works with colleagues at Stein Eye and across UCLA to improve access to quality eye care and eliminate health disparities for diverse and underserved populations.

A finely-tuned machine

This comprehensive approach to vision research is the primary mandate in exploration of one of the most complex structures in the body. The human eye may seem like a relatively simple structure, but close inspection reveals a finely tuned, constantly humming machine. The eye captures and absorbs light, pumps chemicals, protects itself from invading infection, and—in a process unique in the human body—nourishes parts of its structure not through blood vessels, but with oxygen in tears and aqueous humor supporting the cornea.

The eye is a singular structure not only because of its functions involving sight, but also for its interactive roles with the other organs.

“The eye is essentially its own galaxy, encapsulating the complexity of all of human biology,” says Dr. Gorin. “It is influenced by every physiological condition that affects the entire individual—whether it is the central nervous system, infectious disease, autoimmune and inflammatory disorders, cancer, hereditary problems, or degenerative illness.”

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“Understanding the causes of strabismus in children is important, partly to help recognize the problem in its earliest stages, but also to determine the best therapy for that patient,” says Dr. Stacy Pineles, who is collaborating with Stein Eye colleagues on numerous pediatric and strabismus clinical trials.



Dr. Richard Casey is researching a link between insufficient tears and corneal abnormalities, with the goal of improving corneal transplantation success in high-risk patients who have other eye conditions, such as glaucoma.



Stein Eye physician-scientists Drs. Steven Schwartz (center), Gad Heilweil, and Jean-Pierre Hubschman transplanted the first human embryonic stem-cell-derived retinal pigment epithelial cells into the eyes of legally blind patients with Stargardt disease and dry macular degeneration in 2011. The procedure was a milestone in the therapeutic use of stem cells, with the hoped for outcome of paving the way for new care for macular degeneration.

Clinical Research Center: the backbone behind clinical studies

When Institute faculty conduct patient-based research to evaluate new developments in vision science, the UCLA Department of Ophthalmology Clinical Research Center is on the front line of facilitating that work.

Established in 1998 by Dr. Bartly Mondino and directed by **Gary N. Holland, MD**, Jack H. Skirball Chair in Ocular Inflammatory Diseases, the Clinical Research Center provides study support and management for faculty who are working at the edge of discovery in testing advances on the effectiveness of new drugs and transplants, the impact of disease on visual functions, quality of life issues, and the genetics of eye disorders.

In the always-complex world of public research funding, the Clinical Research Center takes the lead role in working with granting agencies and government regulators, collaborating with faculty on study design, and data collection and analysis. Clinical studies are a growing enterprise for the Institute; in 1998, Institute faculty conducted 32 clinical research studies; and by 2016, that number had increased to 79 studies.

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Genetics: new tools for the next generation of results

Much of the Institute's research progresses into new territory because of constant advances in methods to explore the eye at the cellular level, including studies in the realm of the human gene. Finding one or more genes involved in a common disease pathway or process gives opportunity to explore therapies to modify that course of disease.

"Genetics gives us two almost opposite insights: the commonality of life, as well as the uniqueness of the individual," says Dr. Gorin.

Exploring those opposing views of genetics has special significance in studying fundamental questions about the eye.

"Genetic analysis provides us with unifying knowledge of the eye's basic biology," says **Anthony J. Aldave, MD**, Walton Li Chair in Cornea and Uveitis, "and provides understanding as to why five people with the same diagnosis, for example, might each have a different response to therapy or reaction to medication."

The challenge then becomes: How can genetics be applied to improve patient care?

"Finding a gene that causes a disease or inherited disorder is not the end of the search; it's the beginning," Dr. Aldave says. "By better understanding the role of a specific gene, we can figure out how its dysfunction leads to the diseases we see in our clinics, and we can identify targets for intervention."

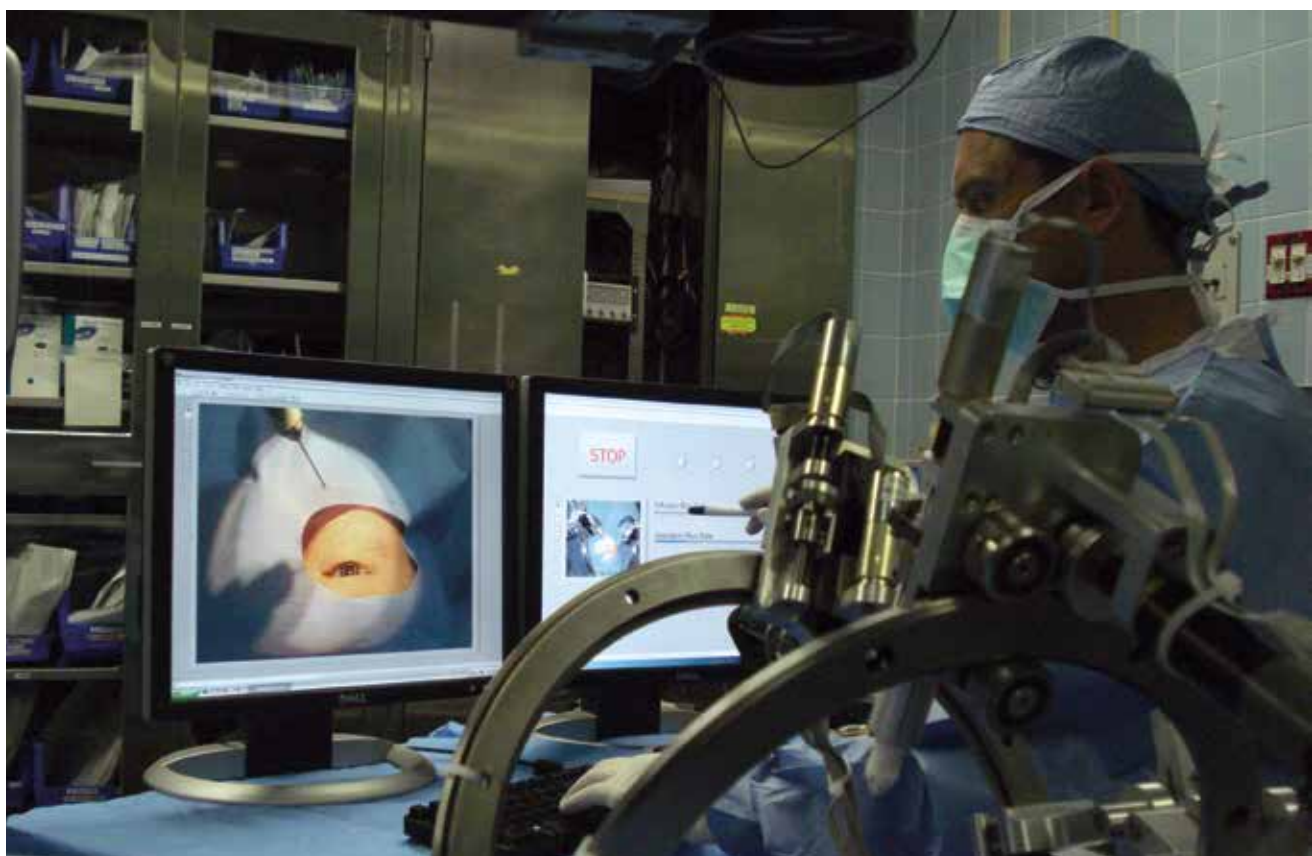
The growing technology of stem cells

Another primary line of research with tremendous potential for new therapies is the Institute's work on stem cells—unspecialized cells that if appropriately treated are able to divide and transform themselves into specialized cells—for treatment of eye diseases. In 2011, **Steven D. Schwartz, MD**, The Ahmanson Chair in Ophthalmology, **Gad Heilweil, MD**, health sciences assistant clinical professor, and **Jean-Pierre Hubschman, MD**, associate professor of ophthalmology, at the Institute's Center for Regenerative Medicine in Ophthalmology, transplanted the first human embryonic stem-cell-derived retinal pigment epithelial cells into the eyes of legally blind patients with Stargardt Disease and dry macular degeneration—a milestone in the therapeutic use of stem cells with the hoped for outcome of paving the way for new care for macular degeneration.

"Working with stem cells," says Dr. Mondino, "opens entirely new possibilities and creates prospects for developing treatments we've never considered before."



Investigations at the Institute explore newfound territories, such as genetic and stem cell research, and exploration of the next level of eye surgery—robotic technology (Dr. Jean-Pierre Hubschman, bottom image).



Research Focus

Stem Cell Therapy for Blinding Eye Disorder

With a \$4.25 million grant from the California Institute for Regenerative Medicine, a Stein Eye research team headed by **Sophie X. Deng, MD, PhD**, associate professor of ophthalmology, will complete late-stage clinical studies to develop therapy using cultivated autologous limbal stem cells in the treatment of limbal stem cell deficiency (LSCD).

LSCD can lead to severe loss of vision and even blindness. Caused by a lack of functioning corneal epithelial stem cells, it is seen in many common ocular disorders, such as chemical injuries, chronic conjunctivitis, or issues caused by multiple eye surgeries or contact lens wear.

Limbal stem cells replenish the cells on the surface of the cornea (the epithelial cells), which are essential to maintaining the integrity and transparency of the cornea. With the loss of these progenitor stem cells, the surface of the cornea becomes compromised and vulnerable to infection and scarring.

“A corneal transplant cannot treat LSCD as the corneal epithelium must be healthy prior to corneal transplant surgery,” explains Dr. Deng. “Through therapy with limbal stem cells, the surface of the epithelium can be restored—and a corneal transplant can then be successful and improve vision.”

Dr. Deng’s laboratory has developed a robust culture method for replenishing limbal stem cells that is free of animal products and eliminates any potential risk of cross-contamination. “When limbal stem cells can be grown in a culture, only a small amount of donor tissue is needed,” says Dr. Deng. “The cultured cells are then transplanted to the eye with LSCD to restore a healthy corneal epithelium.”

Dr. Deng’s team is also using new in vivo imaging techniques to assess the function of limbal stem cells in patients.



Gary Holland, director of the Clinical Research Center, was a first-year resident at the Institute in April 1981. While conducting an autopsy during his pathology rotation, Dr. Holland found cytomegalovirus (CMV) retinitis, now known as one of the most common infections of the eye for people whose immune systems are severely suppressed by AIDS. His groundbreaking discovery—found two months before the Centers for Disease Control sent out their first alert about AIDS—was published in 1982, and Dr. Holland is now a recognized expert in the field.

New answers, evolving questions

Propelling research at Stein Eye today is the same pursuit of knowledge that has driven vision-scientists to study the mysteries of the eye for more than 4,000 years.

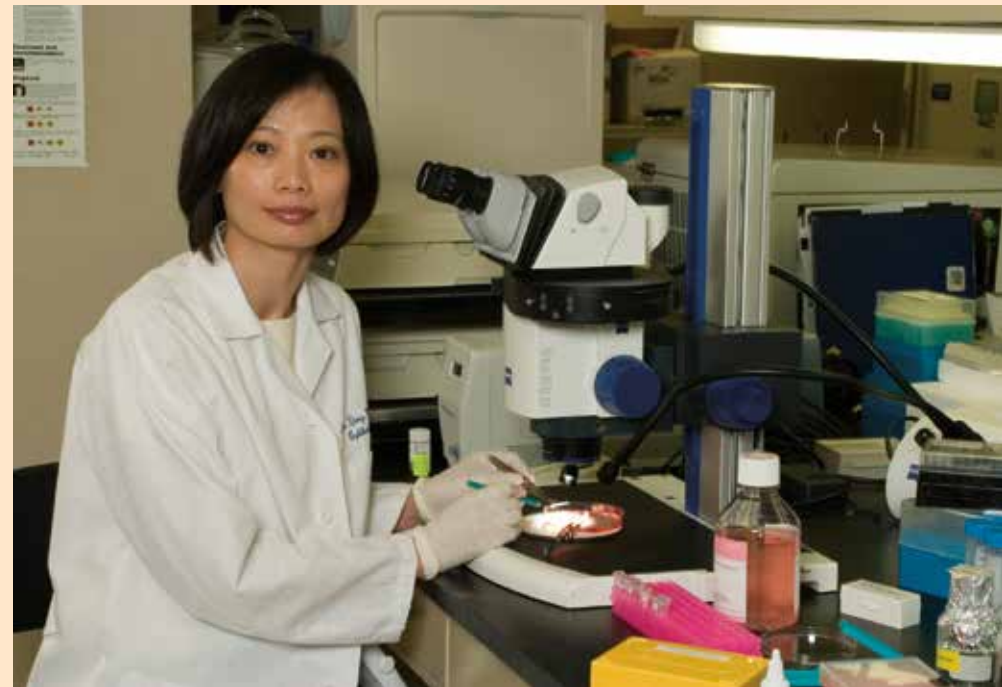
“As researchers, we have an innate desire to go where people haven’t gone,” says **Suraj P. Bhat, PhD**, associate professor of ophthalmology, who investigates the molecular biology of vision. “It’s a desire that simply arises from being human, from being curious.”

“We think we look for answers, but in medical research there are no complete answers,” says Dr. Bhat. “Every bit of knowledge we gain reveals just how much more there is to know.”

At the Institute, investigation of the eye is a process that produces many achievements—as well as endless new opportunities.

“Looking at the Institute’s progress over more than five decades,” says Dr. Gorin, “reinforces that eye research is an extraordinary quest and a perpetually changing journey.”

And thanks to new methods and technology for vision research that have emerged in the last 50 years—many of which were developed in the Institute—the future of creating new knowledge of the eye is even more promising.



“We are excited to have received this continued support from the California Institute for Regenerative Medicine. Their funding allowed us to perform the translational work that got us to this stage,” says Dr. Sophie Deng, “and now we are ready to raise the bar for this therapy and move toward a clinical trial.”



“In medical research there are no complete answers,” says Dr. Suraj Bhat, who investigates the molecular biology of vision. “Good questions generate new insight, and even more questions. Every bit of knowledge we gain reveals just how much more there is to know.”

The bench-to-bedside harmony of clinical studies being investigated in collaboration with basic science has driven the Institute’s research mission since its inception.

AAO Awards

Faculty and Alumni Honored at 2016 AAO Annual Meeting

UCLA Department of Ophthalmology faculty members and alumni were honored for their contributions to the Academy and the profession at the American Academy of Ophthalmology (AAO) annual meeting October 15–18, 2016, in Chicago, Illinois.

2016 AAO Awards of Achievement to Faculty

Sophie X. Deng, MD, PhD: Achievement Award

Colin A. McCannel, MD: Secretariat Award and Senior Achievement Award

Stacy L. Pineles, MD: Achievement Award

SriniVas R. Sadda, MD: Senior Achievement Award

2016 AAO Awards of Achievement to Alumni

Paul S. Bernstein, MD, PhD: Outstanding Humanitarian Service Award

Kimberly A. Drenser, MD, PhD: Senior Achievement Award

David B. Glasser, MD: Life Achievement Honor Award

John A. Hovanesian, MD, FACS: Senior Achievement Award

Randall J. Olson, MD: Secretariat Award

Stuart R. Seiff, MD: Secretariat Award and Life Achievement Honor Award

2016 Suzanne Véronneau-Troutman Awardee

At the Women in Ophthalmology reception held during the October 2016 American Academy of Ophthalmology meeting in Chicago, Illinois, **Anne L. Coleman, MD, PhD**, The Fran and Ray Stark Foundation Chair in Ophthalmology, received the Suzanne Véronneau-Troutman Award in recognition of her work to advance and enhance the position of women in ophthalmology.

Lynn K. Gordon, MD, PhD, Vernon O. Underwood Faculty Chair in Ophthalmology, was presented with the honor in 2015, and **J. Bronwyn Bateman, MD**, clinical professor of ophthalmology, was the 2001 Suzanne Véronneau-Troutman Award honoree.

Stein Eye Faculty Member Begins Service on AAO Board of Trustees

Lynn K. Gordon, MD, PhD, Vernon O. Underwood Faculty Chair in Ophthalmology, began her term as vice chair of the American Academy of Ophthalmology (AAO) Council at the 2016 annual meeting. As a member of the AAO Board of Trustees, Dr. Gordon facilitates and coordinates communications and strategies among the Academy, state societies, and ophthalmic organizations.



Dr. Lynn Gordon

Barry Weissman Top 30 Most Influential in His Field

Barry A. Weissman, OD, PhD, professor of ophthalmology emeritus, was recognized for his research work by *Contact Lens Spectrum*, who described him as one of the “Top 30 Most Influential in Contact Lenses” for his significant contributions to the betterment and/or advancement of the field. The magazine’s September 1, 2016, issue honored “the movers and shakers in the contact lens industry from 1986–2016.”



Dr. Barry Weissman

When extended-wear contact lenses became available in the 1980s, Dr. Weissman and **Bartly J. Mondino, MD**, Bradley R. Straatsma, MD, Endowed Chair in Ophthalmology, published two of the first studies showing an increased risk of corneal infections due to the lenses—an issue that continues to be explored today. Among his many contributions to the field over the past 30 years, Dr. Weissman has published pivotal studies on transport of oxygen across contact lenses, which is essential for maintaining corneal clarity and eye health.

Michael Gorin Receives VHL Alliance Award

Michael B. Gorin, MD, PhD, Harold and Pauline Price Chair in Ophthalmology, was presented with the Von Hippel-Lindau (VHL) Alliance Award at the VHL Alliance annual meeting September 23–24, 2016, at UCLA.



Dr. Andrew Eller presented Dr. Michael Gorin (left) with the VHL Alliance Award.

The award recognizes Dr. Gorin’s years of service on the VHL Alliance Advisory Board, his research work, and his clinical care of patients with VHL-related ocular tumors. In addition to the honor, Dr. Gorin received a \$100,000 two-year grant to develop and characterize an in vitro (cell culture) model to study VHL-related angioma formation and for development of an in vivo mouse model for VHL disease.

Von Hippel-Lindau disease is a genetic condition involving the abnormal growth of blood vessels in up to 10 parts of the body. It is caused by a flaw in one gene, the VHL gene, which regulates cell growth. Patients with VHL disease battle a series of tumors throughout their life.

Anthony Aldave Performs 200th Boston Keratoprosthesis Procedure

Recognized globally as an expert in artificial corneal transplant (keratoprosthesis) surgery, **Anthony J. Aldave, MD**, Walton Li Chair in Cornea and Uveitis, in October 2016 became only the fourth surgeon in the world to implant 200 Boston keratoprostheses.

The Boston keratoprosthesis is utilized to restore vision to individuals with profound vision loss secondary to loss of corneal clarity who are not candidates for traditional corneal transplantation. Dr. Aldave has traveled to more than a dozen countries in the last 11 years teaching corneal surgeons how to perform keratoprosthesis surgery, work supported by Visionaries International, a non-profit foundation that he founded in 2007.



Dr. Anthony Aldave in Bangkok, Thailand, implanting a Boston keratoprosthesis.

Sherwin Isenberg Honored as 2016 “Legend”

LA BioMed, a non-profit scientific research organization dedicated to saving lives throughout the world, recognized the achievements of **Sherwin J. Isenberg, MD**, Laraine and David Gerber Chair in Ophthalmology, with the designation of “Legend.”

Before a distinguished crowd of philanthropists, fellow physicians, and government officials at a dinner and reception on November 15, 2016, LA BioMed president and chief executive officer David I. Meyer, PhD, honored Dr. Isenberg for his distinguished service and contributions to ophthalmology, saying, “Dr. Isenberg’s research has saved the eyesight of thousands of children and adults in third-world countries.”

Dr. Isenberg and late founding member of the Stein Eye Institute, **Leonard Apt, MD**, pioneered the use of low-cost eyedrops (povidone-iodine) for prevention and treatment of potential blindness from infections at birth. The application of povidone-iodine has prevented thousands of eyes from going blind from post-operative infections and is now used throughout the world.



Dr. David I. Meyer (left) with Legend honoree Dr. Sherwin Isenberg and his wife Rina Isenberg.

photo: Stephanie Cartozian/Peninsula Magazine

Anne Coleman Named to National Academy of Medicine

Honored for her achievement and service in medicine and health care, **Anne L. Coleman, MD, PhD**, The Fran and Ray Stark Foundation Chair in Ophthalmology, was elected October 17, 2016, to the National Academy of Medicine—among the highest honors in the fields of health and medicine.

Membership in the National Academy of Medicine recognizes those who have demonstrated outstanding professional achievements, commitment to service, and contributions to the advancement of the medical sciences.

In the National Academy of Medicine announcement, President Victor Dzau said, “These newly elected members are outstanding professionals who care deeply about advancing health and health care in the U.S. and globally. Their expertise will help our organization address pressing health challenges and improve health, science and medicine for the benefit of us all.”



Dr. Anne Coleman, a glaucoma specialist, directs the UCLA Mobile Eye Clinic, which provides care to underserved populations. She is also a professor of epidemiology at the UCLA Fielding School of Public Health. Dr. Coleman’s research focuses on the public health impact, risk factors, causes, and treatments of blindness around the world.

Staff Awards

Staff Member Recognized for National Prominence

Bobbi E. Ballenberg, COMT, OSC, clinical manager of the Institute’s Glaucoma Division and a valued member of the Stein Eye Institute staff, was honored with the Fellow Award from the Association of Technical Personnel in Ophthalmology (ATPO) on October 15, 2016, in Chicago, Illinois.

The Fellow Award, the highest honor of the ATPO, is given to allied health personnel who demonstrate national prominent leadership in the ATPO, as well as influence and achievement in clinical practice, education, or science.



Bobbi Ballenberg (left) was honored by the ATPO for her leadership, influence, and achievement.

Stein Eye Softball Team Wins Minor League Championship

The Three Blind Mice softball team brought glory once again to the Stein Eye Institute, with their win of the 2016 minor league championship.

Three Blind Mice battered The Bad News Bruins and then iced the Isodopes to win the Minor League Championship—the team’s first championship win since 2011. “This was a great season,” enthused Raul Rangel, who co-captains the team with Valentino Manlutac. “We stayed hot the whole season and took that momentum to the playoffs.”

The co-ed, slow pitch intramural softball league was started in the early 1970s by the former head of UCLA housekeeping, T.W. Jones, to create an opportunity for individuals in other departments to have more interaction with one another. Today the UCLA Medical Center softball league has 16 teams divided into minor and major divisions. The teams compete every Friday at Rancho Park in Cheviot Hills during the April–August season.



Celebrating their 2016 minor league championship win with friends and family are Three Blind Mice team members: Jose Barillas, Leiloni Breidert, Alexandra Flores, Mario Godinez, Richard Lee, Valentino Manlutac, John Martone, Kara Mondino, Raul Rangel, Daniel Raygoza, and Miguel Rodriguez.

22nd Annual Vision Science Retreat

The annual Stein Eye Institute Vision Science Retreat celebrated its twenty-second year October 7–9, 2016, at the UCLA Lake Arrowhead Conference Center. Attending were 68 basic scientists, clinical researchers, postdoctoral fellows, graduate students, and invited guests who participated in scientific discussions, learning activities, and social events. The keynote address “Optogenetics and Gene Therapy for Blindness” was given by John G. Flannery, PhD, Professor of Neurobiology, University of California, Berkeley. Optogenetics is biological technique that involves the use of light to control cells in living tissue.



Awards were presented at the retreat for best oral presentations and best posters:

Best Oral Presentations

Jean-Pierre Hubschman, MD
Chi Zhang, PhD (Zheng Lab)
Margaux Kreitman (Hubbell Lab)

Best Posters

Sachin Parikh (Gorin Lab)
Kaushali Thakore-Shah, PhD (Deng Lab)
Stefanie Volland, PhD (Williams Lab)

Gaining Hands-On Training in Cataract Surgery

Residents and fellows from UCLA, USC, UCI, UCSD, Loma Linda University, Arrowhead Regional Medical Center, and the Naval Medical Center attended the Bausch & Lomb Basic Cataract Surgery Course in Irvine, California, on October 29, 2016. The morning course presentations included all steps of cataract surgery from obtaining informed consent through postoperative instructions. At afternoon skills-transfer laboratories, attendees gained hands-on experience with ocular biometry, corneal mapping, lens power calculation, intraocular lens implantation, pupil management, surgical microscope set up and use, phacoemulsification equipment priming and tuning, and pig eye cataract surgery.

“Training programs in Southern California recognize the value of these courses,” says **Kevin M. Miller, MD**, who oversees this activity and is chief of the Cataract and Refractive Surgery Division at the Stein Eye Institute. “Attendance is extremely high and this speaks to the program’s success and popularity.”

For information regarding the April 8, 2017, Advanced Cataract Surgery Course, which will be sponsored by Alcon Laboratories, contact Dr. Miller by telephone: (310) 206-9951 or by email: kmiller@ucla.edu.



Dr. Kevin Miller guides ophthalmology residents and fellows in the fundamentals of cataract surgery. The popular course is offered in the fall, with an advanced cataract surgery course taught in the spring.

EyeGuru: Educational Resource Developed by Residents for Residents

Recognizing firsthand the value of having an efficient learning tool, UCLA Department of Ophthalmology residents **David Xu, MD**, and **Shawn Lin, MD**, along with UCLA medical student **Ben Lin, MD**, have developed a new educational-based website for ophthalmology residents, EyeGuru.org.

Designed for rapid learning and tailored to knowledge residents already have, the website was profiled in the September 15, 2016, issue of *Ophthalmology Times*. “We created EyeGuru because ophthalmology is highly specialized, and residents are faced with a challenge,” says Dr. Xu. “They need to tackle clinical, surgical, and basic science material with steep learning curves.” EyeGuru’s stated mission is to provide residents with “Everything you wanted to know about succeeding in ophthalmology in one easy source.” The goal is not to be comprehensive, but to provide residents with the foundation and framework upon which to build their knowledge.

The “Residency Essentials” section presents material about common eye conditions seen in the clinic, while the “Clinical Techniques” section guides residents in the use of ophthalmological instruments like the slit lamp and indirect ophthalmoscope, and answers common questions residents might have.

Dr. Xu and his colleagues used their experience as residents in determining relevant content, and the developers’ vision is that the free website will be a key part of how residents learn.



EyeGuru.org, designed by UCLA Department of Ophthalmology residents, is a fast-paced learning tool to assist residents in building their knowledge base.

Stein and Doheny Host Alumni Reception at AAO Annual Meeting

Alumni from the Stein and Doheny Eye Institutes gathered at the Westin Chicago River North in Chicago, Illinois, on October 16, 2016, to reconnect with friends, colleagues, and mentors.

The joint reception, which is held annually during the American Academy of Ophthalmology meeting, was hosted by the UCLA Stein Eye Institute Alumni Association and the Doheny Eye Institute Professional Alumni Association.

The alumni reunion, which also celebrated the Stein Eye Institute's 50th anniversary, was attended by over 300 guests. Find more photos at the UCLA Stein Eye Institute Alumni Association Facebook page: www.facebook.com/JSEIAlumni.



Drs. Vinit Mahajan, JoAnn Giacconi, and Federico Badala enjoy the evening festivities.



(L to R) Ms. Marissa Goldberg, executive director and chief financial officer of the Doheny Institute, Dr. Srinivas Satta, president and chief scientific officer of the Doheny Eye Institute, and Dr. Alfredo Sadun, vice chairman of the Doheny Eye Center UCLA, join Dr. Bartly Mondino, chairman of the UCLA Department of Ophthalmology and Dr. Anne Coleman, vice chairman of academic affairs, UCLA Department of Ophthalmology.



Dr. Lynn Gordon and her husband Dr. Jonathan Braun (L) with Dr. Colin McCannel.



Dr. Howard Krauss (L) joins Dr. Christopher Fleming and Mrs. Leslie Fleming, and Dr. J. Bronwyn Bateman.



Dr. Vikas Chopra, medical director of the Doheny Eye Center UCLA-Pasadena, and Dr. Bradley Straatsma, founding chairman of the UCLA Department of Ophthalmology and founding director of the Stein Eye Institute.



(L to R) **Drs. Ronald Smith, Gonzalo Vargas, and Kevin Miller** reconnect at the alumni event.



Drs. Carrie Golden, Robert Alan Goldberg, and Greg Kokame, Class of 1987.

IN REMEMBRANCE

Thomas R. Singer, MD

Thomas R. Singer, MD, died October 28, 2016, in Rochester, Minnesota, after being diagnosed with multiple myeloma five years ago.

A UCLA Department of Ophthalmology resident (1983–1986), Tom was born August 5, 1956, in Waupun, Wisconsin. He graduated from the University of Wisconsin in 1977 (Phi Beta Kappa) and the University of Wisconsin Medical School in 1981. He was a member of the Alpha Omega Alpha Honor Medical Society. Tom accomplished his education on academic scholarship and by working as a taxi driver, a nursing home attendant, and a prison guard.

While completing his residency in ophthalmology at UCLA, he met his wife, Marianna, and they were married in 1987. Tom practiced ophthalmology in Modesto, California, for nine years before moving to Michigan in 1995, where he joined the practice of Frank Sassaman, MD, in Kalamazoo. When Dr. Sassaman passed away in 2008, Tom moved his practice to its current location in Portage, Michigan.

Tom's sense of wit and ongoing humor brightened the lives of his family and friends. His many interests included hunting, fishing, travel, politics, the Detroit Tigers, and riding his motorcycle. He is survived by his wife and their children, Will, and Emma.



Community Outreach

UCLA Mobile Eye Clinic: New Website Helps Underserved Patients Access Care



The UCLA Mobile Eye Clinic (UMEC) promotes health services and provides screenings to people with limited resources. Dr. Andrew Young, UMEC full-time ophthalmologist, and staff have offered 10 clinics at Mi Casa es Puebla, a Mexican government representative unit that serves immigrants from Mexico who have limited access to eye health services.

For over 40 years, the UCLA Mobile Eye Clinic (UMEC) and its staff of ophthalmologists, ophthalmology residents, technicians, and volunteers has been providing free eye care services and glasses for underserved communities in Los Angeles County. And now accessing that care is simpler than ever.

The UMEC's new website, uclahealth.org/mobile-eye-clinic, was launched on November 4, 2016, with the patient experience specifically in mind.

Along with learning more about the UMEC, patients can review the website's **calendar** to find dates, times, and locations of upcoming UMEC clinics. The website includes a listing of **low-income clinics** in the Los Angeles community that offer health and eye care services. Also helpful is a **vision care resources page** that lists organizations not affiliated with the UCLA Mobile Eye Clinic, but who are aligned with the UMEC's mission to provide vision services at low or no cost to the most vulnerable members of our community.

In addition to treating adults, the UMEC also provides eye care to the young.

"We are nearing completion of a five-year grant from First 5 LA to conduct vision screenings of preschool-aged children," says **Anne L. Coleman, MD, PhD**, director of the Stein Eye Centers for Community Outreach and Policy, which oversees the UMEC. "By identifying, treating, and preventing vision disorders early, underserved children have the vision they need to succeed in school and in life." In the past four years, the clinic screened more than 77,000 preschool students, and it is quickly approaching its goal of 90,000 patients under funding from First 5 LA.

For its work, the UMEC is recognized for its exemplary leadership in improving access to health services and education for children and families in struggling communities. The UMEC earned the 2015 Innovation Award for Community Service from the Los Angeles County Medical Association and the Patient Care Foundation of Los Angeles County for exemplary leadership in shaping the future of health care.

Established in 1975 by the anonymous donor, "Uncle Claude," the UMEC is the longest continuously operating eye clinic on wheels in the USA.

Learn about upcoming UMEC clinics and more at: uclahealth.org/mobile-eye-clinic.

Philanthropy

Louis and Annette Kaufman: A Passion for Music and Art

The UCLA Stein Eye Institute received a generous gift of \$1.4 million from the estate of Louis and Annette Kaufman to support eye research. "This significant donation will provide a valuable resource for vision-science pursuits," says Bartly J. Mondino, MD, chairman of the UCLA Department of Ophthalmology and director of the Stein Eye Institute.

Louis Kaufman was a renowned American violinist whose interest in eye research was sparked by his own vision-altering experience. While touring in Greece, he suffered a detached retina and subsequently retired from playing music.

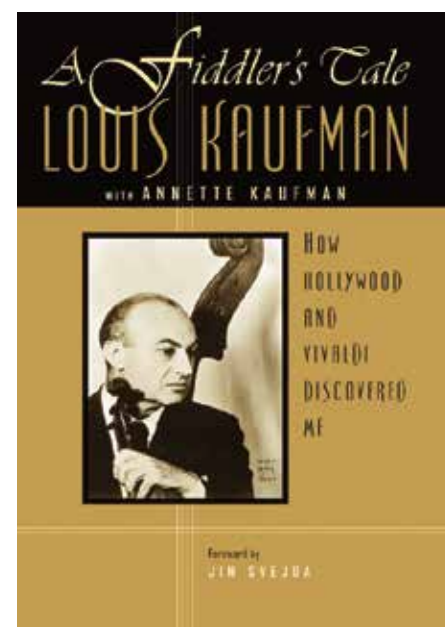
Mr. Kaufman was the most sought after violin soloist in Hollywood. He began studies with Franz Kneisel at the age of 13 at the Institute of Musical Art (now the Julliard School) in New York City. In his early career, he played chamber music with such noted musicians as Pablo Casals, Jascha Heifetz, and Efrem Zimbalist.



In addition to playing concert halls, Mr. Kaufman's violin can be heard in as many as 500 films, ranging from *Casablanca* to *Gone with the Wind*. Mr. Kaufman is believed to be the most recorded violinist in history as concertmaster or violin soloist and was the first to record *The Four Seasons* by Italian composer Antonio Vivaldi. Mr. Kaufman's 1947 recording of the four violin concerti was inducted into the Grammy Hall of Fame in 2002, and his papers are at the Library of Congress. Mr. Kaufman also helped to reintroduce the Baroque concertos of

Vivaldi to modern audiences, bringing the composer's work to its current worldwide popularity. Mr. Kaufman died in 1994 at the age of 89.

Annette Kaufman was a pianist who met her husband while studying music at the Institute of Musical Art. Married in 1933, the Kaufmans moved to Los Angeles the following year. A devoted wife, Annette completed her husband's autobiography, *A Fiddler's Tale: How Hollywood and Vivaldi Discovered Me*, which was published in 2003. In a feature article discussing the book about Louis Kaufman, The Film Music Society describes Mrs. Kaufman: "A tireless supporter of his work and his legacy, she traveled the world to talk about him and to share their mutual passion for 20th-century art." According to the article, "Annette never played in the film studios. She was, however, her husband's frequent piano accompanist at chamber-music concerts both in the U.S. and Europe." Mrs. Kaufman died in Los Angeles in 2016 at the age of 101.



Avid art collectors, the Kaufmans donated many pieces to the National Gallery of Art, Syracuse University, and the Phillips Collection in Washington, D.C., ensuring that others could see their beauty. The Stein Eye Institute is grateful to the Kaufmans for leaving a legacy of sight to patients so that they too might be able to see.

JSEI Affiliates

Thanks a Latte!

JSEI Affiliates volunteers and Advisory Board members held their annual holiday sponsorship drive to support the *Make Surgery Bearable* program.

The December 13 event, held on the Stein Eye Terrace, was an opportunity to sip on free coffee, lattes, and hot chocolate while making a difference in the lives of the Stein Eye Institute's youngest patients. For \$10, attendees could sponsor a cuddly Dr. Teddy bear and *Making Eye Surgery Bearable* book for future pediatric patients.

To find out more about the JSEI Affiliates, go to: <http://www.jseiassociates.org>.



Thank you volunteers and Make Surgery Bearable donors who supported holiday fundraising efforts of the JSEI Affiliates. Your contributions will go a long way to make eye surgery "bearable" for Stein Eye Institute pediatric patients. (L to R) JSEI Affiliates President Marcia Lloyd with Kimberly Eremic, Teresa Closson, Tracey Boldemann-Tatkin, Toshka Abrams, Maude Feil, Lydia Heyman, Carole Shaine, and Jane Coffman.

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:

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All inquiries are confidential and without obligation.

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U.S. News & World Reports ranks
Stein and Doheny Eye Institutes
No. 5 in the country and the Best in the West.