





UCLA Stein Eye Institute

ANNUAL REPORT

July 1, 2021–June 30, 2022

DIRECTOR

Bartly J. Mondino, MD

MANAGING EDITOR

Tina-Marie Gauthier c/o Stein Eye Institute 100 Stein Plaza, UCLA Los Angeles, California 90095–7000 Tina@EyeCiteEditing.com

PUBLICATION COMMITTEE

Anthony C. Arnold, MD Anne L. Coleman, MD, PhD Sophie X. Deng, MD, PhD Kevin M. Miller, MD Alfredo A. Sadun, MD, PhD Alapakkam P. Sampath, PhD

CONTRIBUTING EDITORS

Leiloni Breidert Teresa Closson Martha Espinoza Margarita Gonzalez Susan Ito Peter López

CONTRIBUTING WRITERS

Harlan Lebo

PHOTOGRAPHY

Reed Hutchinson Robin Weisz

COVER ILLUSTRATION

Jim Frazier

DESIGN

Robin Weisz/Graphic Design

PRINTING

Marina Graphic Center

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The cover of this year's Annual Report illustrates the ongoing evolution of leadership in the UCLA Department of Ophthalmology and the Stein Eye Institute. The three eyes represent the extraordinary vision of those who have served as chair and director: **Bradley R. Straatsma, MD, JD** (founder 1964–94); **Bartly J. Mondino, MD** (current 1994–22); and **Anne L. Coleman, MD, PhD** (incoming 2022). The figure beneath the eyes represents the giants upon whose shoulders our leaders stand.

LETTER FROM THE CHAIR

It has been an honor and privilege to serve as chair of the UCLA Department of Ophthalmology and director of the UCLA Stein Eye Institute for the past 28 years. I thank my predecessor, **Bradley R.**Straatsma, MD, JD, our founding chair and director, for his visionary leadership and all he has created. And I welcome my friend and colleague **Anne L. Coleman, MD, PhD**, as the new director and chair effective July 1, 2022. Dr. Coleman will lead our Department with a brilliant hand, and I look forward to seeing her exceptional vision and drive shape ophthalmology in the 21st century.

Together, with your support of our mission, we have accomplished much over the past decades, including celebrating our 50th anniversary; construction and dedication of the Edie & Lew Wasserman Building; renovation and seismic upgrade of the Jules Stein Building; affiliation with the Doheny Eye Institute; establishment of UCLA Stein Eye Centers and Doheny Eye Centers UCLA across the Southland; and the continuous recruitment of outstanding faculty, trainees, and staff.

Without your contributions, none of the above would have been possible. Recent years have been challenging for all of us. The COVID-19 pandemic has affected our families, our businesses, our communities, and our way of life. Throughout these times, we continually assessed the best course of action for our patients and community at large, and we have returned stronger than ever.

I am grateful for your long-standing commitment to the Stein Eye Institute, and I thank you for the generous support you have given me and for the opportunity to be your colleague over these many years.

I hope you enjoy these highlights of our 2021–22 academic year, which reflect our efforts to ensure that people the world over have the gift of sight.

Sincerely,

Bartly J. Mondino, MD

Bradley R. Straatsma, MD, Endowed Chair in Ophthalmology

Director, Stein Eye Institute

Chairman, UCLA Department of Ophthalmology

Affiliation Chairman, Doheny Eye Institute



A Job Well Done

A Look Back at Three Decades of Leadership

Bartly J. Mondino, MD, who steps down as director of the Stein Eye Institute and chair of the UCLA Department of Ophthalmology on July 1, 2022, reflects on the challenges and opportunities he experienced during his 28-year tenure.



What were your expectations about leading the Stein Eye Institute when you became the director in 1994?

When I was appointed to direct the Institute, I had already served as a faculty member in the UCLA Department of Ophthalmology for 12 years, and was a participant in the tremendous strides in vision science that had begun in the 1950s, and flourished when the Stein Eye Institute was founded in 1966 under the leadership of **Dr. Bradley Straatsma**. When I became director in 1994, the Institute had talented people, a superb facility, and many goals for how we could continue to build on a strong foundation. I considered it my primary job to serve as the catalyst to achieve those goals.

One of those goals has been to build relationships with other medical fields at UCLA. How have those ties affected the Institute's initiatives for research and education?

The eye is a unique structure, not only because of its functions involving sight, but also for its interaction with other tissues and organs in the human body: the workings of the central nervous system, infectious disease, autoimmune and inflammatory disorders, cancer, hereditary problems, and degenerative illness. Because of that interactivity, progress in vision science is heavily dependent on connections with other medical disciplines beyond ophthalmology.

With that in mind, I think one of our great successes has been the ongoing development of relationships between vision science and the rest of the research enterprise at UCLA. A great strength—perhaps the greatest strength of UCLA—is the institutional commitment to interdisciplinary research and teaching. It has been exciting to see how ophthalmology has contributed to that commitment during my time as director.

Another of your priorities has been broadening the scope of training for residents in ophthalmology.

Yes, and these changes tell the story of how the mission of education has changed for vision science.

Instilling in our residents an appreciation of the importance of research—especially interdisciplinary research—has been essential as we refine our resident training. Our primary mission has always been, of course, to train the next generation of ophthalmologists for clinical practice. But increasingly, we are building a culture of research for our residents so they fully appreciate the importance of exploration beyond their training as tools to help them think analytically and create new knowledge.

Those changes have included other opportunities for the resident experience as well.

Broadening the career possibilities for our residents has been one of my major priorities. We have created opportunities for education that reinforce the importance of leadership for residents as they move into their careers.

For instance, we created EyeSTAR (Specialty Training and Advanced Research) in 1995 to train physicians who are interested in an academic career and professional leadership as clinician-scientists. EyeSTAR is still the only program of its kind, and it is recognized by national vision-science organizations as a model program to train leaders in ophthalmology who are investigators as well as clinicians.

We developed EyeMBA in 2016, which combines ophthalmic resident training with an MBA degree. As a result, our graduates are not only skilled ophthalmologists, but are also trained with business and leadership skills for academic institutions, foundations, government agencies, and health care institutions.

Last year we introduced a medical genetics track with our EyeSTAR program that provides ophthalmology residency training in tandem with training by the UCLA Intercampus Medical Genetics Training Program leading to Clinical Genetics and Genomics certification by the American Board of Medical Genetics and Genomics. This is another national first for us, and the intent is that with this knowledge, clinician-scientists will propel innovations in the diagnosis and detection of disease, as well as new approaches to treatment.

The training in vision care for all medical students at UCLA is also evolving.

A vital element in our connection to UCLA has been—and continues to be—the training in ophthalmology we provide for all the medical students at UCLA.

For example, since August 2021, we have participated in an ambitious new education program created by the David Geffen School of Medicine that is transforming how the university is training the next generation of doctors. These changes are offered through new instruction, enhanced flexibility for the student experience, and expanded study and research in ophthalmic fields.



Some of the Institute's educational programs have international implications as well.

Yes—dealing with the medical conditions that affect the eye is a major global need—especially in low-resource countries. We have expanded the Institute's global presence with the introduction of the International Fellowship and Exchange Program. Fellows from medical schools across the globe come to the Institute to participate in clinical and research activities based on their subspecialty training requirements, and they return to their home country with skills to provide critically needed ophthalmic care.

We also extended the work of the Institute to other countries. In 2013, we created a global outreach project at Aravind Eye Care System in Madurai, India, for residents to learn firsthand about providing vision care in low-resource regions.

More locally, the scope of the Institute has increased in recent years.

Absolutely. I cannot overemphasize the importance of our partnership with the Doheny Eye Institute in the growth of our delivery of patient care and research. Our alliance with Doheny that began in 2013 has created the nation's largest academic affiliation for patient care, vision research, and education; the relationship magnifies the impact of both organizations in everything we do.

Now under the banner of the UCLA Department of Ophthalmology, we have merged the talents and resources of both Stein and Doheny, and we have built a thriving network for eye care that includes facilities across Southern California. Three decades ago, patients had to travel to Westwood for treatment by Stein Eye Institute doctors; now most residents of greater Los Angeles live less than a half hour from our network of eye care centers that are ranked among the best in the nation.

Our involvement with Doheny has reinforced our connections with other medical enterprises. For instance, through Doheny we are now joined in a formal partnership with City of Hope that provides care for some of the most challenging cases involving cancer and the eye.

Importantly, our ability to provide the highest quality of patient care now extends across the Southland with the following dedicated facilities:

- Stein Eye Institute vision-science campus in Westwood
- Doheny Eye Institute vision-science campus in Pasadena
- Eye Centers UCLA in Calabasas and Santa Monica
- Doheny Eye Centers UCLA in Arcadia, Orange County, and Pasadena
- Olive View-UCLA Medical Center in Sylmar, Harbor-UCLA Medical Center in Torrance, and the Veterans Affairs Healthcare System centers in Sepulveda and West Los Angeles.

When you tally up the care we provide, the Stein Eye Institute's scope opens a new level of access and treatment for millions of people.



"I cannot overemphasize the importance of our partnership with the Doheny Eye Institute in the growth of our delivery of patient care and research. Our alliance with Doheny that began in 2013 has created the nation's largest academic affiliation for patient care, vision research, and education; the relationship magnifies the impact of both organizations in everything we do."

Another of your priorities has been support for community-based public health services.

Our involvement in community health services has grown dramatically in recent years—especially as the public health needs in Southern California have grown—with outreach to provide vision care at schools, shelters, health fairs, and organizations that assist homeless and low-income families. For example, the UCLA Mobile Eye Clinic has provided free vision care for more than 300,000 underserved children and adults over the past 40 years. Their access to quality eye care is only possible because of the reach of the UCLA Mobile Eye Clinic.

We manage community outreach programs for veterans, indigent children and families, preschool vision screening, community health fairs, family clinics, and homeless projects. **Dr. Anne Coleman**, who will assume the directorship of the Institute July 1, 2022, has superbly directed much of this work; I have no doubt the Institute's involvement in the community will continue to flourish under Anne's leadership of the UCLA Department of Ophthalmology.

Perhaps the most ambitious project during your tenure as director has been the expansion of the Institute's footprint at UCLA into a vision-science campus.

Yes it is. I am particularly proud of how that expansion occurred, because it involved such enthusiastic cooperation among our faculty, staff, students, and our donors.

In the 1950s, ophthalmology at UCLA was operated by part-time doctors working out of a Quonset hut. Now we have three buildings that create an interconnected community of people and facilities that merge research, training for new ophthalmologists, patient care, and community health programs. Our vision-science campus is primed to respond to the extraordinary changes in research and care we are experiencing in the 21st century.

That type of expansion requires major commitments from donors.

It certainly does. Progress in every aspect of our work is possible because of the commitment of dedicated donors who support the Institute. Since I became director, we have raised more than \$360 million and have more than 41 endowed chairs—precisely the type of support that transforms how research and education in vision science can thrive and grow.

For example, a \$10 million gift from our own colleague, Dr. J. Bronwyn Bateman, will establish an ocular genetics center that will magnify our study of many complex genetic disorders that affect the eyes, such as understanding the patterns and risks of inheritance, diagnosis, and the development of therapies to treat genetic abnormalities. The UCLA Bronwyn Bateman Center for Ocular Genetics will be one of the first of its kind, building a new level of research on the prevention and treatment of eye disease and preventable blindness—as well as training the next generation of vision specialists.

"The possibilities for understanding the eye, and building better methods of treating preventable blindness, are greater than ever. It has been a privilege for me to lead the Institute's efforts for almost 30 years, and I'm looking forward to seeing what comes next."

BARTLY J. MONDINO, MD

How has diversity at the Institute evolved in recent decades?

Ensuring diversity at every level of UCLA has always been a major priority for the University and has been especially important for the Institute because of our deep connections to medical care in the community, and dealing with patients from many cultures.

The Institute's reputation as a premier research and teaching institute is built on recruiting, retaining, and supporting outstanding faculty, residents, and staff from diverse backgrounds. Our five-year plan of programs will increase the Institute's engagement in equity, diversity, and inclusion by ensuring a welcoming climate and an increasingly diverse corps of residents and faculty; modifying existing mentorship programs to better tailor the needs of residents and junior faculty; and improving the existing process to provide everyone in the Institute with improved opportunities for growth. Those are major steps that are crucial for the future of the Institute.

As you step down from leadership of the Institute, what strikes you most about your time as director?

When I look back over the last three decades, I am amazed by how far we have progressed. Every aspect of our work has been refined and redefined: we are constantly improving our patient care; new methods of exploration are creating extraordinary advances in research to increase understanding of the challenges of the eye. We are building broader outreach programs to bring vision care to the underserved. And we continue to hone our training for future generations of ophthalmologists.

All of this has occurred while our delivery of vision care has grown dramatically: now we receive nearly 200,000 patient visits each year; on a "routine" day we see almost 1,000 patients, and perform more than 80 surgical procedures.

As I look beyond my directorship, I think the issue that stands out more than any other about the study of the eye is the more we learn, the more new questions emerge. The possibilities for understanding the eye, and building better methods of treating preventable blindness, are greater than ever. It has been a privilege for me to lead the Institute's efforts for almost 30 years, and I'm looking forward to seeing what comes next.



Dr. Anne Coleman Incoming Chair and Director

e are proud to announce the appointment of Anne L. Coleman, MD, PhD, as chair and executive medical director of the UCLA Department of Ophthalmology, director of the UCLA Stein Eye Institute, and affiliation chair of the Doheny Eye Institute, effective July 1, 2022.

Dr. Coleman is the Fran and Ray Stark Foundation Chair in Ophthalmology as well as professor of epidemiology in the UCLA Jonathan and Karin Fielding School of Public Health. She is vice-chair of academic affairs for the UCLA Department of Ophthalmology.

Dr. Coleman received her medical degree from the Medical College of Virginia, completed her residency training at the University of Illinois in Chicago, and finished her fellowship training in glaucoma at the Wilmer Eye Institute, Johns Hopkins University in Baltimore, Maryland. She earned a PhD in epidemiology from UCLA and is a graduate of the Anderson School of Management Executive Program in Management.

Dr. Coleman is an accomplished researcher, focused on the diagnosis, treatment, risk factors, gene-environment interactions, and societal impact of glaucoma, cataracts, myopia, and age-related macular degeneration. Among her many accomplishments, Dr. Coleman pioneered the use of the Ahmed glaucoma valve—the world's leading glaucoma drainage device. She has more than 240 peer-reviewed publications and has received over 20 million dollars in federal/private funding over the course of her career.

Dr. Coleman has a passion for patient care, particularly for those who traditionally are underserved by mainstream medical systems. As director of the Stein Eye Institute Center for Community Outreach and Policy, Dr. Coleman has overseen outreach efforts to screen and treat over 180,000 underserved residents of Southern California. She has also served as vice chair for Academic Affairs and been involved with the recruitment of over 40 faculty members to the UCLA Department of Ophthalmology and the UCLA Stein Eye Institute and Doheny Eye Institute.

Dr. Coleman is also a national leader in ophthalmology, having served as president of the American Academy of Ophthalmology (AAO), chair of the National Eye Institute's



National Eye Health Educational Program, president of Women in Ophthalmology, and member of the FDA Ophthalmic Devices Panel among other positions. Currently, she is a member of the Scientific Advisory Panel for Research to Prevent Blindness, president of the Council for the American Ophthalmological Society, and is associate editor of the American Journal of Ophthalmology.

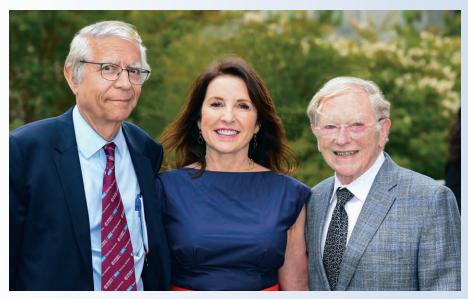
For her accomplishments, Dr. Coleman has received numerous awards, including the AAO Life Achievement Award and Secretariat Award and being elected to the National Academy of Medicine.

Please join us in welcoming Dr. Coleman to her new role.

A Time to Celebrate!

Faculty, staff, colleagues, and friends came together on Wednesday, June 15, 2022, to honor **Bartly J. Mondino, MD**, for his 28 years of illustrious service as chair of the UCLA Department of Ophthalmology and director of the Stein Eye Institute.

The event also served as a welcome to **Anne L. Coleman, MD, PhD**, as she assumes the leadership role of chair of the UCLA Department of Ophthalmology, director of the Stein Eye Institute, and affiliation director of the Doheny Eye Institute.



Three exemplary leaders of the Stein Eye Institute and UCLA Department of Ophthalmology: Outgoing Chair and Director Dr. Bartly Mondino (1994–22) and Founding Chair and Director Dr. Bradley Straatsma (1964–94) welcome Incoming Chair and Director Dr. Anne L. Coleman.



(L to r) Drs. Robert Goldberg, Bartly Mondino, Anne Coleman, Anthony Arnold, and Alfredo Sadun revel in the company of friends and colleagues.



(L to r) Drs. Joseph Caprioli, Michael Gorin, Kevin Miller, and Joseph Demer join in the celebration honoring Dr. Mondino for his outstanding leadership.



Dr. Anne Coleman (center) joins Marissa Goldberg, Doheny Eye Institute chief executive officer, and Dr. Alfredo Sadun, vice chair, Doheny Eye Centers UCLA.



The event included words of warmth and gift presentations to Dr. Mondino from faculty members. Dr. Gabriel Travis (podium) reflects on how Dr. Mondino has expertly steered the Stein Eye Institute for three decades.



GRAND OPENING

Doheny Eye Institute Vision-Science Campus in Pasadena

The Doheny Eye Institute, a top-ranked nonprofit organization proudly affiliated with the UCLA Stein Eye Institute, celebrated the grand opening of its headquarters in Pasadena on June 23, 2022.

he evening's festivities were set on Doheny's new seven-acre campus at 150 North Orange Grove Boulevard. The 115,895-square-foot facility enhances Doheny's capabilities for fundamental discoveries that fuel ideas for clinical trials, new treatments, and cures. Its laboratories are equipped to accelerate research and discovery in key areas, including artificial intelligence, regenerative medicine, gene-based therapies, and imaging diagnostics. Educational programs, including seminars, conferences, symposia, and lectures that enable remote collaborations to meet current demands and evolving opportunities to advance vision research and teaching, are now housed in a state-of-the-art conference center.

The iconic architect group William L. Pereira & Associates—creators of the original Los Angeles County Museum of Art (LACMA) campus and the Transamerica Pyramid in San Francisco—designed the LEED Silver-contemporary property. Originally built in 1981 as home to the Avery Dennison Corporation, the facility is now a 21st century, technologically advanced vision-research center and headquarters. The building houses the Doheny Eye Institute's vision research center, the Doheny Image Reading Center, administrative offices, and it will soon house Doheny Eye Centers UCLA clinical space, with an ambulatory surgery center anticipated soon thereafter. The building is within walking distance to Old Pasadena, award-winning restaurants, the Norton Simon Museum, the Pasadena Museum of History, and shopping in the heart of downtown Pasadena.

Doheny's Chief Executive Officer, Marissa Goldberg, says, "In a world where the stakes of our work are ever increasing, we are committed to deliver on our promise to further the conservation, improvement, and restoration of human eyesight. In the U.S. alone, by age 65 one in three people will have some vision-impairing eye condition. Our new home in Pasadena will allow us to bring everyone together under one roof to facilitate interactions between



researchers and physicians—promoting the collaborations necessary for translational studies. This bench-to-bedside approach is vital to improve the quality of lives in our immediate community and around the world."

In addition to the new Doheny Eye Institute vision-science campus, Doheny physicians—all of whom are UCLA Department of Ophthalmology faculty—see patients at convenient Doheny Eye Center UCLA neighborhood locations in Arcadia, Orange County, and Pasadena.

About the Doheny Eye Institute

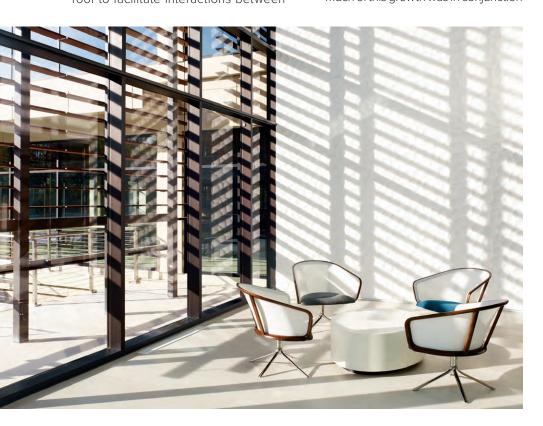
Since its inception more than 75 years ago, the Doheny Eye Institute has become an international resource for vision science. With the foresight of **Stephen J. Ryan, MD**, Doheny president from 1987 until his death in 2013, the Doheny Eye Institute has grown to promote all three elements of its academic mission: basic and clinical research, ophthalmic education, and clinical care.

Much of this growth was in conjunction

with USC as Doheny was affiliated with USC for many years and built a number of buildings at the site before it became the sprawling campus it is today. In 2013, Doheny and the UCLA Stein Eye Institute began a new 99 year affiliation—an organizational structure like no other in academic ophthalmology, which seeks to integrate UCLA's Department of Ophthalmology with the Doheny Eye Institute. In 2014, access to patient care was broadened from the westside to the eastside and south to Orange County with Doheny Eye Center UCLA locations opening in Arcadia, Orange County, and Pasadena.

The affiliation was organized and cultivated by Bartly J. Mondino, MD, chair of the UCLA Department of Ophthalmology, Ms. Goldberg, executive director of Doheny at the time, and Anne L. Coleman, MD, PhD, vice chair of Academic Affairs for the Department of Ophthalmology. Doheny faculty who joined the new enterprise with UCLA have been actively engaged by Dr. Mondino, Dr. Coleman, and Alfredo A. Sadun, MD, PhD, vice chair, Doheny Eye Centers UCLA, to help implement the many aspects of the affiliation. SriniVas R. Sadda. MD. served as the second president of the Doheny Eye Institute for five years (2016–2021) following the affiliation.

The UCLA Department of Ophthalmology is the only department anywhere with two eye institutes: the Stein Eye Institute in Westwood and the Doheny Eye Institute in Pasadena, or "Eastwood" as it is fondly referred. Ronald E. Smith, MD, previous chair of the USC Department of Ophthalmology, called the partnership the "Merger of the Millennium," in recognition of the two top tier eye institutes in the country joining to form a powerhouse of talent and expertise affiliated with one department of ophthalmology.



Designed by celebrated architect group William L. Pereira & Associates, the Doheny Eye Institute vision-science campus is both functional and beautiful.

Dr. J. Bronwyn Bateman Gives \$10 Million Gift to Establish a Center for Ocular Genetics

J. Bronwyn Bateman, MD, former professor of ophthalmology and pediatrics at the David Geffen School of Medicine at UCLA, has made a \$10 million contribution to establish the UCLA J.

Bronwyn Bateman Center for Ocular Genetics at the Stein Eye Institute. The gift, which will advance ocular genetics research and care, includes funding for center start-up costs and an endowment to support an endowed chair, future research projects, and greatest needs of the center, as determined by the center director.

"As a long-standing partner of Stein Eye, Bronwyn has helped advance many of our vision programs," says **Bartly J. Mondino, MD,** director of the Stein Eye Institute and chair of the Department of Ophthalmology. "As one of the first major centers of its kind in the United States, the UCLA J. Bronwyn Bateman Center for Ocular Genetics will help position UCLA at the forefront of ocular genetics research and accelerate interdisciplinary science, innovative medicine, and

new technologies to benefit patients worldwide."

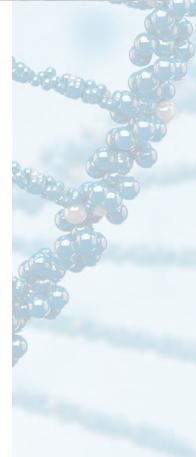
Many genetic disorders affect the eyes and can be complex. Ocular genetics, a priority area for the Stein Eye Institute and for the David Geffen School of Medicine, addresses the genetic contribution to ophthalmic disease and includes studies to understand the patterns and risks of inheritance, accurate diagnosis and prognosis, and the development of therapies to treat genetic abnormalities.

"Through collaborations across the UCLA campus, the new center will leverage the study of ocular genetics and precision medicine to drive breakthroughs," says Dr. Bateman. "It will complement the UCLA Stein Eye Institute's overall mission to preserve and restore vision through the prevention and treatment of eye disease, eradicate preventable blindness, and train the next generation of exceptional vision specialists. The funding will further the work of key UCLA faculty researching ocular genetics and provide for the recruitment of a center director."

Dr. Bateman and Stein Eye faculty colleagues, Drs. Joseph L. Demer and Michael B. Gorin, as well as Drs. Wayne Grody (Departments of Pathology & Laboratory Medicine, Pediatrics, and Human Genetics) and Derek Wong (Department of Pediatrics), advanced steps in this direction in 2021 with introduction of a medical genetics track in the Stein Eye Institute's Specialty Training and Advanced Research (EyeSTAR) program. This new track offers ophthalmology residency training in tandem with training by the UCLA Intercampus Medical Genetics Training Program, leading to Clinical Genetics and Genomics certification by the American Board of Medical Genetics and Genomics.



Dr. J. Bronwyn Bateman conducted her internal medicine internship at UCLA. A breaker of barriers, she joins her (all male) colleagues for a class photo in 1975.



Awards and Honors

AAO 2021 Award Recipients

Faculty and alumni from the UCLA Department of Ophthalmology were honored for their contributions to the profession at the November 12–15, 2021, American Academy of Ophthalmology annual meeting in New Orleans, Louisiana.

Laureate Award

Michael T. Trese, MD, Resident alumnus 1977–80, received the 2021 Laureate Award, the Academy's highest honor.

Senior Achievement Award

Kam Lung Kelvin Chong, MD, International Fellow 2008–10

Achievement Award

Elena Bitrian, MD, International Fellow 2008–11

Allen Chiang, MD, Resident 2006–09 Helen L. Kornmann, MD, PhD, Resident 2007–13

Erin B. Lessner, MD, Fellow 2014–16 Alpa S. Patel, MD, Fellow 2000–01 Lucy Q. Shen, MD, Resident 2005–08, Fellow 2008–09

Secretariat Award

Gary N. Holland, MD, Faculty Catherine J. Hwang, MD, Volunteer Faculty

ARVO 2022 Award Recipients

Faculty and alumni from the UCLA Department of Ophthalmology were honored for their contributions to the profession at the Association for Research in Vision and Ophthalmology (ARVO) annual meeting May 1–4, 2022, in Denver, Colorado.

ARVO Gold Fellows

Amani Fawzi, MD, International Fellow 1998–2000, Resident 2001–04 Lynn K. Gordon, MD, PhD, Faculty Scott Whitcup, MD, Volunteer Faculty

ARVO Silver Fellows

Ava K. Bittner, OD, PhD, Faculty Bartly J. Mondino, MD, Faculty

Faculty Honors

Anthony J. Aldave, MD, Walton Li Chair in Cornea and Uveitis, gave the Hustead Memorial Lecture at the 35th annual Ophthalmic Anesthesia Society Scientific Conference in Chicago, Illinois, on September 11, 2021.

Joseph Caprioli, MD, David May II Chair in Ophthalmology, presented the Shaffer-Hetherington-Hoskins Lecture "Phenotypes of Primary Open Angle Glaucoma" at the 26th Annual Glaucoma Symposium on February 12, 2022, in San Francisco, California.

Joseph L. Demer, MD, PhD, Arthur L. Rosenbaum, MD, Chair in Pediatric Ophthalmology, presented the keynote lecture for New Frontiers in Strabismus: 17th Annual CHOP Update on Pediatric Ophthalmology and Strabismus Conference on November 6, 2021, at the Children's Hospital of Philadelphia, in Pennsylvania.

Dr. Demer was elected and is now serving as ARVO Trustee for Eye Movements, Strabismus, Amblyopia, and Neuro-Ophthalmology, 2021–26.

Dr. Demer also gave the Schepens/ Mass Eye and Ear Distinguished Lecture, "Nexus of Strabismus, Myopia, and Glaucoma," on April 14, 2022 (virtual), and he presented the John D. Baker, MD, Lecture in Pediatric Ophthalmology, "Insights From Imaging Into Congenital and Acquired Strabismus," on April 29, 2022, at Wayne State University in Detroit, Michigan.

Sophie X. Deng, MD, PhD, Joan and Jerome Snyder Chair in Cornea Diseases, presented the keynote lecture, "Future Therapies for Corneal Diseases," on September 13, 2021, at the Chicago Ophthalmologic Society meeting in Chicago, Illinois.

Dr. Deng also presented the Roger F. Meyer Lecture, "Development of Limbal Stem Cell Therapy," on January 22, 2022, at the Mid-Winter Cornea Symposium at the Kellogg Eye Center, University of Michigan in Ann Arbor, Michigan.

On June 2, 2022, Dr. Deng gave the Ronald G. Michels Lecture, "Future Therapies for Corneal Diseases," at the Wilmer Eye Institute, Johns Hopkins University, in Baltimore, Maryland.

Dr. Deng also presented the keynote lecture, "Regeneration of the Cornea," June 10, 2022, at the Canadian Regenerative Medicine Society meeting in Halifax, Canada.

Simon Fung, MD, assistant professor of Ophthalmology, was a group recipient of the 2021 American Academy of Ophthalmology Special Recognition Award. The prize was presented to the AAO Young Ophthalmologist Committee for outstanding service that improves the quality of eye care.

JoAnn A. Giaconi, MD, health sciences clinical professor of ophthalmology, was elected to the executive board of the American Glaucoma Society as secretary for a two-year term beginning March 2022.

Robert Alan Goldberg, MD, Bert O. Levy Endowed Chair in Orbital and Ophthalmic Plastic Surgery, Justin Karlin, MD, MS, health sciences assistant clinical professor, and Shoaib Ugradar, MD, health sciences clinical instructor, were recipients of the American Society of Ophthalmic Plastic and Reconstructive Surgery research award on November 12, 2021, for their contributions to the scientific paper "Photochemical Collagen Cross-Linking Reverses Elastase-Induced Mechanical Degradation of Upper Eyelid Tarsus."

Lynn K. Gordon, MD, PhD, professor of ophthalmology emeritus, presented the keynote lecture, "Neuro-Ophthalmic Complications of Immune Checkpoint Inhibitor Therapy for Cancer: Lessons Learned Through Case Reports and Big Data," February 28, 2022, at the annual scientific congress of the Royal Australian and New Zealand College of Ophthalmologists in Brisbane, Queensland (virtual).

Gary N. Holland, MD, Jack H. Skirball Chair in Ocular Inflammatory Diseases, received unanimous approval by the Council on Academic Personnel to receive the title of "Distinguished Professor of Ophthalmology," retroactive to July 1, 2021.

Michael S. Ip, MD, Gavin S. Herbert Endowed Chair for Macular Degeneration, presented the J. Donald Gass Lecture, "CRVO: Top Lessons Learned from SCORE2 Study," on March 17, 2022, at the Snowmass Retina and Eye Conference in Snowmass, Colorado.

Kevin M. Miller, MD, Kolokotrones Chair in Ophthalmology, gave the keynote lecture "Artificial Lens Implantation" at the All Gujarat Ophthalmological Conference on October 10, 2021, in Mehsana, Gujarat, India.

Bartly J. Mondino, MD, Bradley R. Straatsma, MD, Endowed Chair in Ophthalmology, director of the Stein Eye Institute, and chair of the UCLA Department of Ophthalmology, was formally recognized by The Karl Kirchgessner Foundation on December 20, 2021, for his contributions to the Foundation's charitable activities over the past quarter of a century.

Stacy L. Pineles, MD, Jerome and Joan Snyder Chair in Ophthalmology, presented the keynote address at the annual Kaye Symposium on September 17, 2021, in Saskatoon, Saskatchewan.

Dr. Pineles was also named chair-elect of the Pediatric Eye Disease Investigator Group, a National Eye Institute-funded research network.

SriniVas R. Sadda, MD, professor of ophthalmology, presented the Walter Wright Lecture, "Multimodal Imaging, Today and the Future," at the University of Toronto's Walter Wright Symposium on December 3, 2021, in Toronto, Canada.

David Sarraf, MD, health sciences clinical professor of ophthalmology, presented the Edward W.D. Norton Lecture, "Non-Neovascular AMD with Fluid: Mechanisms of Fluid Accumulation in Dry AMD," on March 18, 2022, at the Snowmass Retina and Eye Conference in Snowmass, Colorado.

Gabriel H. Travis, MD, Charles Kenneth Feldman Chair in Ophthalmology, received the 2021 Research to Prevent Blindness (RPB) Stein Innovation Award.

Edmund Tsui, MD, assistant professor of ophthalmology, was selected as an Emerging Vision Scientist (EVS) by the National Alliance for Eye and Vision Research.



Emile Vieta, MD, Stein Eye Institute second-year resident and inaugural EyeSTAR genetics trainee, received the first Next Generation Fellowship Award for Ophthalmic Genetics from the American College of Medical Genetics (ACMG) Foundation for Genetic and Genomic Medicine.

Education

Faculty Appointments



Deborah Ferrington, PhD Stephen J. Ryan-Arnold and Mabel Beckman Foundation Endowed Presidential Chair; Professor of Ophthalmology; Chief Scientific Officer, Doheny Eye Institute

Reza Ghaffari, MD Health Sciences Clinical Instructor

Kirk Hou, MD, PhD Assistant Professor

Federico G. Velez, MD Leonard Apt Endowed Chair in Pediatric Ophthalmology; Health Sciences Clinical Professor

Victoria H. Yom, MD Health Sciences Assistant Clinical Professor

Clinical and Research Seminar

The UCLA Department of Ophthal-mology held its prestigious clinical and research seminar June 10–11, 2022, at the UCLA Stein Eye Institute. The event was highlighted by the following keynote lectures:

52nd Jules Stein Lecturer

Michael F. Chiang, MD
Director, National Eye Institute
National Institutes of Health

52nd Doheny Memorial Lecturer

J. Timothy Stout, MD, PhD
Director, Cullen Eye Institute
Chair, Department of Ophthalmology
Baylor College of Medicine

19th Bradley R. Straatsma Lecturer Joan O'Brien, MD

Chair, Department of Ophthalmology University of Pennsylvania Director, Scheie Eye Institute

19th Thomas H. Pettit Lecturer

Bonnie An Henderson, MD Clinical Professor of Ophthalmology Tufts University School of Medicine Ophthalmic Consultants of Boston

Courses

The Cataract Surgery Essentials Course, sponsored by Alcon, was held October 9, 2021, at the JW Marriot Resort in Anaheim, California. The course director was Dr. Kevin Miller.

The Annual Comprehensive Ophthalmology Review Course was presented February 10–13, 2022, at the Stein Eye Institute vision-science campus in Westwood. The course directors were Drs. John Irvine and Mitra Nejad.

The Pacific Retina Club, presented by the International Retinal Imaging Society, held its 8th annual conference April 1–2, 2022, at the UCLA Meyer & Renee Luskin Conference Center. Dr. Jay S. Duker presented the keynote Alexander R. Irvine Lecture. Drs. David Sarraf and SriniVas R. Sadda were the program directors, along with Dr. H. Richard McDonald.

The Advanced Cataract Surgery Course, presented in conjunction with Johnson & Johnson, was held April 9, 2021, at the Johnson & Johnson Institute in Irvine, California. The course director was **Dr. Kevin Miller**.

The International Retinal Imaging Society (IntRIS) presented a virtual symposium on May 6–7, 2022. Course directors were Drs. K. Bailey Freund, SriniVas Sadda, and David Sarraf.

Resident and Fellow Graduation and Award Ceremony

Residents, fellows, and faculty were honored for excellence at the UCLA Department of Ophthalmology graduation and award ceremony on June 3, 2022, at the UCLA Faculty Club.

Resident Research Award Sarah Cheng, MD, PhD

Clinical Fellow Research Award Kelsey Roelofs, MD

Research Fellow Research Award Vahid Mohammadzadeh, MD

Faculty Teaching Award Michael Kapamajian, MD

Fellowship Faculty Teaching Award Edmund Tsui, MD

Fellow Teaching Award Kelsey Roelofs, MD

Resident Teaching Award Ravin Sajnani, MD

Community Outreach

Providing Care to the Vulnerable and Medically Underserved



UMEC brings access to eye care for under-resourced and medically underserved populations throughout Los Angeles County.

he Center for Community Outreach and Policy under the direction of Anne L. Coleman, MD, PhD, is committed to providing compassionate and culturally aligned vision care to the vulnerable and medically under-resourced populations of Los Angeles County. This commitment is demonstrated by UCLA Mobile Eye Clinic's (UMEC) vast community outreach efforts and its success in building new partnerships with community organizations dedicated to improving access to health care and improving the quality of life experienced by all Angelenos.

Thanks to the guidance of UCLA Health and the UCLA COVID-19 Command Center, UMEC successfully resumed normal operations this past fiscal year and welcomed back undergraduate volunteers, medical students, and faculty volunteers. Continued adherence

to approved UCLA Health protocol, and a steady supply of personal protective equipment and cleaning supplies, has allowed UMEC to keep patients. volunteers, staff, and faculty safe. The COVID-19 pandemic continues to pose serious challenges to the delivery of and access to essential health services. Accordingly, UMEC has continued to find ways to increase accessibility to vision care, collaborating with leading organizations to deliver care within the community where patients feel most comfortable. UMEC made 209 trips from July 2021 to June 2022 to various schools, community centers, and health and resource fairs throughout Los Angeles County.

At the start of the fiscal year, UMEC had the opportunity to support UCLA Health's efforts to provide medical care to unaccompanied refugee minors at the Long Beach Convention Center

Emergency Intake Shelter who came to the United States without a parent. UCLA Health staff identified children with urgent needs for additional eye exams and arranged for their transport to Stein Eye Institute where UMEC doctors provided them with vision care. Ten children received comprehensive eye exams and eight of the children were given eyeglasses.

In August and September of 2021, UMEC collaborated with the Los Angeles Dodgers Foundation and attended four weekend events where 106 Los Angelenos received an eye health screening by volunteer UCLA ophthalmologists. Additional participation in wellness events hosted by organizations such as the American University for Health Sciences Foundation, the City of Maywood, and the Office of LA City Councilmember Curren D. Price, Jr., allowed UMEC to provide both eye health screenings and reading glasses to 239 medically under-resourced patients. Most notably, March 2022 marked the return of Care Harbor, a mega-clinic event in Los Angeles focused on grassroots health care solutions, serving over 26,000 individuals since its inception in 2010. At the three-day event, UMEC's diverse staff of multilingual ophthalmologists, ophthalmic technicians, volunteers, and interns provided care for 124 patients with eye health conditions, 34 of whom received a referral for specialized care.

In October 2021, UMEC began its collaboration with the David Geffen School of Medicine at UCLA (DGSOM) through the Early Authentic Clinical Experience (EACE). The EACE program engages first-year DGSOM students in an immersive, real-life clinical and community experience designed to advance the health and health care goals of patients and communities EACE sites serve. Twice a month, medical students alongside the UMEC team were able to provide vision

care to under-resourced community members, giving the students a firsthand introduction into the importance of eye care services and the prevalent needs in our local communities.

Recognizing the surge in people experiencing housing insecurities and the ongoing impact of the current COVID-19 pandemic on access to medical resources, UMEC increased its efforts this past year to collaborate with organizations focused on aiding populations facing housing challenges. Along with several already existing agencies and shelters that provide services for individuals who are experiencing housing insecurity, UMEC formed new collaborations with agencies including People Assisting the Homeless (PATH) and Housing MV. UMEC also continued its participation in monthly night clinics in conjunction with the Mobile Clinic Project and the David Geffen School of Medicine medical students. Through all of these collaborations, UMEC provided 307 eye exams and 255 eyeglasses to those individuals who reported experiencing housing insecurities.

In the spirit of collaboration, UMEC also resumed its longstanding partner-ship with the Los Angeles Public Libraries in the spring of 2022 after they opened their doors, which had been closed because of the COVID-19 pandemic. UMEC visited 11 libraries and provided 86 eye exams to the patrons of the public libraries in May and June of 2022.

Recognizing the surge in people experiencing housing insecurities and the ongoing impact of the current COVID-19 pandemic on access to medical resources, UMEC increased its efforts this past year to collaborate with organizations focused on aiding populations facing housing challenges.

Equity, Diversity, and Inclusion

Expanding on Justice, Equity, Diversity, and Inclusion

The Stein Eye Institute is strengthening its core values of Justice, Equity, Diversity, and Inclusion, and the EyeJEDI Committee was formed to further support a diverse and inclusive UCLA Department of Ophthalmology, to provide every member of the Department with an equitable opportunity for success, and ensure all patients have access to high quality health care.

"The UCLA Stein Eye Institute's reputation as a premier research and teaching institute is built on recruiting, retaining, and supporting outstanding faculty, residents, and staff from diverse backgrounds," says Bartly J. Mondino, MD, director of the Stein Eye Institute and chair of the Department of Ophthalmology. "Our goal is to build even stronger commitments to those ideals."

The current drive for new EDI initiatives has evolved after more than a half-century of involvement in diversity as a foundation of health care as a human right. Building on that philosophy is a thriving university-wide program to strengthen the core values of justice, equity, diversity, and inclusion as inseparable goals in health care, research, education, recruitment, and community engagement.

To accomplish those objectives, units across UCLA have been creating a host of new EDI initiatives. At the Stein Eye Institute, these projects are developed by EyeJEDI, a committee of faculty, residents, and staff, chaired by Sophie X. Deng, MD, PhD, Joan and Jerome Snyder Chair in Ophthalmic Diseases.

Five years of new milestones

The early results of the EyeJEDI Committee's work have produced a five-year plan of programs that will increase the Institute's engagement in its EDI commitment. Three priorities are:

- Creating a more inclusive climate and an increasingly diverse corps of residents and faculty;
- Modifying existing mentorship programs to better tailor the needs of trainees, junior faculty, and underrepresented minorities; and
- Improving the existing process to provide everyone in the Institute with equitable opportunity for growth.

"The idea is to make inclusion and equity integral to everything we do," says Dr. Deng. "Our plans are aggressive, and we are looking at the broadest questions of how EDI can be more integral to every level of the Institute's work."

Emmanuel Williams investigates steroid-induced glaucoma at Stein Eye. His research poster on this topic won first place in the UCLA UC-HBCU Neuroscience Track 2021 Summer Program.



Alumni News

UCLA Ophthalmology Alumni Association

The UCLA Ophthalmology Alumni Association is an officially recognized UCLA Support Group, established in 1974 to promote the social and professional relations of its members and alumni, and to advance the academic interests of the UCLA Department of Ophthalmology.

UCLA Department of Ophthalmology graduates, residents, fellows, faculty, and volunteer clinical faculty are members of the UCLA Ophthalmology Alumni Association. Annual membership dues are nominal and partially underwrite the Resident Research Grant Awards, the Stein Eye Institute Excellence in Research Graduation Awards for Residents and Fellows, and annual alumni receptions at the American Academy of Ophthalmology (AAO) and Association for Research in Vision and Ophthalmology (ARVO).

Dr. J. Bronwyn Bateman, the Association's president (residency class of '78, fellowship class of '79) notes, "The Association's annual gatherings at AAO, ARVO, and most recently, at the UCLA Department of Ophthalmology Clinical and Research Seminar, allow us to reconnect with friends and colleagues from across the country and around the world. We were thrilled to gather in person with colleagues and faculty at our alumni events this past year. We look forward to celebrating our camaraderie and loyalty to UCLA again at upcoming annual AAO and ARVO receptions, and welcoming our newest alumni."

To support our mission, please pay UCLA Ophthalmology Alumni Association dues at:

giving.ucla.edu/seialumnidues. Credit card payments are accepted.

2021 Stein and Doheny Alumni Reception

Alumni from the Stein and Doheny Eye Institutes attended an in-person reception during the American Academy of Ophthalmology Annual Meeting in New Orleans, Louisiana, on November 14, 2021.



(L to r): Drs. Joseph Demer and Federico Velez join Stein Eye colleague Dr. Anne Coleman.



(L to r): Drs. Alfredo Sadun, Bartly Mondino, and Michael Ip welcome friends and alumni of the Stein and Doheny Eye Institutes.



(L to r): Dr. Bradley Straatsma, founding chair of the UCLA Department of Ophthalmology and founding director of the Stein Eye Institute, toasts the achievements of Dr. Bartly Mondino, current chair of the UCLA Department of Ophthalmology and director of the Stein Eye Institute.



(L to r): Dr. J. Bronwyn Bateman, president of the UCLA Ophthalmology Alumni Association and Stein Eye Institute alumna, meets up with alumni colleagues Drs. Francisco Rodriguez and David Lozano-Rechy.



(L to r): Dr. Stacy Pineles, residency director, gives a warm embrace to 2005–08 Stein Eye resident Dr. Yvonne Ou.



(L to r): Drs. Lynn Shi, Terry Hsieh, Abhinav Golla, and Gio Campagne spend time with a favorite faculty instructor, Dr. Uday Devgan.

Milestones

In Memoriam

Maurice B. Landers III, MD, alumnus of the Stein Eye Institute residency program (1964–67), died July 11, 2021, in Memphis, Tennessee.

Gail Oppenheimer died October 6, 2021. Gail and her husband of 23 years, Gerald H. Oppenheimer, who died in 2021, were longtime friends and supporters of the UCLA Stein Eye Institute.

Brian Ward, MD, PhD, FRCOphth, died December 23, 2021. Dr. Ward conducted a vitreoretinal diseases and surgery fellowship at the UCLA Stein Eye Institute.

Faculty Retirees 2021–22

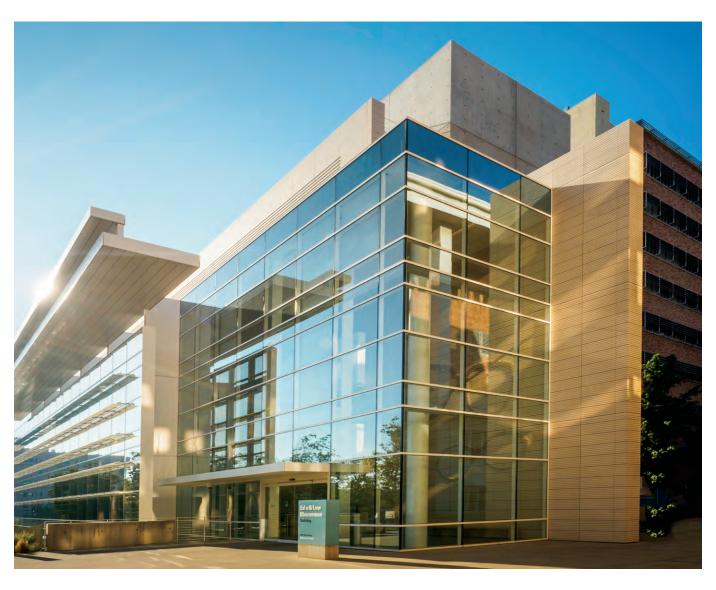
Debora B. Farber, PhD, DPhhcDistinguished Professor of Ophthalmology;
Doctor honoris causa

John A. Irvine, MD

A. Ray Irvine, Jr., MD, Chair in Clinical Ophthalmology; Health Sciences Clinical Professor of Ophthalmology; Medical Director, Doheny Eye Centers UCLA

Steven Nusinowitz, PhD

Professor of Ophthalmology; Co-Director of the Visual Physiology Laboratory; Director of the Live Imaging and Functional Evaluation (LIFE) Core





Philanthropy

THE POWER OF LEGACY GIFTS

hilanthropy is a powerful tool in the quest to better understand diseases and develop new therapies that can change lives and possibly lead to cures.

For 29 years, Bartly J. Mondino, MD, director, Stein Eye Institute; chair, UCLA Department of Ophthalmology; affiliation chair, Doheny Eye Institute; and Bradley R. Straatsma, MD, Endowed Chair in Ophthalmology, has successfully guided the UCLA vision-science campus to national and international preeminence. During his tenure, Dr. Mondino has been instrumental in securing an astounding \$362 million in philanthropic support, which has helped establish Stein Eye and the Department of Ophthalmology as a national leader. Collectively, UCLA Stein Eye and Doheny Eye Institutes and the Department of Ophthalmology are ranked in the top five nationally by U.S. News & World Report.

"Everything we do is pushing us forward toward our mission to preserve and restore vision and prevent blindness," says Dr. Mondino. "These efforts have and will continue to have a positive domino effect for the United States and the world."

Philanthropic partnerships are essential to Stein Eye's ongoing commitment to discover new treatments for eye diseases and train future generations of eye specialists. Under Dr. Mondino's leadership, there have been tremendous strides in advancing this mission. One key component has been the establishment of endowments. Endowments, which can fund a chair, fellowship, scholarship, or research, provide a reliable source of funding that continues to grow with increasing impact. Endowments ensure opportunities to pursue innovative research and provide training and education for future generations of physicians and scientists. Currently, the Department of Ophthalmology has an impressive 41 endowed chairs that enable the Department to attract and retain stellar faculty with the resources to follow untested research pathways that can lead to remarkable discoveries.



"Grants are often given once a study has been proven through years of testing," says Dr. Mondino. "If you want to remain at the forefront of scientific and medical breakthroughs, however, you have to utilize private philanthropic dollars. Endowments have allowed our Department to more rapidly translate research from bench to bedside."

Whatever form endowments take, the philanthropic need for them is ongoing. Donors who establish endowments create prestigious legacies through naming rights, whether the gift takes their name or that of a loved one or faculty member.

Gifts of any size can make a difference. "For many people, including

grateful patients, giving back is a part of their healing journey, and so we want to allow folks to do that in a way that is meaningful to them," says Dr. Mondino.

Establishing an endowment is a visionary and generous act that honors the present and empowers the future. Thanks to the influence of Dr. Mondino, the endowments and collective philanthropic investments in the UCLA Stein Eye Institute continue to expand the Institute's reputation as a world-renowned destination for innovative and ground-breaking advances in research, clinical care, and education of the next generation of physicians.

Our Gratitude

or more than 50 years, the UCLA Stein Eye Institute has been unwavering in its commitment to find innovative ways to prevent blindness and preserve vision. Equally dedicated to our mission are our donors, who have generously provided philanthropic support that has paved the way for breakthroughs in research, clinical care, physician education, and community outreach. Our shared purpose has led to milestones that have transformed the way we diagnose and treat eye diseases—and we are only just beginning. As we continue to pursue excellence, your philanthropy is a source of inspiration and encouragement. We extend our deepest gratitude.

Donations July 1, 2021–June 30, 2022

Major Gifts \$25,000 and Above:

ACMG Foundation for Genetic and Genomic Medicine

Anonymous

BlackStar CA Corp

Bradley R. Straatsma, MD, JD

BrightFocus Foundation

Bruce Ford and Anne Smith Bundy Foundation

Butch Schuman and Joy Smith

C.J. Calvin Yang and Ms. Wendy Ko

Carol and Timothy W. Hannemann

David and Sabrina Fett

Dina Goldstein

Dr. James D. Shuler and Mrs. Catherine R. Shuler

Elaine Sarkaria, EdD

Esther A. and Joseph Klingenstein Fund

Harry J. Heitzer Family Trust

Hongbin Peng

J. Bronwyn Bateman, MD

Kay K. Pick Trust

Kelvin and Hana Davis

Kirchgessner Vision Foundation

Knights Templar Eye Foundation, Inc.

Kuen Lau Research Foundation

Maralea and Joseph Binz

Moss Family Foundation

Neil H. Sherman

Pamela B. Buffett

Peter and Helen Bing

Peter Morton

Philip Lieberman

Research to Prevent Blindness, Inc.

The Ahmanson Foundation

The ARVO Foundation for

Eye Research

The Dorothy and Diane Brooks

Foundation

The Foundation Fighting Blindness

The Jack & Charlotte Lavery Fund

The Otis Booth Foundation

The Simms/Mann Family Foundation

The William & Margaret Fern Holmes

Family Foundation

Thomas E. Rothman and Jessica Harper Rothman

VHL Alliance

Individuals Recognized with a Tribute Gift

IN HONOR OF:

Allan E. Kreiger, MD Ava K. Bittner, OD, PhD Ayla Duel

Bartly J. Mondino, MD

Benjamin B. Bert, MD, FACS

Bita Shokouh, OD

Bradley R. Straatsma, MD, JD

Chester Nielubowicz

Donald R. Heikes

Dr. Tara McCannel's Team

Federico G. Velez, MD

Gary N. Holland, MD

Harlan Huebner

Jane Myman Kaplan

Jean-Pierre Hubschman, MD

Jennie Kageyama, OD

Joan Huebner

John D. Bartlett, MD

Joseph Caprioli, MD

Joseph L. Demer, MD, PhD

Kevin M. Miller, MD

Kirk K. Hou, MD

Mark Emmanuel Landig, OD

Rachel Goldman

Robert A. Goldberg, MD

Simon K. Law, MD, PharmD

Steven D. Schwartz, MD

Tara A. McCannel, MD, PhD

Victoria L. Steele, PhD

IN MEMORY OF:

Allen Lindgren

Bruce K. Kawaguchi, DDS

Donald R. Heikes

Edward C. Cazier, Jr

Gussie Green

H. David Mosier, Jr, MD

Herbert J. Grossman, MD

Hossein Nattagh

Howard D. Felsher

Jean Stein

Juli R. Hutner

Katherine L. Gray

Leland Mike Garrison, MD

Lillian Kuschiski

Nick Crovello

Pat Busch

Patrick Kelley

Phyllis R. Rothstein

Roger P. Gray

Scott Phinney

Sharon Jennings

Stanley K. Rothstein

Stein Eye Institute Endowed Chairs Supporting Department of Ophthalmology Faculty

Receiving an endowed chair is the highest accolade for faculty—a tradition dating back to Sir Isaac Newton. It demonstrates UCLA's utmost respect for their thought leadership and entails financial support to the chair holder. Endowed chairs provide extra incentive to recruit and retain top faculty and are vital to the Department of Ophthalmology's continued preeminence.

Arthur L. Rosenbaum, MD, Chair in Pediatric Ophthalmology

Established in 2007 by Mr. and Mrs. Gottlieb as an administrative chair for the Division of Pediatric Ophthalmology and Strabismus in honor of the late Dr. Arthur L. Rosenbaum. The chair was originally named the Brindell and Milton Gottlieb Chair in Pediatric Ophthalmology.

Arthur L. Rosenbaum, MD 2008—June 2010

Joseph L. Demer, MD, PhD 2015–Present

Bert O. Levy Endowed Chair in Orbital and Ophthalmic Plastic Surgery

Established in 2019 as a permanentappointment chair by Mr. Bert Levy to support the teaching and research activities of an outstanding, academic orbital and ophthalmic plastic surgeon.

Robert Alan Goldberg, MD 2019–Present

Bradley R. Straatsma, MD, Endowed Chair in Ophthalmology

Established in 1994 to honor founding director of the Stein Eye Institute, Bradley R. Straatsma, MD, JD.

Bartly J. Mondino, MD 2000–Present

Charles Kenneth Feldman Chair in Ophthalmology

Established in 1982 by various donors in memory of Charles Kenneth Feldman, an entertainment industry executive.

Robert D. Yee, MD Professor 1984–1987

Hilel Lewis, MD Scholar 1989–1993

Gabriel H. Travis, MD 2001–Present

David May II Chair in Ophthalmology

Established in 1998 as a termappointment chair by the family of Mr. David May II, a founding member of the Institute's Board of Trustees, to perpetuate, in memoriam, Mr. May's association with the Stein Eye Institute; after an additional pledge from the Wilbur May Foundation, it was converted to a permanent-appointment chair in 2009.

Gary N. Holland, MD 1999–2004

Joseph Caprioli, MD 2004–Present

Dolly Green Chair of Ophthalmology

Established in 1980 by Ms. Dorothy (Dolly) Green.

Dean Bok, PhD 1984–2013

Dolly Green Chair in Clinical Research

Established in 2021 to support an endowed chair in clinical research.

Dolly Green Chair in Vision Science

Established in 2021 to support an endowed chair in vision science.

Ernest G. Herman Chair in Ophthalmology

Established in 2008 by Mr. Ernest G. Herman to support a vision scientist or a clinician-investigator.

Xian-Jie Yang, PhD 2012–2021

Kouros Nouri-Mahdavi, MD, MSc 2021–Present

Grace and Walter Lantz Endowed Chair in Ophthalmology

Established in 1991 as a termappointment chair by Mr. and Mrs. Lantz and, with an additional pledge, it was converted to a permanent-appointment chair in 2010.

J. Bronwyn Bateman, MD Grace and Walter Lantz Scholar 1993–1995

Sherwin J. Isenberg, MD Grace and Walter Lantz Scholar 1993–1995 Professor 1996–2004

Joseph L. Demer, MD, PhD Professor 2004–2005

Alapakkam P. Sampath, PhD 2021–Present

Harold and Pauline Price Chair in Ophthalmology

Established in 2000 by the Louis and Harold Price Foundation and, with an additional pledge, it was converted to a permanent-appointment chair in 2006.

Michael B. Gorin, MD, PhD 2006–Present

Hilel Lewis Family Chair in Ophthalmology

Established at UCLA in 2020 in collaboration with Dr. Hilel Lewis via Columbia University to support an outstanding clinician-investigator in retina.

Jack H. Skirball Chair in Ocular Inflammatory Diseases

Initiated in 2008 by The Skirball Foundation in honor of Mr. Jack H. Skirball's long-standing friendship with Dr. Jules Stein and Mr. Lew Wasserman.

Gary N. Holland, MD 2009–Present

Jerome and Joan Snyder Chair in Ophthalmology

Established in 2008 by Mr. and Mrs. Snyder to support the activities of a distinguished faculty member who directs the ophthalmology residency program, ensuring that UCLA's accredited program continues to offer rigorous and comprehensive instruction for individuals of the highest caliber.

Anthony C. Arnold, MD 2008–2017

Stacy L. Pineles, MD 2017–Present

Joan and Jerome Snyder Chair in Cornea Diseases

Established in 2013 by Mr. and Mrs. Snyder to support the activities of a distinguished faculty member in the area of corneal diseases and research.

Sophie X. Deng, MD, PhD 2019–Present

Joan and Jerome Snyder Chair in Vision Science

Established in 2018 by Mr. and Mrs. Snyder, this term chair will support the teaching and research activities of an excellent scientist and faculty member in the Vision-Science Division.

Jules Stein Chair in Ophthalmology

Established in 1982 as a memorial tribute to Dr. Jules Stein by his many friends, with the leadership of Mr. Samuel Goldwyn, Jr.

Wayne L. Hubbell, PhD 1983—Present

Karen and Frank Dabby Endowed Chair in Ophthalmology

Established in 2007 by Dr. and Mrs. Dabby as a term chair to support the activities of a distinguished faculty member in the area of orbital disease.

Robert Alan Goldberg, MD 2008–2018

Daniel B. Rootman, MD, MS 2019–Present

Karl Kirchgessner Foundation Chair in Vision Science

Established in 2001 as a termappointment chair by a colleague of Dr. Jules Stein to promote basic-science research initiatives.

Debora B. Farber, PhD, DPhhc 2001–2018

David S. Williams, PhD 2019–Present

Kolokotrones Chair in Ophthalmology

Established in 2004 by Wendy and Theo Kolokotrones to support the teaching and research of a cataract surgeon and scientist.

Kevin M. Miller, MD 2005–Present

Laraine and David Gerber Chair in Ophthalmology

Established in 1998 as a termappointment chair by Mr. and Mrs. Gerber and, with an additional pledge, converted to a permanent-appointment chair in 2009.

Joseph L. Demer, MD, PhD 2000–2004

Sherwin J. Isenberg, MD 2004–2019

Leonard Apt Endowed Chair in Pediatric Ophthalmology

Established in 2004 by Professor Emeritus of Ophthalmology and Founding Director of the Division of Pediatric Ophthalmology and Strabismus, Dr. Leonard Apt, with a gift from the trust of Frederic G. Rappaport, Dr. Apt's nephew.

Joseph L. Demer, MD, PhD 2005–2015

Federico G. Velez, MD 2021–Present

Mary Oakley Foundation Chair in Neurodegenerative Diseases

Established in 2013 by The Mary Oakley Foundation to support neurodegenerative diseases.

Anthony C. Arnold, MD 2017–Present

Olive and Anga Lundgren Endowed Chair

Established in 2020 by faculty alumna Dr. J. Bronwyn Bateman in the memory of her mother, Olive Anga Lundgren, MD, and grandmother, Anga Lundgren. This administrative chair supports the Director of Consultations overseeing inpatient and emergency care.

Oppenheimer Brothers Chair

Established in 2002 as a term chair by the Oppenheimer Brothers Foundation.

Joseph Horwitz, PhD 2003–2017

Suraj P. Bhat, PhD 2019–Present

Shuler Family Endowed Chair in Comprehensive Ophthalmology

Established in 2020 by Dr. and Mrs. James D. Shuler as an administrative chair for the Comprehensive Ophthalmology Division Chief to further research, education, and clinical care programs.

Rory Smith, MD and Family Endowed Chair

Established in 2019 by faculty alumna Dr. J. Bronwyn Bateman in honor of her late husband, Dr. Roderick "Rory" Smith.

Smotrich Family Optometric Clinician-Scientist Chair

Established in 2016 to support an optometric clinician-scientist at the UCLA Stein Eye Institute and will fund the appointee's education and research programs.

Ava K. Bittner, OD, PhD 2019–Present

The Ahmanson Chair in Ophthalmology

Established in 2006 by The Ahmanson Foundation as an administrative chair for the Retina Division Chief to further research, education, and clinical care programs.

Steven D. Schwartz, MD 2007–Present

The Fran and Ray Stark Foundation Chair in Ophthalmology

Established in 1992 as a termappointment chair by the Fran and Ray Stark Foundation, and with an additional commitment, it was converted to a permanent appointment chair in 2009.

Joseph Caprioli, MD 1997–2004

Anne L. Coleman, MD, PhD 2004–Present

The Wasserman Professor of Ophthalmology

Established in 1977 by Edie and Lew Wasserman to honor Dr. Jules Stein.

Manfred Spitznas, MD 1979–1981

Bartly J. Mondino, MD Scholar 1984–1988 Professor 1988–2000

Ben J. Glasgow, MD 2003–Present

Vernon O. Underwood Family Chair in Ophthalmology

Established in 1995 as a termappointment chair by Mrs. Adrienne Underwood Pingree in memory of her late husband, Mr. Vernon O. Underwood.

John R. Heckenlively, MD 1997–2004

Gary N. Holland, MD 2004–2009

Lynn K. Gordon, MD, PhD 2012–2020

Roxana A. Radu, MD 2021–Present

Walton Li Chair in Cornea and Uveitis

Established in 2013 by Walton W. Li, MD, as an administrative chair for the Cornea and Uveitis Division to further research and teaching activities.

Anthony J. Aldave, MD 2014–Present

Doheny Eye Institute Endowed Chairs Supporting Department of Ophthalmology Faculty

A. Ray Irvine, Jr., MD, Chair in Clinical Ophthalmology

John A. Irvine, MD 2014–Present

Charles Stewart and Hildegard Warren Endowed Research Chair

Vikas Chopra, MD 2017–Present

Flora L. Thornton Endowed Chair in Vision Research

Alfredo A. Sadun, MD, PhD 2014–Present

Gavin S. Herbert Endowed Chair for Macular Degeneration

Michael S. Ip, MD 2019–Present

Mary D. Allen Chair in Vision Research

Deming Sun, MD 2015–Present

Rupert and Gertrude I. Steiger Vision Research Chair

Brian A. Francis, MD, MS 2015–Present

Stephen J. Ryan — Arnold and Mabel Beckman Foundation Endowed Presidential Chair

SriniVas R. Sadda, MD 2015–2020

Deborah A. Ferrington, PhD 2022–Present

Stein Eye Institute Fellowship Funds and Endowments

Abe Meyer Memorial Fellowship Fund

Established in 1969 by various donors to support clinical fellows at the Institute.

Jaffer M. Kattan, MD 2021–2022

Samuel J. Spiegel, MD 2021–2022

Adelaide Stein Miller Research Fellowship

Established in 1977 by Mr. Charles Miller as a tribute to his wife, Adelaide Stein Miller, Dr. Jules Stein's sister.

Jae Y. Kim, MD 2021–2022

Aramont Fellowship Fund

Established in 2020 by the Aramont Charitable Foundation to enable a domestic fellow in the Division of Orbital and Ophthalmic Plastic Surgery to pursue advanced training under the mentorship of Dr. Robert Alan Goldberg.

Nathan Pirakitikulr, MD, PhD 2021–2022

Audrey and Jack Skirball Ocular Inflammatory Disease Fellowship

Established in 2011 by The Skirball Foundation to support the training of fellows specializing in ocular inflammatory disease.

Alexander R. Shusko, Jr., MD 2021–2022

Bert Levy Research Fellowship Fund

Established in 1995 by Mr. Bert Levy to enhance the educational opportunities of vision-science scholars and advance research in neuro-ophthalmology.

Cooperman Fellowship Fund

Established in 1988 by the Coopermans to support eye research and education, with emphasis on clinical ophthalmology.

Brian Lee, MD 2021–2022

David and Randi Fett Orbital and Ophthalmic Plastic Surgery Fellowship Endowment

Established in 2013 by Dr. David R. Fett and Ms. Randi Levine to support fellows in the Orbital and Ophthalmic Plastic Surgery Division.

Kelsey A. Roelofs, MD, FRCSC 2021–2022

David May II Fellowship Fund

Established in 1992 by the family of Mr. David May II to support advanced study and research in ophthalmology and vision science.

Greg E. Budoff, MD 2021–2022

Dr. Jack Rubin Memorial Fellowship

Established in 1987 by the family of Dr. Jack Rubin to support postdoctoral fellows.

Timothy J. Peiris, MD 2021–2022

Elsa and Louis Kelton Fellowship

Endowed by the Keltons in 1982 to support postdoctoral research and training.

Ernest R. Puckett, MD 2021–2022

Frances Howard Goldwyn Fellowship

Established in 1977 by Mr. Samuel Goldwyn, Jr., with gifts from Mrs. Goldwyn's estate and Dr. and Mrs. Jules Stein.

Alexander R. Shusko, Jr,, MD 2021–2022

Frederic G. Rappaport Endowed Fellowship in Retina/Oncology

Established in 2004 by Mrs. Jeanne A. Rappaport as a memorial to her son Frederic.

Jerome Comet Klein, MD, Fellowship and Lecture Fund

Established in 2007 by the Irving & Estelle Levy Foundation to provide fellowship and lecture support in the areas of orbital and ophthalmic plastic surgery.

Nathan Pirakitikulr, MD, PhD 2021–2022

John and Theiline McCone Fellowship

Established in 1989 by the McCones to support and enhance education programs and fellowship training in macular disease.

Alexander B. Dillon, MD, MBA 2021–2022

Nicholas A. lafe, MD 2021–2022

Jules Stein Research Fellowship

Established in 1982 by various donors to honor the memory of Charles Kenneth Feldman.

Timothy J. Peiris, MD 2021–2022

Klara Spinks Fleming Fellowship Fund

Established in 1985 by Klara Spinks Fleming to support cataract research.

Jae Y. Kim, MD 2021–2022

Leonard Apt Endowed Fellowship in Pediatric Ophthalmology

Established in 2002 by founding chief of the Pediatric Ophthalmology and Strabismus Division, Leonard Apt, MD, to support outstanding clinical fellows in the field of pediatric ophthalmology and strabismus.

Leonard Apt, MD, Pediatric Fellowship Fund

Established in 2015 by the trust of Leonard Apt, MD, founding chief of the Pediatric Ophthalmology and Strabismus Division, to support pediatric ophthalmology fellowships.

Rosalind W. Alcott Fellowship

Established in 1978 by the Rosalind W. Alcott Charitable Remainder Trust for the training of outstanding postdoctoral fellows.

Stephan Chiu, MD 2021–2022

Sanford and Erna Schulhofer Fellowship Fund

Established in 1986 by Mr. Sanford Schulhofer to support postdoctoral research and training in vision science.

Stephan Chiu, MD 2021–2022

The Harold and Pauline Price Fellowship

Established in 1987 by the Louis and Harold Price Foundation to support research and education in ophthalmology and vision care.

Thelma and William Brand Director's Fund

Established in 2004 with a trust from Mr. William F. Brand to benefit worthy students at the Stein Eye Institute.

Samuel J. Spiegel, MD 2021–2022

The Mae and Lee Sherman Fellowship Fund

Established in 1981 by the Sherman family to support postdoctoral fellows.

Nathan Pirakitikulr, MD, PhD 2021–2022

Kelsey A. Roelofs, MD, FRCSC 2021–2022

Wilbur D. May Fellowship

Established in 2013 by the May family as a tribute to Mr. Wilbur D. May, the beloved uncle of Mr. David May II.

Brian Lee, MD 2021–2022

Endowments for Research, Education, and Patient Care

Albert Sarnoff Endowed Cataract Fund

Amalia Simon Roth Endowment

Anne H. West Estate Fund

Arna Saphier Macular Degeneration Fund

Arthur Spitzer Fund

Audrey Hayden-Gradle Trust

Barbara P. Taylor Fund

Bateman Endowment

Bradley R. Straatsma Research Fund

Chesley Jack Mills Trust

Edward and Hannah Carter Fund

Elsa and Louis Kelton Scholarship

Elsie B. Ballantyne Regents Fund

Elsie B. Ballantyne UCLA Foundation Fund

Emilia B. Gillespie Jules Stein Eye Institute Fund

Emily G. Plumb Estate and Trust

Endowment for Children with Uveitis

Esther Shandler Research Fund

Gerald Oppenheimer Family Foundation Center for the Prevention of Eye Disease Endowment Fund

Harold B. and Bernice L. Belfer Fund

Harry J. Heitzer Fund

Henry I. Baylis, MD, Endowed Fund in Orbital and Ophthalmic Plastic Surgery

Herb Ritts, Jr., Memorial Vision Fund

Herman King Fund

Hintze Glaucoma Research Fund

J. Richard Armstrong and Ardis Armstrong Fund

Jerome T. Pearlman, MD, Fund

John and Theiline McCone Macular Disease Research Fund

JSEI Maintenance Fund

Katherine L. Gardner Research Fund

Levin Family Contact Lens Endowment Fund

Louis and Annette Kaufman Fund

Maggi Kelly Vision Fund

Marie and Jerry Hornstein Family Endowed Macular Degeneration Research Fund

Michael Huffington Ophthalmology Scholarship Fund

Nancy Chen Endowed Research Fund

Pat and Joe Yzurdiaga Endowed Cataract Fund

Patricia and Joseph Yzurdiaga Endowed Vision Science Research Fund

Patricia Pearl Morrison Research Fund

Paul J. Vicari Endowed Cataract Research Fund

Raymond and Ruth Stotter Vision Science Research Fund

Richard B. Shapiro Vision Fund

Sara Kolb Memorial Fund

Stella F. Joseph Fund

The Annenberg Foundation Fund

The Karl Kirchgessner Foundation Ophthalmology Endowment Fund

The Leonard Apt, MD, Pediatric EyeSTAR Residency Training Fund

The Leonard Apt, MD, Pediatric Ophthalmology Fund

The Skirball Foundation Fund

Thelma and William Brand Director's Fund for the Jules Stein Eye Institute

UCLA Center for Eye Epidemiology

Uncle Claude Fund

Virginia Burns Oppenheimer Endowment Fund

Wickham Retina Research Fund

William R. Payden Fund for Glaucoma Research

William, Richard, & Roger Meyer Fund



Eye Health Programs

Patient Care Services

Committed to advancing eye health, UCLA Department of Ophthalmology board-certified faculty provide services ranging from routine eye examinations to complex sight-saving procedures.

Designated as a tertiary referral center, doctors and hospitals throughout the United States, as well as Mexico, direct patients with the most challenging ophthalmic issues to the Stein Eye Institute.

The Stein Eye Institute and its affiliation partner, the Doheny Eye Institute, are ranked among the top in the nation for ophthalmology. Patients and referring physicians alike trust UCLA Department of Ophthalmology faculty to provide the highest level of care across every subspecialty. Premier services are available at the Stein Eye Institute vision-science campus in Westwood, as well as at the UCLA Stein Eye Centers and Doheny Eye Centers UCLA locations across Los Angeles and south to Orange County.



UCLA Department of Ophthalmology

Los Angeles and Beyond

Learn more about our LOCATIONS, PROVIDERS, and SERVICES at:

www.uclahealth.org/eye/our-locations.

UCLA Stein Eye Institute

The **Stein Eye Institute** vision-science campus in Westwood is home to state-of-the-art clinics and laboratories, as well as the Stein Eye Institute's Outpatient Surgical Center.

Direct consultation and treatment, including emerging therapies, is available through the **Ophthalmology Faculty Consultation Service**. Faculty members have extensive and advanced training in ophthalmic subspecialties and are a valuable resource for referring physicians and patients with complex eye problems. In addition, wide-ranging and subspecialty eye care in all medical and surgical areas of ophthalmology is offered through the **Comprehensive Ophthalmology Division**, which is staffed by members of the UCLA Medical Group.

The Institute's Outpatient Surgical Center, housed in the award-winning Edie & Lew Wasserman Building, is equipped with advanced tools for precision surgery and sets the standard for excellence in patient care and medical progress. Ophthalmic surgery of every kind—from cataract extraction and laser vision-correction surgeries to removal of ocular tumors—is performed. Faculty members and skilled medical specialists, including subspecialty fellows, medical residents, anesthesiologists, nurses, and technicians, ensure that each patient receives the highest quality preoperative, intraoperative, and postoperative care possible.

The Ophthalmology Inpatient Consultation Service, operating 24 hours a day through the Ronald Reagan UCLA Medical Center and UCLA Medical Center Santa Monica, provides ophthalmic consultation and treatment to pediatric and adult patients who are admitted to the medical centers for inpatient care. The consultation team consists of physician-residents at the Stein Eye Institute, with subspecialty coverage provided by UCLA Department of Ophthalmology faculty.

100 Stein Plaza, UCLA Los Angeles, CA 90095 Referral Service: (310) 825-5000 Emergency Service: (310) 825-3090 After-Hours Emergency Service: (310) 825-2111

UCLA Stein Eye Centers

The UCLA Stein Eye Centers provide excellence in clinical care combined with neighborhood convenience. At each Center, UCLA Department of Ophthalmology faculty provide subspecialty care, surgical services, and diagnostic testing.

Stein Eye Center-Calabasas

The Stein Eye Center–Calabasas provides patients in the San Fernando Valley and nearby communities with subspecialty care, including cataract and LASIK surgery, diabetic retinopathy, glaucoma, macular degeneration, and functional and cosmetic oculoplastics. Visual field testing, corneal mapping (corneal topography), intraocular lens measurement, fluorescein angiography, spectral domain optical coherence tomography, and additional diagnostic retinal imaging techniques are available.

The Stein Eye Center–Calabasas has free on-site parking and is located in the UCLA Health Building immediately adjacent to the 101 Freeway, between the Las Virgenes Road and Lost Hills Road exits.

26585 W. Agoura Rd., Suite 330 Calabasas, CA 91302 Telephone: (310) 825-5000 Fax: (310) 825-9246

Stein Eye Center-Santa Monica

The Stein Eve Center-Santa Monica offers the comprehensive and subspecialty eye care of the UCLA Stein Eye Institute in an easily accessible Westside locale. UCLA faculty provide evaluation and treatment for a range of subspecialties, including eyelid and other oculoplastic surgery, pediatric eye care, and neuro-ophthalmology. A wide range of ocular assessment is available, including visual field testing, corneal mapping (corneal topography), intraocular lens measurement, fluorescein angiography, spectral domain optical coherence tomography, and other diagnostic retinal imaging techniques.

In addition to on-site parking, the Stein Eye Center–Santa Monica has an in-house optical shop with a comprehensive selection of eyeglasses and contact lenses.

1807 Wilshire Blvd., Suite 203 Santa Monica, CA 90403 Telephone: (310) 829-0160 Fax: (310) 829-0170



Doheny Eye Centers UCLA

The Doheny Eye Centers UCLA support neighborhoods northeast of downtown Los Angeles and south to Orange County. UCLA Department of Ophthalmology faculty provide the finest clinical care, surgical services, diagnostic testing, and treatment available.

Doheny Eye Center UCLA-Arcadia

The Doheny Eye Center UCLA—Arcadia expands the Department's reach by caring for patients in the San Gabriel Valley. The renovated office includes 12 exam rooms, dedicated diagnostic equipment, and attractive patient areas. The Center provides comprehensive ophthalmology, and a broad range of subspecialty services, including complex cataracts and secondary intraocular lenses, cornea and external diseases, glaucoma, neuro-ophthalmic disorders, pediatric eye disease, as well as vitreoretinal diseases and disorders.

The Doheny Eye Center–Arcadia is easily accessible from two freeways and provides free, on-site parking.

622 W. Duarte Rd., Suite 101 Arcadia, CA 91007 Telephone: (626) 254-9010 Fax: (626) 254-9019

Doheny Eye Center UCLA-Orange County

The Doheny Eye Center UCLA—Orange County broadens the scope of the UCLA Department of Ophthalmology south to Orange County. The Center is located in the Orange Coast Memorial Medical Center, and it offers comprehensive ophthalmology and extensive subspecialty services, including complex cataracts and secondary intraocular lenses, cornea and external diseases, glaucoma, neuro-ophthalmic disorders, pediatric eye disease, as well as vitreoretinal diseases and disorders.

Situated just south of the 210 freeway, the Doheny Eye Center UCLA—Orange County includes 12 exam rooms and dedicated diagnostic equipment.

Orange Coast Memorial Medical Center 18111 Brookhurst St., Suite 6400 Fountain Valley, CA 92708 Telephone: (714) 963-1444 Fax: (714) 963-1234



UCLA Department of Ophthalmology Summary of Patient Care Statistics

	2020–2021	2021–2022
FACULTY CONSULTATION SERVICE		
Patient visits	153,602	165,963
INPATIENT CONSULTATION SERVICE		
Patient evaluations	559	1,135
CLINICAL LABORATORIES		
Procedures	96,674	111,322
SURGERY SERVICES ¹		
Number of procedures	23,036	25,288
Intravitreal Injections	14,207	15,433
UCLA MOBILE EYE CLINIC ²		
Number of patients	1,055	3,183
Ocular abnormalities	1%	67%
Number of trips	122	209
		1

¹Includes lasers

²Due to COVID-19, UCLA Mobile Eye Clinic numbers in the 2020–2021 academic year were down.

Doheny Eye Center UCLA-Pasadena

The Doheny Eye Center UCLA-Pasadena is the primary hub of the Doheny Eye Centers UCLA. Located on the second floor of the Huntington Pavilion, the Center provides expanded vision care services and clinics devoted to comprehensive ophthalmology, cornea and external diseases, glaucoma, neuro-ophthalmology, oculoplastics, ophthalmic oncology, pediatric ophthalmology and strabismus, as well as retinal and macular diseases. Each subspecialty clinic has dedicated, state-ofthe-art diagnostic laser suites, as well as in-office procedure rooms. Complex procedures are performed at the Huntington Pavilion Surgical Suites, located on the building's third floor.

The Huntington Pavilion is home to a wide variety of medical practices, which provides substantial convenience. Patients can see all their doctors and have all their medical services in one location, and physicians can easily refer patients who require specialized eye care.

Huntington Pavilion 625 S. Fair Oaks Blvd., 2nd Floor Pasadena, CA 91105 Telephone: (626) 817-4747 Fax: (626) 817-4748

UCLA Department of Ophthalmology **Affiliated Teaching Hospitals and Partners**

Affiliated Teaching Hospitals

Taught by world-class faculty and experts in their field, residents in the UCLA Department of Ophthalmology gain hands-on clinical and surgical experience caring for patients in UCLA-affiliated teaching hospitals. Together with attending physicians, UCLA residents provide vital eye care services to large and diverse patient populations.

Harbor-UCLA Medical Center

1000 W. Carson St. Torrance, CA 90502

Olive View-UCLA Medical Center

14445 Olive View Dr. Sylmar, CA 91342

Veterans Affairs Greater Los Angeles Healthcare System Sepulveda

16111 Plummer St. Sepulveda, CA 91343

Veterans Affairs Greater Los Angeles Healthcare System **West Los Angeles**

11301 Wilshire Blvd. Los Angeles, CA 90073

Affiliated Partners

The UCLA Department of Ophthalmology has established formal partnerships that advance patient care, the education of ophthalmologists, and research discovery.

Doheny Eye Institute

The Doheny Eye Institute began its historic affiliation with the UCLA Department of Ophthalmology in 2014. With that action, UCLA became the only university with two eye institutes: the Stein Eye Institute and the Doheny Eye Institute. The Doheny Eye Institute, a top-ranked nonprofit organization, opened its 115,895-square-foot headquarters in Pasadena in 2022. The vision-science campus enhances Doheny's capabilities for fundamental discoveries that fuel ideas for clinical trials, new treatments, and cures, Its laboratories are equipped to accelerate research and discovery in key areas, including artificial intelligence, regenerative medicine, gene-based therapies, and imaging diagnostics. Educational programs housed in a state-of-the-art conference center enable remote collaborations to meet current demands and evolving opportunities to advance vision research and teaching.

Doheny Eye Institute

150 N. Orange Grove Blvd. Pasadena, CA 91103

City of Hope **Comprehensive Cancer Center**

The UCLA Department of Ophthalmology established a formal partnership with City of Hope in 2021 to provide care for some of the most challenging cases involving cancer and the eye. The Department provides subspecialty treatment, education, and vision-science support, with some UCLA Department of Ophthalmology faculty on call 24/7 for City of Hope patients, and the entire Department available for backup or consultation in all ophthalmic subspecialties. The relationship provides significant benefits for patients at City of Hope by bringing in UCLA faculty to participate in some of the most complex challenges in cancer care.

City of Hope

1500 E. Duarte Rd. Duarte, CA 91010

Centers and Laboratories

Research and Treatment Centers

The Research and Treatment Centers provide subspecialty care from faculty physicians who are actively involved in related research, enabling emerging and experimental treatment options to be developed for a gamut of eye disorders. In addition to comprehensive treatment, the centers provide both patients and physicians with expert diagnostic and consultation services for diseases that are difficult to identify and treat. Ophthalmology faculty work closely with other specialists, both within the Stein Eye Institute and in other UCLA clinical departments, to create a multidisciplinary team customized for each patient's unique medical needs.

- Aesthetic Center
- Center for Community Outreach and Policy
 - UCLA Center for Eye Epidemiology
 - UCLA Mobile Eye Clinic
- Center to Prevent Childhood Blindness
- Center for Regenerative Medicine in Ophthalmology
- ► Clinical Research Center
- Contact Lens Center
- Diabetic Eye Disease and Retinal Vascular Center
- Eye Trauma and Emergency Center
- Gerald Oppenheimer Family Foundation Center for the Prevention of Eye Disease
- ► Glaucoma Center for Excellence in Care and Research
- Macular Disease Center
- Ocular Inflammatory Disease Center
- Ophthalmic Oncology Center
- Optic Neuropathy Center
- Orbital Disease Center
- UCLA Laser Refractive Center
- Vision Genetics Center
- Vision Proteomics Center
- Vision Rehabilitation Center

Diagnostic Services

Ophthalmology diagnostic services provide testing that offers precise measurements, photographs, and quantitative studies of the eye and the visual system. Diagnostic testing increases the accuracy of diagnosis and further augments the effectiveness of disease management. Our diagnostic services are available to eye care physicians in the community.

- Anterior Segment Diagnostic Laboratory
- Corneal Diagnostics
- ► Glaucoma Imaging Laboratory
- ► Medical Photography/Ultrasound
- Ocular Motility Clinical and Basic Science Laboratory
- Visual Field Laboratory
- Visual PhysiologyDiagnostic Laboratory



Research Laboratories

The Stein Eye Institute has specially equipped laboratories to support vision-science investigations. Laboratory-based research, also referred to as basic vision-science research, forms the foundation for the clinical research, education, and patient care that are the visible hallmarks of the UCLA Stein Eye Institute. Organized around the interests of the research faculty, these distinct laboratories offer unique opportunities for students, physicians, and fellows to become involved in nationally and internationally renowned scientific study.

- Advanced Robotic Eye Surgery
- Biology and Genetics of Retinal Disease
- Cornea Biology Laboratory
- Cornea Genetics Laboratory
- Developmental Neurobiology Laboratory
- Glaucoma Advanced Imaging Laboratory
- Molecular Biology of Retinal Ganglion Cells Laboratory
- Ophthalmic Biophysical Chemistry Laboratory
- Ophthalmic Pathology Laboratory
- Photoreceptor Biochemistry Laboratory
- Photoreceptor/RPE Cell Biology
- Retina Biochemistry and Clinical Disease Modeling Laboratory
- Retinal Biochemistry Laboratory
- Retinal Function and Dysfunction Laboratory
- Retinal Neurophysiology Laboratory
- Therapeutic Development in Ophthalmology Laboratory
- Vision Molecular Biology Laboratory
- Visual Physiology Laboratory

Find out more about our RESEARCH LABORATORIES at:

www.uclahealth.org/eye/research-laboratories.

Training Programs

The UCLA Department of Ophthalmology provides comprehensive training in ophthalmology and vision science to medical students and residents, as well as to clinical and research fellows. Training programs encompass the gamut of ophthalmic and vision-science education, incorporating a full range of subjects in the study of the eye. Residents and clinical fellows serve a large patient population with diverse vision problems that offer innumerable training opportunities. In addition, a wide range of research laboratories ensures a broad choice of vision-science projects for all trainees. Predoctoral and postdoctoral research fellows benefit from the wealth of new and unfolding research generated by UCLA Department of Ophthalmology vision scientists.

Medical Students

The UCLA Department of Ophthalmology extends instruction to UCLA medical students in their second, third, and fourth years of instruction through the UCLA Medical Student Program. With lectures, small group discussions, and clinical experience, all students have numerous training sessions from which to gain knowledge about the eye and eye diseases, and they are taught eye examination skills that should be known by all physicians, regardless of their specialties. Students who are interested in ophthalmology as a career have additional learning opportunities in elective courses

Medical Student Research Program in Ophthalmology

The UCLA Medical Student Research Program provides select medical students with a year-long opportunity to participate in laboratory or clinical research in the field of ophthalmology. The goal of the program is to encourage medical students to pursue careers in academic ophthalmology.

Residents

The UCLA Department of Ophthalmology Residency Program is ranked one of the top in the country and covers the full breadth of ophthalmology training from general ophthalmology to ophthalmic subspecialties. The accredited three-year residency program trains 24 residents with eight new residents beginning the program each July.

Training incorporates the resources of the UCLA Stein Eye Institute, Harbor-UCLA Medical Center, Olive View-UCLA Medical Center, and the Veterans Affairs Greater Los Angeles Healthcare System at West Los Angeles and Sepulveda. Through their clinical rotations, every resident has exposure to each medical center and gains clinical experience with a broad range of ophthalmic problems and patient populations. Certification by the American Board of Ophthalmology is a natural objective of the program.

EyeMBA: Innovation in Medical Education

Recognizing that future leaders in ophthalmology will need the financial, management, and measurement skills that are at the core of an MBA curriculum, the Stein Eye Institute created a national first for medical education with EyeMBA—a master's of business administration degree that is earned in tandem with an ophthalmology residency.

The only joint program of its kind, the Stein Eye Institute developed EyeMBA with the David Geffen School of Medicine at UCLA and the UCLA Anderson School of Management. Residents in the EyeMBA program gain skills that are broadly applicable to ophthalmologic leadership in academia, translational research, health system management, health care delivery, and the biomedical industry.

EyeSTAR: Combining Basic Science Research with Clinical Practice

For physicians interested in academic careers and professional leadership as clinician-scientists, the Stein Eye Institute offers the Ophthalmology Specialty Training and Advanced Research Program, referred to as EyeSTAR, which offers vision-science training combined with an ophthalmology residency. Appointees complete a residency program leading to certification in ophthalmology, as well as laboratory research experience leading to a doctorate, or postdoctoral training in the event that the trainee already has a doctorate. EyeSTAR trainees work under the guidance of a faculty advisory panel representing the clinical and research interests of each trainee.

In 2021, the UCLA Department of Ophthalmology introduced a new EyeSTAR track combining ophthalmology residency training with **medical genetics certification**. This opportunity provides ophthalmology residency training in tandem with training by the UCLA Intercampus Medical Genetics Training Program and leads to Clinical Genetics and Genomics Certification by the American Board of Medical Genetics and Genomics.

EyeSTAR is recognized by the National Eye Institute and the Association of University Professors of Ophthalmology as a model training program for clinician-scientists in ophthalmology.

Fellows

The UCLA Department of Ophthalmology offers well-qualified persons the opportunity to receive fellowship training in vision-science research or specific areas of clinical ophthalmology.

Vision Science Fellowship Training

Vision science fellowship training is laboratory based and offers both predoctoral and postdoctoral opportunities to trainees in specific areas of vision science that encompass a wide range of topics. Trainees work under the supervision of UCLA Department of Ophthalmology faculty members who are engaged in basic-science research and have active laboratories. The predoctoral or postdoctoral trainee and his/her faculty mentor develop the scope and nature of the training program.

An integrated program is also offered under the auspices of a National Eye Institute Vision Science Training Grant for predoctoral and postdoctoral fellows. The grant provides trainees with coordinated and organized exposure to a wide range of techniques, giving each fellow the broadest possible background in ophthalmology and the basic sciences.

Clinical Fellowship Training

Following successful completion of the residency program, clinical fellowship training combines outpatient, inpatient, and surgical experience in an ophthalmic subspecialty. The fellow assumes increasing responsibility for patient care under the supervision of faculty members responsible for the program. In addition to receiving training from faculty, the fellow instructs medical students and residents. Research is an important aspect of specialty training and a major prerequisite for assimilating future developments in ophthalmology. Fellows are expected to undertake independent investigation or to participate in ongoing research projects in a field related to their specialty.

The UCLA Department of Ophthalmology offers clinical fellowships in the following subspecialty areas:

- Cornea and External Ocular Diseases and Refractive Surgery (UCLA Stein Eye Institute)
- Cornea and External Ocular Diseases (Doheny Eye Centers UCLA)
- ▶ Glaucoma
- Medical Retina
- Neuro-Ophthalmology
- ► Ophthalmic Pathology
- Orbital and Ophthalmic Plastic Surgery
- Pediatric Ophthalmology and Strabismus
- Uveitis and Inflammatory Eve Disease
- Vitreoretinal Diseases and Surgery

International Fellowship Training

To promote and encourage research and education interaction with ophthalmology institutions throughout the world, the Stein Eye Institute offers an International Ophthalmology Fellowship and Exchange Program consisting of one-year to two-year fellowships under the supervision of specific Institute faculty. Candidates for these fellowships are nominated by prestigious institutions outside the United States and often hold academic positions within their own countries. Fellows participate in the clinical and research activities of ophthalmic subspecialties according to their training needs.

Find detailed information about our TRAINING PROGRAMS at: https://www.uclahealth.org/ eye/training-programs.



Faculty and Colleagues

UCLA Department of Ophthalmology

Academic Divisions at Stein Eye Institute (SEI) and Doheny Eye Centers UCLA (DEC)

CATARACT AND REFRACTIVE SURGERY

John D. Bartlett, MD Shawn Lin, MD Kenneth L. Lu, MD Kevin M. Miller, MD, Chief SEI Mitra Nejad, MD

Optometrists

Tony Chan, OD Lorraine Cheng, OD Carolyn Duong, OD Amanda Havens, OD Linda Hwang, OD Roxana Khorrami, OD Mark Landig, OD

COMPREHENSIVE OPHTHALMOLOGY

Gavin G. Bahadur, MD
John D. Bartlett, MD
Rachel Feit-Leichman, MD
Tania Onclinx, MD
Susan S. Ransome, MD
Meryl L. Shapiro-Tuchin, MD
Ronald J. Smith, MD
Shoaib Ugradar, MD

Optometrists

Michael Baker, OD Vivian Shibayama, OD

CORNEA AND UVEITIS

Anthony J. Aldave, MD, Chief SEI
Saba Al-Hashimi, MD
Benjamin B. Bert, MD
Sophie X. Deng, MD, PhD
Simon Fung, MD
Gary N. Holland, MD
Hugo Y. Hsu, MD, Chief DEC
John A. Irvine, MD
Batool Jafri, MD
Bartly J. Mondino, MD, Department Chair
Edmund Tsui, MD
Victoria H. Yom, MD

Find out more about our ACADEMIC DIVISIONS and FACULTY at:

www.uclahealth.org/eye/academic-divisions.

GLAUCOMA

Joseph Caprioli, MD, Chief SEI Vikas Chopra, MD Anne L. Coleman, MD, PhD Brian A. Francis, MD, Chief DEC JoAnn A. Giaconi, MD Alex A. Huang, MD, PhD Simon K. Law, MD, PharmD Kouros Nouri-Mahdavi, MD Victoria L. Tseng, MD, PhD

NEURO-OPHTHALMOLOGY

Anthony C. Arnold, MD, Chief SEI Laura Bonelli, MD Lynn K. Gordon, MD, PhD Stacy L. Pineles, MD Peter A. Quiros, MD Alfredo A. Sadun, MD, PhD, Chief DEC

OPHTHALMIC ONCOLOGY

Tara A. McCannel, MD, PhD

OPHTHALMIC PATHOLOGY

Ben J. Glasgow, MD, Chief SEI

ORBITAL AND OPHTHALMIC PLASTIC SURGERY

Cynthia A. Boxrud, MD Robert Alan Goldberg, MD, Chief SEI Justin Karlin, MD, MS Daniel B. Rootman, MD, MS

PEDIATRIC OPHTHALMOLOGY AND STRABISMUS

Joseph L. Demer, MD, PhD, Chief SEI Simon Fung, MD Monica R. Khitri, MD Stacy L. Pineles, MD Soh Youn Suh, MD Laura Syniuta, MD Federico G. Velez, MD

Laura Robbins, OD

RETINA

Gad Heilweil, MD
Hamid Hosseini, MD
Jean-Pierre Hubschman, MD
Michael S. Ip, MD, Chief DEC
Allan E. Kreiger, MD
Colin A. McCannel, MD
Tara A. McCannel, MD, PhD
Pradeep S. Prasad, MD, MBA
Steven D. Schwartz, MD, Chief SEI
Irena Tsui, MD

Optometrists

Melissa W. Chun, OD Jennie Kageyama, OD

RETINAL DISEASES AND OPHTHALMIC GENETICS

Michael B. Gorin, MD, PhD, Chief SEI Phillip Le, MD, PhD Colin A. McCannel, MD Steven Nusinowitz, PhD SriniVas R. Sadda, MD David Sarraf, MD

VISION SCIENCE

Steven A. Barnes, PhD Suraj P. Bhat, PhD Nicholas C. Brecha, PhD Gordon L. Fain, PhD Debora B. Farber, PhD, DPhhc Kaustabh Ghosh, PhD Ben J. Glasgow, MD Wayne L. Hubbell, PhD Steven Nusinowitz, PhD Yirong Peng, PhD Natik Piri, PhD Roxana A. Radu, MD Alapakkam P. Sampath, PhD, Chief SEI Deming Sun, MD Hui Sun, PhD Gabriel H. Travis, MD

David S. Williams, PhD

Xian-Jie Yang, PhD Yuhua Zhang, PhD

Jie Zheng, PhD



Bartly J. Mondino, MD

Bradley R. Straatsma, MD, Endowed Chair in Ophthalmology

Distinguished Professor of Ophthalmology

Chair, UCLA Department of Ophthalmology

Director, Stein Eye Institute

Affiliation Chair, Doheny Eye Institute

Board of Directors, Stein Eye Institute

Board of Directors (Observer), Doheny Eye Institute

Board of Directors, National Alliance for Eye and Vision Research/ Alliance for Eye and Vision Research

Member, UCLA Brain Research Institute

Member, Medical Advisory Board, Braille Institute

Dr. Mondino was named director of the Stein Eye Institute and chair of the UCLA Department of Ophthalmology in 1994, the culmination of a career in research and clinical care in cornea and infectious eye diseases.

As director and chair, Dr. Mondino has expanded the Stein Eye Institute's pillar programs; increased faculty support through the creation of endowed chairs; forged a historic affiliation with the Doheny Eye Institute; and broadened access to eye care with the opening of Stein and Doheny Eye Center UCLA locations across the Southland.

Through development and completion of the Edie & Lew Wasserman Building in 2014, redesign of Stein Plaza in 2015, as well as seismic upgrade and renovation of the Jules Stein Building in 2017, Dr. Mondino transformed the Stein Eye Institute into a vision-science campus at UCLA, creating a focal point for patient care, vision research, education, and community outreach at home and abroad.

FACULTY UCLA STEIN EYE INSTITUTE



Anthony J. Aldave, MD

Walton Li Chair in Cornea and Uveitis Professor of Ophthalmology Chief of the Cornea and Uveitis Division

Discovering the Genetic Basis of the Corneal Dystrophies

Dr. Aldave's clinical specialties are cornea and external disease. His laboratory research focuses on the molecular genetics of the corneal dystrophies, a group of inherited disorders that affect corneal clarity and constitute one of the primary indications for corneal transplantation.

Dr. Aldave provides clinical care at the Stein Eye Institute in Westwood.



Saba Al-Hashimi, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Cornea, External Disease, and Refractive Surgery Specialist

Dr. Al-Hashimi is a clinician with a research interest in keratoconus and corneal crosslinking. His research focus involves halting the progression of corneal disease by using light and chemicals to strengthen the cornea.

Dr. Al-Hashimi provides clinical care at the Stein Eye Institute in Westwood. He also participates in training fellows and residents at both Harbor-UCLA Medical Center and the West Los Angeles Veterans Affairs Medical Center.



Anthony C. Arnold, MD

Mary Oakley Foundation Chair in Neurodegenerative Diseases

Professor of Clinical Ophthalmology

Chief of the Neuro-Ophthalmology

Director of the UCLA Optic Neuropathy Center

Vice Chair, Education

Ischemic and Inflammatory Diseases of the Optic Nerve

Dr. Arnold's clinical expertise is in neuro-ophthalmology, with a special emphasis on ischemic and inflammatory optic neuropathies and manifestations of tumors, stroke, and inflammation of the central nervous system. His research has focused on advanced imaging techniques to identify optic nerve circulatory diseases and to investigate their causes.

Dr. Arnold provides clinical care at the Stein Eye Institute in Westwood.



Gavin G. Bahadur, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Cataract Surgery Outcomes and Glaucoma Detection

Dr. Bahadur's clinical specialties are comprehensive ophthalmology including cataract, pterygium, and glaucoma. His research activities include machinelearning algorithms for cataract surgery outcomes and glaucoma detection.

Dr. Bahadur provides clinical care at the Stein Eye Center-Santa Monica. He also performs manual small incision cataract surgery (MSICS) with Surgical Eye Expeditions International.



John D. Bartlett, MD

Health Sciences Associate Clinical Professor of Ophthalmology

Cataract and Refractive Surgery, Clinical Informatics

Dr. Bartlett's clinical interest is cataract and refractive cataract surgery, with the goal to improve the focus of the eyes, reduce dependence on glasses, and restore vision potential. He teaches Stein Eye residents, training the next generation of eye surgeons to deal with challenging cases.

Dr. Bartlett is a UCLA physician informaticist and is involved in the implementation and optimization of electronic health records (EHRs) to promote effective organization, analysis, management, and use of clinical information. He is interested in using EHRs to enhance patient care, improve population health, and decrease health care costs.

Dr. Bartlett provides clinical care at the Stein Eye Institute in Westwood.



Suraj P. Bhat, PhD

Oppenheimer Brothers Chair Professor of Ophthalmology Member of the Molecular Biology Institute

Molecular Biology of Vision

Dr. Suraj Bhat's research impacts two important areas of vision: the ocular lens in the anterior eye and the retinal pigment epithelium (RPE) in the posterior eye. His laboratory, the Vision Molecular Biology Laboratory (VMBL), investigates gene activity that generates transparency within the ocular lens and gene activity that maintains the physiological health of the RPE, which in turn sustains the neural activity in the retina that makes vision possible. VMBL is investigating single cells in an effort to delineate very early events (at the genetic and molecular level) that culminate in cataractogenesis in the ocular lens and age-related macular degeneration in the RPE.



Ava K. Bittner, OD, PhD

Smotrich Family Optometric Clinician-Scientist Chair Chief of Optometric Services Associate Professor of Ophthalmology

Low Vision Rehabilitation

Dr. Bittner's specialty is low vision rehabilitation. Her research activities include clinical trials to assess the use of novel approaches and technologies to improve access to low vision rehabilitation care and reading ability with visual assistive aids. Specifically, she is evaluating tele-rehabilitation, Bluetooth low energy beacon sensors, socially assistive robots, and visual assistive mobile apps for low vision.

Dr. Bittner provides clinical care at the Vision Rehabilitation Center, which is located in the Doris Stein Building at the Stein Eye Institute in Westwood.



Laura Bonelli, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Neuro-Ophthalmology

Dr. Bonelli completed her residency in ophthalmology, as well as fellowships in neuro-ophthalmology and oculoplastics, at the Hospital de Clínicas, University of Buenos Aires, Argentina.

Joining the UCLA Department of Ophthalmology in 2008, Dr. Bonelli specializes in comprehensive ophthalmology and neuro-ophthalmology. She sees patients at the Stein Eye Institute in Westwood and the Stein Eye Center-Santa Monica.

A committed educator, Dr. Bonelli teaches medical student courses at the David Geffen School of Medicine, regularly lectures at educational conferences, and instructs residents and neuro-ophthalmology fellows in the Department. She is the director of inpatient consultation services for the Ronald Reagan UCLA Medical Center and UCLA Medical Center, Santa Monica, where she oversaw a broad reorganization to improve services and to provide more efficient patient care. In recognition of her work with ophthalmology residents on the consultation services. Dr. Bonelli received the Stein Eye Institute Faculty Teaching Award in 2014.



Nicholas C. Brecha, PhD

Distinguished Professor of Neurobiology, Ophthalmology, and Medicine

Member of the Brain Research Institute

Member of CURE: Center for **Digestive Diseases**

Member of the California NanoSystems Institute

Functional and Structural Organization of the Mammalian Retina

Dr. Brecha is a visual system neuroscientist whose expertise includes retinal neurochemistry, transmitters, synaptic and cellular structure, and neuronal circuitry regulating visual function.

His current research studies are furthering the understanding of 1) fundamental synaptic inhibitory processes mediating early vision in the outer retina and 2) neuronal cell structure and function mediating visual processing in the inner retina.

His studies are a prerequisite for understanding normal retinal function, and the impact on the development of therapeutic approaches and diagnostic tools essential for the treatment, prevention, and restoration of vision loss due to retinal injury and disease.



Joseph Caprioli, MD

David May II Chair in Ophthalmology Distinguished Professor of Ophthalmology

Chief of the Glaucoma Division

Director, Clinical and Research Glaucoma Fellowship

Chair, Ophthalmology Quality Improvement Committee

Causes and New Treatments for Glaucoma

Dr. Caprioli's clinical specialties are glaucoma, cataract, and anterior segment surgery. His long-term objectives in clinical and basic research are to identify those individuals at greatest risk for visual loss and to implement new treatment through effective neuroprotective strategies. Laboratory work focuses on mechanisms of retinal ganglion cell damage in glaucoma, with special emphasis on early detection through accurate assessment of the optic nerve and nerve fiber layer to measure the rate of progressive damage.

Dr. Caprioli provides clinical care at the Stein Eye Institute in Westwood.



Anne L. Coleman, MD, PhD

The Fran and Ray Stark Foundation Chair in Ophthalmology

Professor of Ophthalmology

Professor of Epidemiology, UCLA Fielding School of Public Health

Director of the Stein Eye Institute Centers for Community Outreach and Policy, Eye Epidemiology, and the UCLA Mobile Eye Clinic

Vice Chair of Academic Affairs, **UCLA** Department of Ophthalmology

Glaucoma Adult and Pediatric Public Health

Dr. Coleman's clinical specialties are glaucoma, anterior segment, and cataract surgery. Her research focuses on the etiology, diagnosis, treatment, and societal impact of glaucoma, cataracts, and pediatric eye diseases. Additionally, Dr. Coleman is a professor of epidemiology and has research expertise in health policy, communitybased interventions, health disparities, Big Data, and behavioral factors associated with health.

Dr. Coleman provides clinical care at the Stein Eye Institute in Westwood.



Joseph L. Demer, MD, PhD

Arthur L. Rosenbaum, MD, Chair in Pediatric Ophthalmology

Professor of Ophthalmology

Professor of Neurology

Chief, Pediatric Ophthalmology and Strabismus Division

Director, Fellowship in Pediatric Ophthalmology and Strabismus

Director, Ocular Motility Laboratories

Chair, EyeSTAR Residency PhD/PostDoc Program in Ophthalmology and Visual Science

Motility and Vision

Dr. Demer's clinical specialties include pediatric ophthalmology, adult strabismus, and other ocular motility disorders. He is a biomedical engineer whose research includes anatomy and imaging of the eye muscles, and the biomechanics of eye movements and optic nerve disorders. Dr. Demer employs modern scientific and engineering techniques to understand the basis and consequences of disorders of ocular motility in order to save ocular function and promote normal binocular vision. He has developed basic science and clinical imaging methods that have clarified fundamental mechanisms of eye movements and their clinical implications for diagnosis and surgery.

Dr. Demer provides clinical care and ophthalmic surgery at the Stein Eye Institute in Westwood.



Sophie X. Deng, MD, PhD

Joan and Jerome Snyder Chair in Cornea Diseases

Professor of Ophthalmology

Member of the UCLA Jonsson Comprehensive Cancer Center

Member of the UCLA Broad Stem Cell Research Center

Chair, Equity, Diversity and Inclusion Committee, Department of Ophthalmology, UCLA

Co-Director of Center of Regenerative Medicine in Ophthalmology

Stem Cell-Based Therapies for **Corneal Diseases**

Dr. Deng specializes in corneal and external ocular diseases, and cataracts. Her surgical areas include endothelial keratoplasty (DSEK and DMEK), deep anterior lamellar keratoplasty (DALK), penetrating keratoplasty, limbal stem cell transplantation, artificial cornea, and cataract.

Dr. Deng is the director of the Cornea Biology Laboratory at Stein Eye. Her research focuses on corneal epithelial stem cell regulation, deficiency, and regeneration. She aims to improve the current treatment for patients with limbal stem cell deficiency and corneal scars by using stem cell based therapy to restore vision. Dr. Deng also conducts clinical studies to develop new diagnostic tests using live imaging techniques.



Simon Fung, MD

Assistant Professor of Ophthalmology

Cornea and Anterior Segment Specialist/Pediatric Ophthalmology

Dr. Fung specializes in cornea, anterior segment diseases, with a particular focus on those occurring among children and adolescents. His areas of surgical expertise include corneal transplantations in adults and in children using modern strategies, such as lamellar keratoplasty techniques, as well as pediatric anterior eye conditions including cataracts and glaucoma. His research focuses on the evaluation and treatment of complex ocular surface conditions, notably neurotrophic keratopathy and phlyctenular keratoconjunctivitis.

Dr. Fung provides clinical care at the Stein Eye Institute in Westwood and the Stein Eye Center-Calabasas. He has staffed the UCLA Mobile Eye Clinic since 2018.



Reza Ghaffari, MD

Health Sciences Clinical Instructor

Cornea and External Ocular Disease

Dr. Ghaffari obtained his medical degree at Shahid Beheshti University of Medical Sciences. He completed his residency training in ophthalmology at Farabi Eye Hospital, Tehran University of Medical Sciences. Dr. Ghaffari then completed a fellowship in cornea and anterior segment at Farabi Eye Hospital and an international fellowship in cornea-external ocular disease, cataract and refractive surgery research at the UCLA Stein Eye Institute. His clinical focus is cornea and external ocular disease, including corneal transplantation (full thickness and lamellar), artificial cornea, keratoconus, and management of ocular surface disease. Dr. Ghaffari has contributed to more than a dozen peer-reviewed publications in fields such as corneal imaging, outcomes of Boston keratoprosthesis implantation, and complications of cosmetic iris implants. Dr. Ghaffari's research interests include outcomes of keratoprosthesis implantation and corneal transplantation.



JoAnn A. Giaconi, MD

Health Sciences Clinical Professor of Ophthalmology

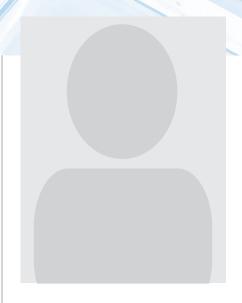
Chief of the Ophthalmology Section at the Greater Los Angeles VA Healthcare System

Co-Director of Medical Student Education at the David Geffen School of Medicine, UCLA

Adult and Pediatric Glaucoma

Dr. Giaconi's areas of clinical specialty are adult and pediatric glaucoma and cataract surgery. Her research interests are in the outcomes of glaucoma surgery. She also has a strong interest in medical education.

Dr. Giaconi provides clinical care at the Stein Eye Institute in Westwood and at the Veterans Administration Eye Clinic West Los Angeles campus.



Ben J. Glasgow, MD

The Wasserman Professor of Ophthalmology

Professor of Pathology and Laboratory Medicine

Chief of the Ophthalmic Pathology Division

Ophthalmic Pathology

Dr. Glasgow specializes in ophthalmic pathology, and his research focus is the role of human lacrimal gland proteins in the protection and maintenance of the eye. His laboratory is investigating the structure-function relationship of tear lipocalin. By studying the molecular mechanisms of tear proteins, Dr. Glasgow is seeking to learn the normal functions of tear lipocalin and its role in maintaining the health of the ocular surface and in the prevention of dry eye diseases. Ideally this research will lead to new treatments for dry eye and have broad application to numerous other members of this protein family that transport small, insoluble molecules through the body.



Robert Alan Goldberg, MD

Bert O. Levy Endowed Chair in Orbital and Ophthalmic Plastic Surgery

Professor of Ophthalmology

Chief of the Orbital and Ophthalmic Plastic Surgery Division

Director of the UCLA Orbital Disease

Co-Director of the UCLA Aesthetic Center

Diseases and Therapy of the **Eyelid and Orbit**

Dr. Goldberg is an internationally recognized surgeon, researcher, and teacher. He has developed surgical procedures that are now globally taught and practiced, including less invasive treatments for eye and orbit cancers, new surgeries for thyroid eye disease, and innovative surgical techniques for tearing problems. His research into orbital and eyelid anatomy is resulting in improved techniques and approaches to deep orbital disease. He has had leadership and executive positions in the American Society of Ophthalmic Plastic and Reconstructive Surgery, the American Academy of Cosmetic Surgery, and the American College of Surgeons.

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Michael B. Gorin, MD, PhD

Harold and Pauline Price Chair in Ophthalmology

Professor of Ophthalmology

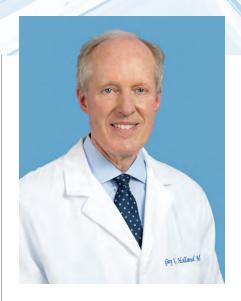
Professor of Human Genetics

Chief of the Division of Retinal Disorders and Ophthalmic Genetics

Hereditable Eye Disorders and Molecular Genetics of Age-Related Maculopathy

Dr. Gorin's clinical expertise is in medical retina and ophthalmic genetic disorders. He has both a basic and translation research program that address the genetics of inherited retinal dystrophies and age-related macular degeneration, the biological basis of pain caused by light exposure, the study of von Hippel Lindau disease, etiology of central serous chorioretinopathy, drug and autoimmune-related retinopathies, genetics-based therapies for disease, and late-life morbidities associated with retinopathy of prematurity.

Dr. Gorin was among the first UCLA physicians to be boarded in Clinical Informatics, and he is exploring the use and analysis of clinical datasets to better understand disease and clinical outcomes



Gary N. Holland, MD

Jack H. Skirball Chair in Ocular Inflammatory Diseases

Distinguished Professor of Ophthalmology

Director of the Ocular Inflammatory Disease Center, UCLA Stein Eye Institute

Director of the UCLA Department of Ophthalmology Clinical Research Center

Co-Director of Medical Student Education, **UCLA** Department of Ophthalmology

Uveitis and Cornea-External Ocular Diseases

Dr. Holland specializes in uveitis and other inflammatory diseases of the eye. His research activities focus on the evaluation and management of infectious and inflammatory diseases, including ocular toxoplasmosis, cytomegalovirus retinitis and other HIV-related eye disorders, and various non-infectious forms of uveitis, such as chronic anterior uveitis in children and the autoimmune disease birdshot chorioretinitis. Among current studies are those investigating risk factors, disease mechanisms, and response to treatment. Many of these studies are conducted in multicenter clinical trials. In addition to his clinical and research work, Dr. Holland is associate editor of the American Journal of Ophthalmology.

Dr. Holland provides clinical care at the Stein Eye Institute in Westwood.



Hamid Hosseini, MD

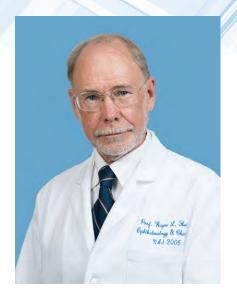
Assistant Professor of Ophthalmology

Retinal and Macular Conditions

Dr. Hosseini specializes in retinal and macular conditions, such as macular degeneration, diabetic retinopathy, and retinal detachment.

Dr. Hosseini completed two fellowships at the UCLA Stein Eye Institute, the first in glaucoma and the second in retina. He participates in all activities of the Retina Division, including research, education, and clinical care.

He sees patients at the Stein Eye Institute in Westwood and Harbor-UCLA Medical Center.



Wayne L. Hubbell, PhD

Jules Stein Chair in Ophthalmology Distinguished Professor of Ophthalmology Distinguished Professor of Chemistry and Biochemistry

Molecular Basis of Phototransduction in the Vertebrate Retina

Dr. Hubbell's research is focused on understanding the relationship between molecular structure, plasticity, and conformational changes that control protein function in the visual system. Of particular interest are proteins that behave as "molecular switches." The overall goal is to determine the structure of these proteins in their native environment, monitor the changes in structure that accompany the transition to an active state, and to understand the role of protein flexibility in function.

To investigate these and other proteins, Dr. Hubbell's laboratory has developed the technique of site-directed spin labeling, a novel and powerful approach to the exploration of protein structure and dynamics.



Jean-Pierre Hubschman, MD

Professor of Ophthalmology and Mechanical & Aerospace Engineering

Chief of Retina at Olive View-UCLA Medical Center

Director of the Advanced Robotic Eye Surgery Laboratory

Member of the Center for Advanced Surgical and Interventional Technology

Member of the California NanoSystems Institute

UCLA Professor of Engineering

Advanced Vitreoretinal Surgical Interventions and Robotics

Dr. Hubschman's clinical research focuses on the development and evaluation of new vitreoretinal surgical techniques and robotics for ophthalmic surgery. Automated surgery utilizing robotics promises to increase surgical precision and accuracy, as well as improve access to medical care. Dr. Hubschman's publications include research papers on the development of a new retinal patch for the treatment of retinal detachment, on the feasibility of robotic surgery in ophthalmology, and results of various clinical trials. Currently, he is also investigating the use of the terahertz laser for the evaluation of ocular tissue hydration.

Dr. Hubschman provides clinical care at the Stein Eye Institute in Westwood.



Justin Karlin, MD, MS

Health Sciences Assistant Clinical Professor of Ophthalmology

Orbital, Lacrimal, and Ophthalmic Plastic Surgery

Dr. Karlin's passion is attentive and personalized patient care. He specializes in orbital, lacrimal, and oculofacial plastic surgery. In 2020, he graduated from the rigorous ASOPRS fellowship at the UCLA Stein Eye and Doheny Eye Institutes, and he brings his expertise to patients at the Stein Eye Center in Calabasas, and Doheny Eye Center UCLA locations in Arcadia and Orange County.

In his research, Dr. Karlin is an innovator. He has developed artificial intelligence diagnostic tools, cartilage grafts for use in eyelid reconstruction, and novel approaches to the production of autologous plasma eye drops.

Notably, Dr. Karlin has an unwavering commitment to teaching. As a resident, he was awarded the University of Virginia "All University" Teaching Award. And he was honored with the UCLA Stein Eye Institute Fellow Teaching Award in 2019. He continues to participate actively in mentoring and teaching activities for undergraduates, medical students, residents, and fellows.

FACULTY UCLA STEIN EYE INSTITUTE



Simon K. Law, MD, PharmD

Health Sciences Clinical Professor of Ophthalmology

Optic Disc Evaluation

Dr. Law's clinical specialties are glaucoma and cataract. His research activities include evaluation of the optic nerve in different racial groups and ocular pathologies, different patterns of glaucomatous visual function decline, outcomes of different glaucoma surgical procedures and medications in eye pressure control and vision restoration, and alternative therapy in glaucoma care.

Dr. Law provides clinical care at the Stein Eye Institute in Westwood.



Shawn R. Lin, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Medical Director, Stein Eye Center-Calabasas

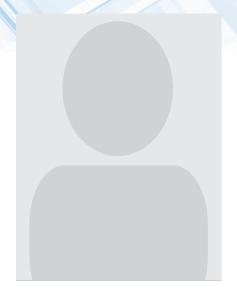
Cataract and Refractive Surgery

Specializing in cataract and refractive surgery, Dr. Lin obtained his MD and MBA from Stanford University. He conducted his ophthalmology residency at the UCLA Stein Eye Institute, and he completed a Heed Cornea and Refractive Surgery Fellowship at the Massachusetts Eye and Ear Infirmary at Harvard University.

Dr. Lin's research is focused on combining human and artificial intelligence to deliver exceptional surgical results. He has authored more than a dozen peer-reviewed publications in leading ophthalmology journals, has written chapters on ophthalmology and cornea for textbooks, and has delivered keynote presentations at international scientific meetings.

Dr. Lin founded EyeGuru, an online educational platform visited more than 1,000,000 times a year by ophthalmologists from 125 countries. In this role, Dr. Lin helps to advance knowledge in the field and train the next generation of ophthalmologists.

Dr. Lin sees patients at the Stein Eye Institute in Westwood and the Stein Eye Center-Calabasas.



Colin A. McCannel, MD

Professor of Clinical Ophthalmology Medical Director, Stein Eye Center-Santa Monica

Vitreoretinal Surgery

Dr. McCannel has a longstanding interest in the management of vitreoretinal conditions, particularly complex retinal detachments, complications of diabetic retinopathy, macular holes and epimacular membranes, and age-related macular degeneration. His clinical research efforts are directed at the improvement of vitreoretinal surgical techniques and outcomes, including the prevention of endophthalmitis following intravitreal injections.

Dr. McCannel devotes time to educational research as well. Currently, he is investigating the utility of virtual reality surgery simulation in teaching ophthalmic surgery. He has several ongoing protocols that assess ophthalmic surgical simulation in surgical teaching.

Dr. McCannel provides clinical care at the Stein Eye Institute in Westwood and the Stein Eye Center-Santa Monica.



Tara A. McCannel, MD, PhD

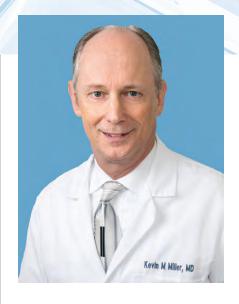
Health Sciences Clinical Professor of Ophthalmology

Director of the Ophthalmic Oncology Center

Metastatic Ocular Melanoma and Diseases of the Retina and Vitreous

Dr. McCannel is an ophthalmic oncologist, as well as a vitreoretinal surgeon. Dr. McCannel's Ophthalmic Oncology Laboratory is studying molecular markers in ocular melanoma to provide prognostic information to patients and advance understanding of metastatic disease. Discovery of candidate genes from tissue of patients undergoing surgical treatment for ocular melanoma is being explored. This information will be important to establish a better understanding of the biology of metastatic ocular melanoma and help develop better treatments for this cancer. New modalities are being investigated to predict, detect, and ultimately treat choroidal melanoma metastasis.

Dr. McCannel provides clinical care at the Stein Eye Institute in Westwood.



Kevin M. Miller, MD

Kolokotrones Chair in Ophthalmology Professor of Clinical Ophthalmology Chief of the Cataract and Refractive Surgery Division Director of the Anterior Segment Diagnostic Laboratory

Cataract and Refractive Surgery

Dr. Miller is chief of the Cataract and Refractive Surgery Division and director of the Anterior Segment Diagnostic Laboratory. His research interests include devices and implants used in cataract and refractive surgery, outcomes of surgical procedures, astigmatism management, and artificial iris implantation.

Dr. Miller provides patient care in the Cataract and Refractive Surgery Suite on the second floor of the Edie and Lew Wasserman Building at the Stein Eye Institute. He specializes in refractive cataract surgery, intraoperative refractive guidance, LASIK, PRK, SMILE, artificial iris implantation, and complex anterior segment surgery.

Dr. Miller serves in leadership roles at the American Academy of Ophthalmology and the American Society of Cataract and Refractive Surgery.



Mitra Nejad, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Cataract and Refractive Surgery

Dr. Nejad practices comprehensive ophthalmology with a focus on cataract and refractive surgery. She graduated summa cum laude from UCLA and earned her MD from the David Geffen School of Medicine (DGSOM) at UCLA. Dr. Nejad conducted her internship at Harbor-UCLA Medical Center and her ophthalmology residency at Stein Eye, where she remained on staff. She recently completed the DGSOM Medical Education Fellowship and serves as a residency assistant program director. She has contributed to the cataract surgery curriculum and microsurgery wet lab curriculum, and she attends resident cataract surgery at both Stein Eye and Harbor-UCLA. She is a certified proctor in laser refractive surgery and supervises Stein Eye residents' refractive surgery cases. She also serves on the residency program evaluation and selection committees. She teaches medical student courses at UCLA and serves as medical student preceptor and mentor.

Dr. Nejad sees patients at the Stein Eye Institute in Westwood.

FACULTY UCLA STEIN EYE INSTITUTE



Kouros Nouri-Mahdavi, MD, MSc

Ernest G. Herman Chair in Ophthalmology Professor of Ophthalmology

Director of the Glaucoma Advanced **Imaging Laboratory**

Role of Structural and Functional Measurements for Detection of Glaucoma and Its Progression

Dr. Nouri-Mahdavi's areas of clinical focus are management of adult glaucoma and advanced and complex cataract surgery. His research interests include structural and functional measurements for detection of glaucoma and its progression, surgical outcomes, artificial intelligence in glaucoma diagnostics. His research activities focus on optimizing the role of structural and functional measurements for detection of glaucoma progression with an emphasis on advanced disease and macular optical coherence tomography imaging. More recently, his research laboratory has been exploring the use of artificial intelligence in glaucoma diagnostics.

Dr. Nouri-Mahdavi provides clinical care at the Stein Eye Institute in Westwood, as well as the Stein Eye Center-Calabasas and the Stein Eye Center-Santa Monica.



Yi-Rong Peng, PhD

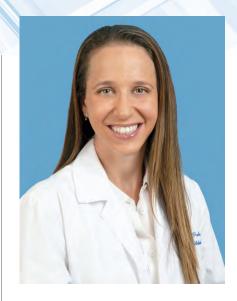
Assistant Professor of Ophthalmology and Neurobiology

Pathogenesis of Retinal Diseases

Dr. Peng is a neuroscientist whose research focuses on large-scale transcriptomic profiling of retinal cells in healthy and pathological conditions to understand human vision and provide insights for the study of ocular diseases.

Dr. Peng received her PhD in neurobiology from the Institute of Neuroscience, Chinese Academy of Sciences, Shanghai, China. Her doctoral research examined the role of functional interactions between inhibitory and excitatory synapses that maintain the stability of neural networks. Dr. Peng then joined the laboratory of Dr. Joshua Sanes at Harvard University as a postdoctoral fellow, where she leveraged high throughput single-cell transcriptomic methods to uncover key transcriptional factors that control the specification of retinal cell types.

At Stein Eye, Dr. Peng is continuing her development of state-of-the-art transcriptomic and genomic tools to reveal the molecular underpinnings of the formation of retinal circuits and the pathogenesis of retinal diseases.



Stacy L. Pineles, MD

Jerome and Joan Snyder Chair in Ophthalmology

Professor of Ophthalmology

Residency Director, Department of Ophthalmology

Pediatric Neuro-Ophthalmology, Amblyopia, and Neurologic Causes of Strabismus

Dr. Pineles' research interests include evaluating the surgical outcomes of strabismus surgery and studying pediatric optic nerve diseases. With her dual training in pediatric ophthalmology and neuro-ophthalmology, she has a special interest in pediatric neuroophthalmic diseases, as well as adult patients with amblyopia and neurologic causes of strabismus.

Dr. Pineles is the chair elect of a national research network, the Pediatric Eve Disease Investigator Group (PEDIG) sponsored by the National Institutes of Health. Dr. Pineles also serves as the residency program director for the UCLA Department of Ophthalmology.

Dr. Pineles provides clinical care at the Stein Eye Institute in Westwood.



Natik Piri, PhD

Professor of Ophthalmology

Retinal Ganglion Cell Biology, Glaucomatous Neurodegeneration, and Neuroprotection

Dr. Piri's primary research is defining the mechanisms leading to retinal ganglion cell (RGC) degeneration in glaucomatous neuropathy; developing strategies for preserving RGCs against neurodegeneration; and identifying and characterizing the genes critical for RGC function and integrity. Characterization of RGC-expressed genes is fundamental to a better understanding of normal RGC physiology and pathophysiology.

Dr. Piri also focuses on understanding the degeneration of RGCs and their axons, which is a hallmark of glaucoma. He is also studying the involvement of oxidative stress and proteins of the thioredoxin system, particularly in RGC degeneration in the glaucoma model, and the neuroprotective effects of these proteins against glaucomatous RGC death.



Pradeep S. Prasad, MD, MBA

Health Sciences Associate Clinical Professor of Ophthalmology

Chief, Division of Ophthalmology, Harbor-UCLA Medical Center

Vitreoretinal Surgery and Disease Management

Dr. Prasad specializes in the medical and surgical management of diseases of the retina and vitreous. His research is focused on teleretinal screening for diabetic retinopathy, applications of wide-field fundus photography for retinal vascular disease, and health care delivery for low-income populations.

Dr. Prasad serves as the chief of the Division of Ophthalmology at Harbor-UCLA Medical Center where he provides clinical supervision and instruction to UCLA medical students as well as to Stein Eye residents and vitreoretinal fellows.



Roxana A. Radu, MD

Vernon O. Underwood Family Chair in Ophthalmology

Assistant Professor of Ophthalmology

Retina Biochemistry and Clinical Disease Modeling Laboratory

Dr. Radu's scientific interest is to understand the mechanism of photoreceptor cell degeneration by integrating genetic, biochemical, cellular, and molecular approaches. Dr. Radu's research focuses on the formation and pathogenic role of bisretinoids in retinopathies such as recessive Stargardt disease and age-dependent macular degeneration. Her group has developed both mouse and human disease cell-based models to identify fundamental biological processes at the intersection between the complement system, retinoid-lipid metabolism, mitochondria, and endolysosomal pathways in normal and immune-compromised retinal pigment epithelium cells. Her studies are supported by National Institute of Health grants, sponsorinitiated research programs, and philanthropic funds.

Dr. Radu is also actively involved in training and teaching undergraduates, pre-/post-graduate fellows, and medical students.

FACULTY UCLA STEIN EYE INSTITUTE



Alapakkam P. Sampath, PhD

Grace and Walter Lantz Endowed Chair in Ophthalmology

Professor of Ophthalmology and Neurobiology

Associate Director, Stein Eye Institute Chief, Vision Science Division

Molecular Mechanisms Underlying Early Visual Processing

The Sampath laboratory is interested in understanding the molecular mechanisms underlying early visual processing. In particular, the focus of laboratory researchers has been on elucidating mechanisms that set the sensitivity of night vision. Night blindness, or nyctalopia, is a condition that results from abnormal signaling by the rod photoreceptors, or the retinal circuits that process rod-driven signals. Using physiological and genetic methods, the laboratory studies signal transmission in these retinal rod pathways to identify how these processes are optimized to allow our exquisite visual sensitivity.



David Sarraf, MD

Health Sciences Clinical Professor of Ophthalmology

Age-Related Macular Degeneration and Retinal Imaging

Dr. David Sarraf is clinical professor of ophthalmology at the UCLA Stein Eye Institute and member of the Retinal Disorders and Ophthalmic Genetics Division. He has published close to 300 peer-reviewed research papers, case reports, and reviews and has authored 22 book chapters. He is co-author for the second edition of the Retina Atlas and will be section editor for the 7th edition of Ryan Retina. Dr. Sarraf is a world leader in the field of advanced retinal imaging and has delivered over 300 invited lectures at various meetings worldwide, including close to a dozen endowed and keynote lectures.

Dr. Sarraf is associate editor for the British Journal of Ophthalmology and Ophthalmology Science, and he is section editor of the Ocular Imaging Section for the Canadian Journal of Ophthalmology. He is also associate editor for the journal Retinal Cases and Brief Reports and editorial board member of the journals Retina and OSLI Retina.



Steven D. Schwartz, MD

The Ahmanson Chair in Ophthalmology
Professor of Ophthalmology
Chief of the Retina Division
Director of the UCLA Diabetic
Eye Disease and Retinal Vascular Center
Director of the Macula Center

Retinal Diseases and Stem Cell Research

Dr. Schwartz's primary areas of research include early diagnosis and treatment of diseases such as retinopathy of prematurity, diabetic eye disease, and macular degeneration. Dr. Schwartz's research includes evaluation of methods to measure optic nerve damage, and the role of structural and functional measurements for detection of glaucoma and its progression. Dr. Schwartz also leads clinical trials testing the use of stem cells to address vision loss from Stargardt macular dystrophy and dry age-related macular degeneration.

Dr. Schwartz provides clinical care at the Stein Eye Institute in Westwood.



Soh Youn Suh, MD

Assistant Professor of Ophthalmology

Pediatric Ophthalmology and Adult Strabismus

Dr. Suh's clinical specialties are pediatric ophthalmology and adult strabismus. Her research interests include evaluating strain on the optic nerve head and globe displacement during horizontal ductions in patients and normal controls using magnetic resonance imaging and optical coherence tomography.

Dr. Suh provides clinical care at the Stein Eye Institute in Westwood and Olive View-UCLA Medical Center.



Hui Sun, PhD

Professor of Physiology and Ophthalmology

Member of Jonsson Comprehensive Cancer Center

Molecular Mechanism of Vitamin A Transport for Vision; Identification of New Therapeutic Targets for **Blinding Diseases**

Dr. Sun's laboratory aims to identify new therapeutic targets to treat still incurable human diseases, to study their molecular mechanisms, and to develop novel therapies based on the mechanisms. Through many years of research efforts, his laboratory has identified the cell-surface receptors for the most potent endogenous inhibitor of angiogenesis, developed novel techniques to screen for drugs that target these receptors, and developed the first small molecule drug candidates that specifically suppress pathogenic angiogenesis in diverse vision diseases and in cancer. These molecules have achieved therapeutic effects that no existing drugs can achieve and are being prepared for clinical trials.



Gabriel H. Travis, MD

Charles Kenneth Feldman Chair in Ophthalmology

Professor of Ophthalmology

Biochemistry of Vertebrate Photoreceptors and Mechanisms of **Retinal Degeneration**

Dr. Travis' laboratory uses biochemical and genetic approaches to study the visual cycle and its role in retinal and macular degenerations. Vision in vertebrates is mediated by two types of light-sensitive cells: rods and cones. These cells contain light-detecting molecules called opsin pigments. Detection of a single light particle bleaches the opsin pigment. Restoring light sensitivity to a bleached opsin involves an enzymatic pathway called the visual cycle. Mutations in the genes for many proteins of the visual cycle cause inherited blinding diseases.

FACULTY UCLA STEIN EYE INSTITUTE



Edmund Tsui, MD

Assistant Professor of Ophthalmology

Uveitis and Ocular Inflammatory Diseases

Dr. Tsui specializes in the management of uveitis and ocular inflammatory diseases. He completed his medical training at Dartmouth Medical School followed by an ophthalmology residency at the New York University School of Medicine. He completed his fellowship in uveitis and ocular inflammatory disease at the Francis I. Proctor Foundation at the University of California, San Francisco

Dr. Tsui's research focuses on the evaluation of imaging biomarkers to measure and quantify intraocular inflammation with optical coherence tomography and laser flare photometry. He serves on the Association for Research in Vision and Ophthalmology Continuing Medical Education Committee and the Professional Development and Education Committee. He is also a social media editor for the journals *Ophthalmology*, *Ophthalmology Retina*, and *Ophthalmology Glaucoma*.

Dr. Tsui provides care to patients at the Stein Eye Institute in Westwood.



Irena Tsui, MD

Associate Professor of Ophthalmology

Clinical Vitreoretinal Research

Dr. Tsui's clinical activities include adult and pediatric vitreoretinal diseases. Her research interests focus on retinopathy of prematurity and Zika virus eye abnormalities. Dr. Tsui teaches ophthalmology trainees and serves veterans at the Greater Los Angeles VA Healthcare System.

Dr. Tsui provides clinical care at the Stein Eye Institute in Westwood and the Doheny Eye Center UCLA—Arcadia.



Shoaib Ugradar, MD

Health Sciences Clinical Instructor

Orbital and Ophthalmic Plastic Surgery

Dr. Ugradar completed his ophthalmology training at the prestigious Moorfields Eye Hospital, London, UK. He was ranked number one in the UK National Recruitment for Ophthalmology and is the recipient of numerous academic scholarship awards and honors, including the Ophthalmology Research Gold Medal UK, the Bernice Brown Fellowship Award, the Young European researcher's award in Neurology, and the Drapers' Company Prize for outstanding achievement at an undergraduate level. He has also won the American Society of Ophthalmic Plastic Reconstructive Surgery research award in 2020 and 2021, along with the American Endocrine Society research award in 2022. Dr Ugradar leads international trials in thyroid eye disease and the use of genetics to study orbital and eyelid lesions. His research has led to numerous patents.

Dr. Ugradar sees patients at the Stein Eye Institute in Westwood and the UCLA Stein Eye Centers in Calabasas and Santa Monica.



Federico G. Velez, MD

Leonard Apt Endowed Chair in Pediatric Ophthalmology

Health Sciences Clinical Professor of Ophthalmology

Strabismus and Childhood **Eye Disorders**

Dr. Velez is a pediatric ophthalmology specialist who studies the mechanisms of congenital and acquired forms of strabismus. In addition, Dr. Velez conducts research on artificial muscle stimulation and management of orbital fibrosis, amblyopia therapy, and medical management of thyroid eye disease.

He has participated in development of guidelines for preoperative assessment and surgical approaches to patients with convergent (esotropia), divergent (exotropia), and vertical forms of strabismus, and he has advanced techniques to treat pediatric patients with eyelid abnormalities and cataracts.

Dr. Velez sees patients at the UCLA Stein Eye Institute in Westwood, the Stein Eve Center-Calabasas, and the Doheny Eye Center UCLA-Orange County.



David S. Williams, PhD

Karl Kirchgessner Foundation Chair in Vision Science

Professor of Ophthalmology and Neurobiology

Cell Biology of the Retina and Inherited Retinal Disease

Dr. Williams' laboratory focuses on the cell biology of photoreceptor and retinal pigment epithelium cells. His group is especially interested in proteins that function in transport and compartmentalization within these cells. These proteins include those that underlie Usher syndrome and macular degeneration. Translational areas of his research involve gene therapy experiments aimed at preventing the blindness that ensues from Usher syndrome type 1B and studies on stem cell-derived RPE cells, which may be transplanted into retinas afflicted by macular degeneration.



Xian-Jie Yang, PhD

Professor of Ophthalmology

Member of the Molecular Biology Institute

Member of the Brain Research Institute

Member of the UCLA Broad Stem Cell Research Center

Director of the Gene and Cell Delivery Core for Vision Research

Development and Repair of the Retina

Dr. Yang obtained her PhD at Cornell University and received postdoctoral training at Harvard University and Harvard Medical School before joining UCLA Stein Eye Institute as a faculty member. Dr. Yang's research is focused on molecular and cellular mechanisms underlying retina development and repair. Her research approaches include using genetically engineered retinal degeneration models and recombinant virus-mediated gene delivery to study neuroprotection mechanisms. In addition, her research team has established stem cell-based retinal organoid models to derive human retinal neurons, simulate retinal diseases, and develop gene editing and replacement therapies.

FACULTY DOHENY EYE CENTERS UCLA



Jie J. Zheng, PhD

Institute

Professor of Ophthalmology

Member of the Molecular Biology

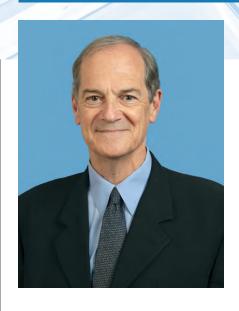
Member of the Jonsson Comprehensive Cancer Center

Member of the Brain Research Institute Member of the California NanoSystems Institute

Therapeutic Development in Ophthalmology

Dr. Zheng's research is at the interface of biochemistry, computational biology, systems pharmacology, and drug discovery with an emphasis on therapeutic development in ophthalmology.

His laboratory is currently developing proteins and small molecules that can modulate signal transduction pathways, such as Wnt, Hedgehog, BMP, and Hippo pathways, in an effort to better understand the biological functions of these signaling pathways and to explore the therapeutic potential of these compounds and proteins. Aiming to establish new translational research within the scientific community at UCLA, Dr. Zheng's goal is to develop novel therapies for retinal degenerative diseases, glaucoma, and corneal disorders.



Steven A. Barnes, PhD

Professor of Ophthalmology and Neurobiology

Ion Channel Function in Retinal Neurons

Dr. Barnes is a biophysically oriented neurobiologist interested in how the retinal milieu in healthy and stressed states affects ion channels that mediate signaling within and between retinal neurons. The activity of ion channel proteins in retinal neurons governs how the retinal network optimizes image processing. Dr. Barnes seeks to define cellular targets that could aid precision interventions with early detection and by slowing or preventing vision loss in diseases such as glaucoma and macular degeneration. Important questions concern the limits that the bioenergetic environment imposes on photoreceptor and ganglion cell sensitivity and signaling, as well as how early stages of bioenergetic dysfunction are manifested.



Benjamin B. Bert, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Cornea-External Ocular Disease and Refractive Surgery

Dr. Bert provides comprehensive ophthalmic care and is a subspecialist in cornea/external disease. His areas of expertise include: dry eye/blepharitis, conjunctivitis, uveitis, acute corneal injury, and genetic corneal disorders, as well as cataract surgery with advanced intraocular lenses and refractive surgery.

Dr. Bert sees patients at the Doheny Eye Center UCLA offices in Orange County and Pasadena.



Vikas Chopra, MD

Charles Stewart Warren and Hildegard Warren **Endowed Research Chair**

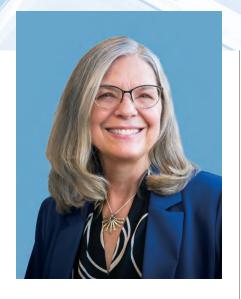
Health Sciences Associate Clinical Professor of Ophthalmology

Medical Director, Doheny Eye Center UCLA-Pasadena

Glaucoma

Specializing in glaucoma, Dr. Chopra's research activities include advanced optic nerve and retinal nerve fiber layer imaging for early glaucoma detection, as well as development and validation of novel parameters for use in anterior segment optical coherence tomography devices as principal investigator at the Doheny Image Reading Center. Dr. Chopra also evaluates laser and surgical techniques for the management of glaucoma.

Dr. Chopra provides patient care at the Doheny Eye Center UCLA locations in Arcadia and Pasadena.



Deborah A. Ferrington, PhD

Stephen J. Ryan-Arnold and Mabel Beckman Foundation Endowed Presidential Chair

Professor of Ophthalmology

Chief Scientific Officer, Doheny Eye Institute

Examining a "Personalized Medicine" Approach for Treating AMD

Dr. Ferrington's research is focused on investigating the molecular changes that occur with age-related macular degeneration (AMD), the leading cause of blindness among the elderly in the developed world. Using human donor tissue graded for the presence and severity of AMD, Dr. Ferrington's laboratory discovered that AMD has a negative impact on the energy-producing mitochondria in the retinal pigment epithelium (RPE). Notably, damaged mitochondria are present at an early stage of AMD, which provides an opportunity for early intervention. Her work is now focused on identifying and testing drugs that promote mitochondrial function using cultured primary human RPE cells and RPE differentiated from induced pluripotent stem cells (iPSC) obtained from AMD patients. The goal is to use patient-specific iPSC-RPE to develop a "personalized medicine" approach for treating AMD.



Brian A. Francis, MD, MS

Rupert and Gertrude I. Stieger Vision Research Chair

Health Sciences Clinical Professor of Ophthalmology

Director of Glaucoma Services, Doheny Eye Centers UCLA

Medical Director, Doheny Eye Center UCLA-Orange County

Glaucoma

Dr. Francis' clinical specialties are glaucoma and complex cataract. His research activities include: innovative glaucoma surgeries, minimally invasive glaucoma surgery, novel visual field techniques, glaucoma diagnostic and functional imaging, anterior segment imaging (ultrasound biomicroscopy and Fourier domain optical coherence tomography), and glaucoma laser surgery.

Dr. Francis sees patients at the Doheny Eye Center UCLA locations in Arcadia, Orange County, and Pasadena.



Kaustabh Ghosh, PhD

Associate Professor of Ophthalmology

Vascular Inflammation, Mechanobiology, Bioengineering, and Nanomedicine

Dr. Ghosh is an interdisciplinary researcher with expertise in vascular inflammation, mechanobiology, bioengineering, and nanomedicine.

He obtained his undergraduate degree in chemical engineering from the National Institute of Technology, India; his PhD in biomedical engineering from Stony Brook University, New York; and conducted his postdoctoral fellowship in the Vascular Biology Program at Boston Children's Hospital and Harvard Medical School.

Dr. Ghosh was associate professor of bioengineering at the University of California, Riverside (UCR), and participating faculty in the UCR Division of Biomedical Sciences, Stem Cell Center, and the Program in Cell, Molecular and Developmental Biology. The Ghosh Research Group at UCR focused on leveraging the principles of mechanobiology to examine and treat inflammation-mediated vascular degeneration associated with diabetic retinopathy and age-related macular degeneration.

Dr. Ghosh has active R01 grants from the National Eye Institute and was recently honored as Featured Scientist by the BrightFocus Foundation.



Gad Heilweil, MD

Health Sciences Associate Clinical Professor of Ophthalmology

Degenerative Retinal Disease

Dr. Heilweil's research activities include stem-cell therapy for degenerative retinal disease; retinal and uveal drug toxicity; and pharmacokinetics of intravitreal drugs.

In addition to providing patient care at the Stein Eye Institute in Westwood and the Stein Eye Center–Calabasas, Dr. Heilweil sees patients at the Doheny Eye Center UCLA locations in Arcadia, Orange County, and Pasadena.



Kirk Hou, MD, PhD

Assistant Professor of Ophthalmology

Vitreoretinal Diseases

Dr. Hou specializes in the evaluation and treatment of vitreoretinal diseases, including diabetic retinopathy, macular degeneration, and complex retinal detachment. He obtained his medical degree from Washington University School of Medicine in St. Louis, Missouri, during which time he also completed a PhD in computational and molecular biophysics. He conducted both his ophthalmology residency and fellowship in vitreoretinal surgery at the UCLA Stein Eye Institute. He is an interdisciplinary researcher with expertise in nanomedicine and drug delivery. He holds patents for his work developing nanoparticles for the delivery of therapeutic nucleic acids.

Dr. Hou teaches residents at Olive View–UCLA Medical Center and sees patients at the Doheny Eye Center UCLA–Pasadena and the Stein Eye Institute in Westwood.



Hugo Y. Hsu, MD

Health Sciences Clinical Professor of Ophthalmology

Cornea and External Diseases

Dr. Hsu specializes in corneal infection and inflammation, corneal transplantation, anterior segment reconstruction, and cataract surgery. His research interests include corneal and ocular infections and ophthalmic antibiotics.

Dr. Hsu sees patients at the Doheny Eye Center UCLA locations in Arcadia, Orange County, and Pasadena.



Alex A. Huang, MD, PhD

Associate Professor of Ophthalmology

Glaucoma

Dr. Huang's clinical specialties are in complex cataract and glaucoma surgery. His research is dedicated to understanding fluid flow in the eye to improve and customize glaucoma surgery. He also studies ocular changes that American astronauts experience in Space.

Dr. Huang provides clinical care at the Doheny Eye Center UCLA-Pasadena.



Michael S. Ip, MD

Gavin S. Herbert Endowed Chair for Macular Degeneration Professor of Ophthalmology Service Chief, Doheny Retina Division Medical Director, Doheny Image Reading Center

Vitreoretinal Disease

Dr. Ip is the chief of the Vitreoretinal Surgery Service at the Doheny Eye Centers UCLA. His practice concentrates on the surgical management of complex retinal detachment, complications of diabetic retinopathy, macular holes, epiretinal membranes, and other vitreoretinal diseases amenable to surgical intervention.

Dr. Ip's research focuses on the design and conduct of clinical trials investigating treatments for diabetic retinopathy, age-related macular degeneration, and retinal venous occlusive disease. As medical director for the Doheny Image Reading Center, endpoint analysis for clinical trials is an additional area of research focus. In addition, Dr. Ip has served as the national director for numerous NIHfunded ophthalmic clinical trials.



Ram Kannan, PhD

Adjunct Professor of Ophthalmology

Eye Physiology and Pathology

Dr. Kannan's research focuses on eye physiology and pathology. He currently investigates age-related macular degeneration, a leading cause of blindness in high-resource countries.



Monica R. Khitri, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Pediatric Ophthalmic Diseases and Strabismus

Dr. Khitri specializes in the evaluation and treatment of pediatric ophthalmic diseases, including pediatric cataracts, nasolacrimal duct obstructions, amblyopia, and retinopathy of prematurity. She also treats and operates on strabismus in both children and adults.

She received her medical degree from the David Geffen School of Medicine at UCLA and completed her residency in ophthalmology at the Stein Eye Institute, followed by a fellowship in pediatric ophthalmology and strabismus at the Children's Hospital of Philadelphia.

Dr. Khitri is also a medical educator, researcher, and winner of over two dozen academic and professional awards, including the 2018 Faculty Teaching Award for the Stein Eye Institute ophthalmology residency program.

Dr. Khitri sees patients at the Doheny Eye Center UCLA locations in Arcadia, Pasadena, and Orange County. She also teaches residents and fellows at Harbor-UCLA Medical Center, where she is chief of the Pediatric Ophthalmology Service.



Kenneth L. Lu, MD

Health Sciences Associate Clinical Professor of Ophthalmology

Medical Director, Doheny Eye Center UCLA-Arcadia

Cataract and Refractive Surgery

Dr. Lu specializes in cataract and refractive surgery, and his research activities are focused in the same areas.

Dr. Lu sees patients at the Doheny Eye Center UCLA-Arcadia.



Peter A. Quiros, MD

Health Sciences Clinical Professor of Ophthalmology

Neuro-Ophthalmology

A neuro-ophthalmologist, Dr. Quiros specializes in optic nerve disease, including optic neuritis and ischemic optic neuropathy; double vision and adult strabismus; eye pain, headache, and idiopathic intracranial hypertension; thyroid eye disease; orbital inflammatory syndromes; and stroke. Research includes idiopathic intracranial hypertension, headache, ocular myasthenia gravis, and ischemic optic neuropathy. He was the principal investigator for the idiopathic intracranial hypertension treatment trial. He is currently president-elect of the North-American Neuro-Ophthalmology Society and a member of the Neuro-Ophthalmology Researchers and Disease Investigators Consortium

Dr. Quiros obtained his MD from the Yale University School of Medicine. He completed his residency training at LAC/USC Medical Center and his fellowship training at the Doheny Eye Institute.

Dr. Quiros sees patients at the Doheny Eye Center UCLA-Pasadena.



Daniel B. Rootman, MD, MS

Karen and Frank Dabby Endowed Chair in Ophthalmology

Associate Professor of Ophthalmology

Orbit and Ophthalmic **Plastic Surgery**

Dr. Rootman is an orbit and ophthalmic plastic surgery specialist with expertise in Graves disease, orbital surgery, orbital tumors, ptosis, lacrimal disorders, blepharoplasty, blepharospasm, Botox®, cosmetic dermal fillers, endoscopic eyebrow lift, eyelid surgery, eyelid tumors, and trauma. His research is developing and refining patientcentered outcome measures for surgical care; randomized clinical trials in surgery, including ptosis, Graves orbitopathy and lacrimal disease; health economics of eyelid and facial surgery; sociodemographics of facial trauma; physiology and pathobiology of ptosis; new approaches to surgery; and measurement and assessment in medical education.

Dr. Rootman sees patients at the Stein Eye Institute in Westwood and the Doheny Eye Center UCLA locations in Orange County and Pasadena.



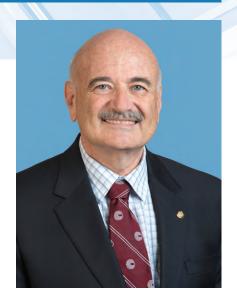
SriniVas R. Sadda, MD

Professor of Ophthalmology

Retinal and Macular Diseases

Dr. Sadda received his MD from Johns Hopkins University, where he also completed his ophthalmology residency and neuro-ophthalmology and medical retina fellowships. His clinical interests are macular degeneration and diabetic retinopathy, and his research includes automated retinal image analysis and advanced retinal imaging technologies. He has more than 650 peer-reviewed publications and 20 book chapters, and he has given over 450 presentations worldwide. He also serves as an editorial board member of Ophthalmic Surgery, Lasers & Imaging, Retina, Ophthalmology Retina, Ophthalmology, and is editor-in-chief of Graefe's. He is also the editor-in-chief of the 7th edition of the Ryan's Retina textbook.

Dr. Sadda provides clinical care at the Doheny Eye Center UCLA locations in Arcadia and Pasadena.



Alfredo A. Sadun, MD, PhD

Flora L. Thornton Endowed Chair in Vision Research Professor of Ophthalmology Vice Chair for Doheny Eye Centers, LICL A

Neuro-Ophthalmology

Dr. Sadun conducted his ophthalmology residency and fellowship in neuroophthalmology at Massachusetts Eye and Ear, Harvard Medical School. His clinical interests are diseases of the optic nerve, and more particularly, Leber hereditary optic neuropathy, toxic and nutritional optic neuropathies, and anterior and posterior ischemic optic neuropathies. He conducts research in these areas, as well as the assessment of the retina and optic nerve in Alzheimer disease and other neuro-degenerations. Dr. Sadun has authored approximately 400 peerreviewed publications and 75 book chapters. His research activities focus on human visual neuro-anatomy; retinal ganglion cell degeneration and regeneration; and axon populations in the human optic nerve in development, aging, and disease. He has six clinical trials involving treatment of optic nerve diseases, and most particularly, mitochondrial impairments as a cause of optic nerve disease.

Dr. Sadun sees patients at the Doheny Eye Center UCLA-Pasadena.



Deming Sun, MD

Mary D. Allen Chair in Vision Research Professor of Ophthalmology

Ocular Immunology

Dr. Sun's laboratory studies pathogenesis of immunology and inflammation-related ocular diseases. Current research focuses on investigating pathogenic mechanism of inflammation and the regulatory role of a specific T cell subset— $\gamma\delta$ T cells—on IL-17+ autoreactive T cells, a newly identified pathogenic T cell.



Victoria L. Tseng, MD, PhD

Assistant Professor of Ophthalmology

Glaucoma

Dr. Tseng specializes in the evaluation and treatment of glaucoma and cataract, and she has research expertise in the epidemiology of eye diseases.

She received her medical degree at the Warren Alpert Medical School of Brown University in Providence, Rhode Island, and she received a PhD in epidemiology at the UCLA Fielding School of Public Health. Dr. Tseng conducted her ophthalmology residency at the UCLA Stein Eye Institute as a member of the prestigious EyeSTAR program, followed by a glaucoma fellowship at Stein Eye.

Dr. Tseng has received numerous awards and honors, including induction into the Alpha Omega Alpha and Delta Omega honor societies, and selection as a Heed Fellow. She has published manuscripts in leading journals and also serves as a reviewer for several journals.

Dr. Tseng sees patients at Doheny Eye Center UCLA locations in Pasadena and Arcadia, and she teaches ophthalmology residents at Olive-View UCLA Medical Center.



Victoria H. Yom, MD

Health Sciences Assistant Clinical Professor of Ophthalmology

Cornea and External Diseases

Dr. Yom specializes in corneal and external diseases. Her expertise includes surgical and medical management of complex ocular inflammatory conditions and anterior uveitis. Procedures performed include corneal transplant surgery and cataract surgery.

Dr. Yom received her MD and Master of Science in Clinical Investigation from Washington University School of Medicine in St. Louis, where she also completed her residency. She obtained a fellowship in cornea and external diseases at the Doheny Eye Centers UCLA and has been a member of the UCLA Department of Ophthalmology since 2017. Dr. Yom enjoys introducing medical students to the field of ophthalmology during their preclinical clerkships, and she regularly lectures at educational conferences and is an active member of the American Academy of Ophthalmology.

Dr. Yom provides care at the Doheny Eye Centers UCLA in Arcadia and Pasadena, and heads the Graft Versus Host Disease Clinic at City of Hope Comprehensive Cancer Center in Duarte.



Yuhua Zhang, PhD

Associate Professor of Ophthalmology

Retinal Imaging

Dr. Zhang is an optical engineer and retinal imaging specialist, whose research encompasses state-of-the-art tools to study blinding eye disorders, including next-generation 3-D imaging technology for viewing the retina in patients with age-related macular degeneration at the cellular level.

His technology integrates adaptive optics, scanning laser ophthalmoscopy, and optical coherence tomography to study the vision-producing cells and tiniest blood vessels of the eye. Understanding their interplay will help answer questions about causes of vision loss, improve prognoses for patients, and lead to directed treatments to slow or prevent vision loss.

Stein Eye Institute Members **Based at Other Sites**

James W. Bisley, PhD

Ethel Scheibel Chair in Neuroscience

Professor of Neurobiology and Psychology

Member of the Brain Research Institute

Cognitive Processing of Visual Information

Dr. Bisley's research revolves around understanding the neural mechanisms underlying the cognitive processing of visual information. These cognitive processes include visual perception, visual memory, visual attention, and the visual guidance of eye movements. Recent work has focused on how the responses of neurons in the posterior parietal cortex and prefrontal cortex are involved in the allocation of visual attention and how they guide eye movements in goal-directed visual search.

Patrick T. Dowling, MD, MPH

Chair, UCLA Department of Family Medicine

The Kaiser Endowed Professor of Community Medicine

Health Care Policy and Access for **Underserved Populations**

For 20 years, Dr. Dowling has received funding to link medical education to underserved neighborhoods. For a decade, several departments from UCLA have volunteered in the yearly event known as "Care Harbor," providing 3,500 individuals with free medical, dental, and eye care. The UCLA Mobile Eye Clinic, led by Dr. Anne Coleman, provides free eyeglasses made onsite to low income families and the homeless in LA County.

Antoni Ribas, MD, PhD

Professor of Medicine, Surgery, and Molecular and Medical Pharmacology

Malignant Melanoma

Dr. Ribas is a physician-scientist who conducts laboratory and clinical research in malignant melanoma, focusing on gene engineered adoptive cell transfer (ACT) therapies, anti-CTLA4 antibodies, anti-PD-1 antibodies, and BRAF and MEK inhibitors.

Dario L. Ringach, PhD

Professor of Neurobiology and Psychology, Biomedical Engineering Program

Visual Perception and Neurophysiology

Dr. Ringach's research focuses on the relationship between eye movements and visual perception, as well as how motor planning and execution, such as reaching, grasping, navigating, and adjusting body posture, is influenced by visual information and impaired vision. In collaboration with a team of neurosurgeons at UCLA, Dr. Ringach's laboratory is also recording the brain activity of patients with epilepsy who are undergoing clinical evaluation for surgical treatment, shedding new light into the processes involved in object recognition and perception.

Professional Research Series

Michael Bridges, PhD

Assistant Project Scientist

Paramagnetic Resonance Methodologies

Dr. Bridges' research in the laboratory of Dr. Wayne Hubbell is centered on the development and application of new pulsed electron paramagnetic resonance methodologies. Protein conformational dynamics and structural relaxation are his central focus with the goal of characterizing the timescales and motional amplitudes of functional activation.

Barry L. Burgess, BS

Research Specialist

Degenerative Retinal Disease Research

Mr. Burgess provides research support for the Photoreceptor/RPE Cell Biology Laboratory of Dr. David Williams. Research interests include production of differentiated RPE cells from human stem cell precursors and developing in vitro models of oxidative stress involved in degenerative retinal disease progression.

Doug Chung, PhD

Assistant Project Scientist

Corneal Endothelial Biology and Disease

Dr. Chung's research focus includes investigating the biology of the corneal endothelium, determining the utility of ex vivo expansion of human corneal endothelial cells for transplantation, and elucidating the mechanisms involved in the pathogenesis of inherited corneal endothelial dystrophies in an effort to develop novel therapeutic approaches.

Matthias Elgeti, PhD

Assistant Research Ophthalmologist

Development of Common Structure/Function Relationships of GPCR Activation Based on the Rhodopsin Model System

Dr. Elgeti's work focuses on the activation mechanisms of G protein coupled receptors (GPCRs), which are involved in many cellular signaling processes and represent major drug targets. He addresses his questions by comparing visual rhodopsin with other prototypical GPCRs using site-directed spin labeling (SDSL) and electron paramagnetic resonance (EPR) spectroscopy.

Rikard Frederiksen, PhD

Assistant Research Ophthalmologist

Adaptation

Dr. Frederiksen's main research interest is adaptation, specifically how the rods and cones in the retina adapt to different light intensities.

Sheyla Gonzalez Garrido, PhD

Associate Project Scientist

Limbal Stem Cells

Dr. Garrido's research aims to improve the ex vivo expansion of limbal epithelial stem cells (LSCs) by modulating Notch signaling in individuals suffering from limbal stem cell deficiency. The identification of niche factors could help to improve the in vitro production of LSCs for transplantation.

Sonia Guha, PhD

Assistant Project Scientist

Unraveling New Therapeutic Targets for Ocular Albinism

Dr. Guha studies genes that may be associated with the misrouting of retinal ganglion cell (RGC) axons at the brain's optic chiasm in individuals affected with X-linked ocular albinism type 1 (OA1). This disease is also characterized by hypopigmentation and presence of macromelanosomes in the RPE. How the reduced pigmentation of OA1 RPE exerts its effects on the RGCs to influence the misrouting of their axons at the optic chiasm remains unsolved, and Dr. Guha's findings have the potential to unravel new therapeutic targets for OA1.

Yuekan Jiao, PhD

Research Specialist

Microscopy Specialist

Dr. Jiao joined the Stein Eye Institute in 2022 and works in the microscopy core. His work includes running and supporting the electron microscope and helping with image processing on the images from all the imaging platforms in the core. He also conducts eye research in collaboration with research labs at the institute.

Joanna J. Kaylor, PhD

Associate Project Scientist

Visual Chromophore Regeneration in the Retina of the Eye

Dr. Kaylor's research focuses on identification of biochemical pathways essential for visual chromophore production in the retina. She previously discovered an enzymatic complex that generates visual chromophore precursor, which sustains vision in bright light. She also revealed the presence of a nonenzymatic process that occurs in photoreceptor membranes that aids in chromophore regeneration. Dr. Kaylor is currently studying an enzyme she identified that is responsible for a unique visual chromophore processing activity present in cone photoreceptors.

Jacky M. K. Kwong, PhD

Research Ophthalmologist

Degeneration of Retinal Ganglion Cells and Neuronal Recuses

Dr. Kwong identifies novel neuroprotective and regenerative therapies for glaucoma that preserve and restore the nerve cells. He utilizes animal models related to optic nerve injury and proteomic analysis to understand the progression of retinal ganglion cell degeneration, and pharmacologic techniques and functional assessments to evaluate therapies.

Anna Matynia, PhD

Research Ophthalmologist

Mechanisms Underlying Photoallodynia and Inherited **Retinal Diseases**

Dr. Matynia's research investigates the mechanisms underlying photoallodynia, a condition in which normal levels of light produce or enhance ocular or headache pain. Using behavioral, molecular, genetic, and cellular approaches, the laboratory focuses on corneal, retinal, and central mechanisms from dry eye injury, achromatopsia, and migraine, respectively. Dr. Matynia is also investigating mechanisms of hemangioblastoma formation associated with von Hippel-Lindau disease, and genetics of inherited retinal disease, using patient-derived induced pluripotent stem cells for molecular genetics determination.

Alejandra Young, PhD

Associate Project Scientist

Ocular Albinism

Dr. Young's research is focused on the study of the molecular mechanisms that cause ocular albinism type 1 (OA1), a disease caused by mutations in the OA1 gene and characterized by hypopigmentation of the retinal pigment epithelium and abnormal crossing of the optic axons at the optic chiasm. In addition, she investigates the potential therapeutic use of engineered human embryonic stem cell-derived extracellular vesicles for the treatment of ocular albinism

Chi Zhang, PhD

Assistant Project Scientist

Study of Steroid Treatments for Glaucoma

Dr. Zhang's research focuses on the study of steroid treatments, including the use of dexamethasone (Dex), which mediates the increase of intraocular pressure (IOP) and the risk of ocular hypertension leading to steroidinduced glaucoma. Dex treatment can lead to irregular trabecular meshwork (TM) structure and potentially reduce outward flow of intraocular fluid through altering Wnt signaling. In addition, Dr. Zhang uses novel Wnt small molecule regulators to investigate whether these modulators would affect Dex-mediated phenotype on primary human TM cells.

Professional Clinical Series

Jane W. Chan, MD

Associate Physician Diplomate Doheny Eye Centers UCLA

Melissa W. Chun, OD, FAAO

Associate Clinical Professor of Ophthalmology

Director of the UCLA Vision Rehabilitation Center

Vision Rehabilitation

Dr. Chun is a low-vision specialist providing patient care and resident teaching during their subspecialty clinical rotation. She is involved in clinical trials to assess and improve visual function by utilizing telerehabilitation to train individuals with low vision to effectively use magnification devices for reading and to assess the effect of mobile applications in improving independence and self-sufficiency for older adults with a wide range of visual impairment.



Uday Devgan, MD, FACS, **FRCS**

Clinical Professor of Ophthalmology Chief of Ophthalmology, Olive View-UCLA Medical Center

Dr. Devgan is a cataract and refractive surgery specialist who has taught ophthalmic surgery in more than 50 countries. He has been actively involved in resident teaching for more than two decades, and he has mentored more than 180 residents over the course of thousands of ocular surgeries, including advising former residents after the culmination of their training. Passionate about teaching the next generation of ophthalmologists, Dr. Devgan publishes the cataract surgery teaching website CataractCoach.com, and he has been honored with the ophthalmology Faculty Teaching Award an unprecedented five times.

Rachel Feit-Leichman, MD

Associate Physician Diplomate

Cataract Surgery

Dr. Feit-Leichman divides her time between supervising residents and providing patient care at the Stein Eye Institute's Urgent Care Clinic, and teaching cataract surgery and overseeing residents at the ophthalmology clinic of the Harbor-UCLA Medical Center. Dr. Feit-Leichman is also active in striving to improve patient access to eye care in the greater Los Angeles County Healthcare System.

Batool Jafri, MD

Associate Physician Diplomate

Assistant Clinical Professor of Ophthalmology

Cornea/External Disease/ **Refractive Surgery**

Dr. Jafri provides patient care as well as supervision to resident physicians and cornea fellows. Her focus is medical and surgical treatment of diseases of the cornea, external disease, and refractive conditions like near and far sightedness. Dr. Jafri provides general ophthalmic care and offers cataract surgery with premium intraocular lens implants at the Stein Eye Center-Santa Monica.

Phillip Le, MD, PhD

Associate Physician Diplomate

Retinal and Macular Diseases

Dr. Le is a comprehensive ophthalmologist who specializes in retinal and macular diseases. He sees patients at the Doheny Eye Center UCLA-Pasadena.

Christine V. Nguyen, MD

Associate Physician Diplomate
Doheny Eye Centers UCLA

Tania Onclinx, MD

Associate Physician Diplomate
Clinical Instructor of Ophthalmology

Urgent Care and Clinical Supervision

Dr. Onclinx attends at the Urgent Care Walk-In service at the Stein Eye Institute, and she teaches resident physicians and medical students at the Stein Eye Institute during their subspecialty clinical rotation. She also provides clinical supervision to resident physicians at Ronald Reagan UCLA Medical Center and UCLA Medical Center, Santa Monica.

Susan S. Ransome, MD

Associate Physician Diplomate

Assistant Clinical Professor of Ophthalmology

HIV and Diabetic Retinopathy

Dr. Ransome is participating in a clinical research study involving HIV-infected patients who have diabetes to see whether there is increased risk of development or progression of diabetic retinopathy when subjects are treated for abdominal lipodystrophy with Egrifta (tesamorelin).

Meryl L. Shapiro-Tuchin, MD

Associate Physician Diplomate

Assistant Clinical Professor of Ophthalmology

Co-Director of the Ophthalmology Inpatient Consultation Service

Comprehensive Ophthalmology

Dr. Shapiro-Tuchin provides clinical supervision to resident physicians. She functions as co-director of the Ophthalmology Inpatient Consultation Service, assisting resident physicians in their evaluation of inpatients admitted to the Ronald Reagan UCLA Medical Center and the UCLA Medical Center, Santa Monica.

Ronald J. Smith, MD

Associate Physician Diplomate

Associate Clinical Professor of Ophthalmology

Objective Assessment of Surgical Technique and Training

Dr. Smith's research interest is the objective assessment of surgical technique and development of evidence-based surgical training for residents to improve patient care. In addition to teaching residents at the Veterans Affairs Greater Los Angeles Healthcare System and in the UCLA Microsurgery Laboratory, Dr. Smith provides cornea and comprehensive eye care to patients at the Stein Eye Center—Santa Monica.

Laura A. Syniuta, MD

Associate Physician Diplomate

Pediatric Ophthalmology and Strabismus

Dr. Syniuta completed her fellowship training in pediatric ophthalmology and strabismus at the Stein Eye Institute in 1999. With children's eye and learning disorders being her passion, she sees patients at the Stein Eye Center—Santa Monica and has staffed the UCLA Mobile Eye Clinic since 2011.

Andrew G. Young, M.D.

Associate Physician Diplomate

Assistant Clinical Professor of Ophthalmology

UCLA Mobile Eye Clinic

Dr. Young is a glaucoma specialist and provides comprehensive ophthalmic care. He has staffed the UCLA Mobile Eye Clinic since 2008. He received his MPH degree from the UCLA Fielding School of Public Health in 2016. His research interests include pediatric vision epidemiology and eye health screenings in community-based settings. He regularly participates in the Department's medical student teaching activities.

LECTURER

Kathleen L. Boldy, VMD

Lecturer in Ophthalmology

Volunteer Faculty

CLINICAL PROFESSORS OF OPHTHALMOLOGY

J. Bronwyn Bateman, MD

Bruce B. Becker, MD, PC

Michael S. Berlin, MD

Michael Colvard, MD

Paul Deiter, MD (Senior Status)

Uday Devgan, MD, FACS, FRCS

Chief of Ophthalmology

Olive View-UCLA Medical Center

Donald Dickerson, MD (Senior Status)

Donald S. Fong, MD, MPH

Ronald Gaster, MD

Thomas A. Hanscom, MD

Dale Heuer, MD

John D. Hofbauer, MD

Kenneth J. Hoffer, MD

C. Richard Hulquist, MD

Barry M. Kerman, MD

Roger A. Kohn, MD

Howard R. Krauss, MD

Benjamin C. Kwan, MD

Jeremy Levenson, MD (Senior Status)

Jonathan I. Macy, MD

Ezra Maguen, MD

Robert K. Maloney, MD

Samuel Masket, MD

Leon G. Partamian, MD

George Primbs, MD (Senior Status)

Yaron S. Rabinowitz, MD

George M. Rajacich, MD

Teresa O. Rosales, MD

Robert J. Schechter, MD (Senior Status)

Jerry Sebag, MD

Alan L. Shabo, MD

Norman Shorr, MD

ASSOCIATE CLINICAL PROFESSORS OF OPHTHALMOLOGY

Gerrald Barron, MD (Senior Status)

Arnold Barton, MD (Senior Status)

Kevin J. Belville, MD

Louis Bernstein, MD (Senior Status)

W. Benton Boone, MD

Harvey Brown, MD

Andrew E. Choy, MD

Melissa W. Chun, OD

Peter J. Cornell, MD

Bernard Davidorf, MD (Senior Status)

Paul B. Donzis, MD

Robert E. Engstrom, MD

Kathryn M. Gardner, MD

Donald I. Goldstein, MD

Michael J. Groth, MD

Andrew Henrick, MD

Edwin P. Hill, MD

Jonathan A. Hoenig, MD

Richard H. Hoft, MD

David F. Kamin, MD

Stanley Kopelow, MD (Senior Status)

Joseph Lambert, MD (Senior Status)

Brian L. Lee, MD

Steven Leibowitz, MD

Gene Matzkin, MD (Senior Status)

Joan E. McFarland, MD

Alan Norton, MD (Senior Status)

John F. Paschal, MD (Senior Status)

Firas Rahhal, MD

Michael Reynard, MD

David E. Savar, MD

Timothy V. Scott, MD

Kayur Shah, MD

Albert Sheffer, MD

James D. Shuler, MD

Yossi Sidikaro, MD, PhD

Matthew Sloan, MD

Ronald J. Smith, MD

Alfred Solish, MD, MS

Kenneth D. Steinsapir, MD

Sadiga Stelzner, MD, MA, FACS

William C. Stivelman, MD (Senior Status)

Hector L. Sulit, MD

Kamal A. Zakka, MD

ASSISTANT CLINICAL PROFESSORS OF OPHTHALMOLOGY

David H. Aizuss, MD

Malvin B. Anders, MD

Richard K. Apt, MD

Reginald G. Ariyasu, MD, PhD

Arthur A. Astorino, MD

Mark A. Baskin, MD

Arthur Benjamin, MD

Katherine L. Bergwerk, MD

Betsy E. Blechman, MD

Cynthia A. Boxrud, MD

Amarpreet S. Brar, MD

Almira W. Cann, MD, PhD

Arnett Carraby, MD Vicki K. Chan, MD

Andrew M. Chang, MD

Candice Chen, MD

Thomas B-H. Choi, MD

Milton W. Chu, MD

Robert A. Clark, MD

Charles A. Cooper, MD

Hajir Dadgostar, MD

Yadavinder P. Dang, MD

Jonathan M. Davidorf, MD

John L. Davidson, MD

Sanford S. Davidson, MD

Louise Cooley Davis, MD

Farid Eghbali, OD

Troy R. Elander, MD

Naomi L. Ellenhorn, MD

Calvin T. Eng, MD

Doreen T. Fazio, MD

Sanford G. Feldman, MD

Laura E. Fox, MD

Ronald P. Gallemore, MD

George H. Garcia, MD

Leslie C. Garland, MD (Senior Status)

W. James Gealy, Jr., MD

Damien Goldberg, MD

Lawrence "Tim" Goodwin, MD

Lawrence H. Green, MD (Senior Status)

Richard Havunjian, MD

Man M. Singh Hayreh, MD

Matthew L. Hecht, MD

David A. Hollander, MD

Jeffrey Hong, MD

Catherine J. Hwang, MD, MPH

Morton P. Israel, MD

Steven J. Jacobson, MD

Batool Jafri, MD

Aarchan Joshi, MD

Véronique H. Jotterand, MD

Jason Jun, MD

Ganesha Kandavel, MD

J. David Karlin, MD

David S. Katzin, MD

James F. Kleckner, MD (Senior Status)

Jerome R. Klein, MD

Craig H. Kliger, MD

Howard E. Lazerson, MD (Senior Status)

Robert T. Lin, MD

Joanne E. Low, MD

Bryant J. Lum, MD

Michael C. Lynch, MD

M. Polly McKinstry, MD

Ashish M. Mehta, MD

Kenneth J. Miller, MD (Senior Status)

David R. Milstein, MD

Ronald L. Morton, MD

Roger L. Novack, MD, PhD

David Paikal, MD

Alpa A.S. Patel, MD

James H. Peace, MD

Gilbert Perlman, MD (Senior Status)

Cheryl J. Powell, MD

Susan S. Ransome, MD

Laurence N. Roer, MD

Gerald Sanders, MD (Senior Status)

Aaron M. Savar, MD

Louis Savar, MD

Barry S. Seibel, MD

Meryl Shapiro-Tuchin, MD

David M. Shultz, MD

Eliot B. Siegel, MD

Lance M. Siegel, MD

John D. Slaney, MD

Robert J. Smyth, MD

Kenneth O. Sparks, MD

Mehryar "Ray" Taban, MD, FACS

Homayoun Tabandeh, MD

Debra G. Tennen, MD

Teddy Y. Tong, MD

Sterling M. Trenberth, MD

(Senior Status)

Robert C. Tudor, MD (Senior Status)

Henry E. Ullman, MD

Tay J. Weinman, MD (Senior Status)

Irwin S. Weiss, MD (Senior Status)

Sidney J. Weiss, MD

Jon D. Wender, MD

Scott Whitcup, MD

David L. Williams, MD (Senior Status)

Jeffrey V. Winston, MD

David L. Wirta, MD

Barry J. Wolstan, MD

Wilson C. Wu, MD, PhD

Michael C. Yang, MD

Patrick C. Yeh, MD

Richard H. Yook, MD (Senior Status)

Andrew Young, MD

Peter D. Zeegen, MD (Senior Status)

CLINICAL INSTRUCTORS IN OPHTHALMOLOGY

Michael L. Baker, OD

Eduardo Besser, MD

Maria Braun, MD

Stephen S. Bylsma, MD

Andrew Caster, MD

John J. Darin, MD (Senior Status)

Paul J. Dougherty, MD

Sean Dumars, MD

Daniel Ebroon, MD

Brad S. Elkins, MD

Nicole Fram, MD

Tricore Fram, MB

Pamela Golchet, MD

Wei (Wayne) Gui, MD Satvinder Gujral, MD

Lawrence M. Hopp, MD, MS

Anisha J. Judge, MD

Ganesha Kandavel, MD

Michael Kapamajian, MD

Douglas Katsev, MD

Rajesh Khanna, MD

Julie A. King, MD

Alexander Knezevic, MD

Mark H. Kramar, MD

Daniel Krivoy, MD

Mark Landig, OD

Amir Marvasti, MD

Laurie C. McCall, MD

Mitra Nejad, MD

Tania Onclinx, MD

Jayantkumar Patel, MD

Steven H. Rauchman, MD

Richard H. Roe, MD

Christian Sanfilippo, MD

Vivian Shibayama, OD

Mark Silverberg, MD

Abraham Soroudi, MD

Sharon N. Spooner-Dailey, MD

Daniel C. Su, MD

Laura A. Syniuta, MD

Rosalind Vo, MD

Mark Volpicelli, MD

Ye Elaine Wang, MD

Mathew Wang, MD Peter H. Win, MD

E. Dale Abel, MD, PhD

William S. Adams Distinguished Professor of Medicine

Chair and Executive Medical Director

Department of Medicine

David Geffen School of Medicine and UCLA Health

Robert W. Baloh, MD

Professor of Neurology and Surgery (Head and Neck)

Ferdinand V. Coroniti, PhD

Professor, Department of Physics and Astronomy

David Eisenberg, DPhil

Investigator, Howard Hughes Medical Institute

Paul D. Boyer Professor of Biochemistry and Molecular Biology

Professor, Departments of Chemistry and Biochemistry, and Biological Chemistry

Molecular Biology Institute

Alan D. Grinnell, PhD

Professor of Physiology and Physiological Science

Director, Jerry Lewis Neuromuscular Research Center

Director, Ahmanson Laboratory of Neurobiology

C. Kumar Patel, PhD

Professor, Department of Physics and Astronomy

Peter C. Whybrow, MD

Judson Braun Professor and Executive Chair Department of Psychiatry and Biobehavioral Sciences

Director and Physician in Chief Neuropsychiatric Institute

Dean Bok, PhD

Dolly Green Chair of Ophthalmology

Professor of Ophthalmology Emeritus

Distinguished Research Professor of Neurobiology

Member of the Brain Research Institute

Richard Casey, MD

Health Sciences Clinical Professor Emeritus

Gordon L. Fain, PhD

Distinguished Professor of the Departments of Integrative Biology/ Physiology Emeritus

Professor of Ophthalmology Emeritus (Active Recall)

Debora B. Farber, PhD, DPhhc

Distinguished Professor of Ophthalmology Emeritus (Active Recall)

Doctor honoris causa

Member of the Brain Research Institute

Member of the Molecular Biology Institute

Lynn K. Gordon, MD, PhD

Professor of Ophthalmology Emeritus (Active Recall)

Emeritus Senior Associate Dean for Equity and Diversity Inclusion

Michael O. Hall, PhD

Professor of Ophthalmology Emeritus

Founding Member of the Stein Eye Institute

Robert S. Hepler, MD

Professor of Ophthalmology Emeritus

Founding Chief, Neuro-Ophthalmology Division

Joseph Horwitz, PhD

Distinguished Professor of Ophthalmology Emeritus

John Irvine, MD

Retired Health Sciences Clinical Professor (Active Recall)

Sherwin D. Isenberg, MD

Professor of Ophthalmology and Pediatrics Emeritus

Allan E. Kreiger, MD

Professor of Ophthalmology Emeritus (Active Recall)

Founding Chief, Retina Division

Ralph D. Levinson, MD

Health Sciences Clinical Professor of Ophthalmology Emeritus

Steven Nusinowitz, PhD

Professor of Ophthalmology Emeritus (Active Recall)

Co-Director of the Visual Physiology Laboratory

Director of the Live Imaging and Functional Evaluation (LIFE) Core



Bradley R. Straatsma, MD, JD

Professor of Ophthalmology Emeritus

Founding Chair, Department of Ophthalmology

Founding Director, Stein Eye Institute

Barry A. Weissman, OD, PhD

Professor of Ophthalmology Emeritus

Marc O. Yoshizumi, MD

Professor of Ophthalmology Emeritus

Residents

THIRD-YEAR RESIDENTS 2019-2022

Abhinav Golla, MD, MPH Terry Hseih, MD, PhD Yoon Lee, MD Justin Park, MD Andres Parra, MD Ravin Sajnani, MD Lynn Shih, MD Claire Smith, MD, MFA

SECOND-YEAR RESIDENTS 2020-2023

Adrian Au, MD, PhD (EyeSTAR) Giovani Campagna, MD Teresa Chen, MD Cory Hoeferlin, MD, MBA (EyeMBA) Amanda Lu, MD Michael Mathison, MD Alex Onishi, MD

FIRST-YEAR RESIDENTS 2021-2024

Sarah Cheng, MD, PhD Kendall Goodyear, MD Robert Gunzenhauser, MD Sasha Hubschman, MD Lorenzo Maltish, MD Benjamin Margines, MD Angela Oh, MD Iris Zhuang, MD

EyeSTAR Trainees

Adrian Au, MD, PhD Sarah Cheng, MD, PhD Erika Ellis, MD Ken Kitayama, MD Elise Ma, MD Michel Sun, MD, PhD

EyeMBA Trainee

Cory Hoeferlin, MD, MBA Sagar H. Rambhia, MD

Fellows

Cornea/External Ocular Diseases and Refractive Surgery

Stephan Chiu, MD Jae Y. Kim, MD David MacPherson, MD (Doheny Eye Centers UCLA)

Glaucoma

Jaffer Kattan, MD Nariman Nassiri, MD (Doheny Eye Centers UCLA) Ernest Puckett, MD

Medical Retina and **Ophthalmic Genetics**

Brian Lee, MD Timothy Peiris, MD

Neuro-Ophthalmology

Samuel J. Spiegel, MD

Orbital and Ophthalmic Plastic Surgery

Nathan Pirakitikulr, MD Kelsey Roelofs, MD

Pathology (Eye)

None

Pediatric Ophthalmology and Strabismus

Harshad P. Patel, MD

Uveitis and Inflammatory Eye Disease

Alexander Shusko, MD

Vitreoretinal Diseases and Surgery

Greg Budoff, MD Alexander Dillon, MD Samuel D. Hobbs, MD Nicholas lafe, MD

International Fellows

Cornea Research

Piseth Dalin Chea, MD

Cambodia

Ali Masoudi, MD

Iran

Onyinye Edith Onyia, MD

Nigeria

Dorian Zeidenweber, MD

Israel

Comprehensive Ophthalmology/ Cataract

None

Glaucoma

Lourdes Grassi, MD

Argentina

Massood Mohammadi, MD

Iran

Medical Retina and Ophthalmic Genetics

Elodie Bousquet, MD

France

Veronica A. Romero Morales, MD

Mexico

Ahmad Santina, MD

Lebanon

Neuro-Ophthalmology

None

Orbital and Ophthalmic Plastic Surgery

Pallavi Singh, MD

India

Pediatric Ophthalmology

None

Uveitis

None

Visual Physiology

None

Vitreoretinal Diseases and Surgery

Aya Barzelay Wollman, MD, PhD

Israel

Jaime Dodds, MD

Argentina

Moritz Pettenkofer, MD

Germany

Predoctoral Research Fellows

Bita Behziz

Mengzhen Chen

Kevin Eden

W. Blake Gilmore

Khristopher Griffis

Jody He

Yuting Kevin Lai

Seongjin Lim

Philipp Melendez

Eunice Ng

Thao Nguyen

Ali Pahlevan

Joseph Park

Katie Pohl

Mia Reyes Luis Sanchez

Gil Torten

Postdoctoral Research Fellows

Mahesh Agarwal, PhD

Paul Bonezzi, PhD

Sathiskumar Chandrakumar, PhD

Arpita Dave, PhD

Antonio Escudero Paniagua, PhD

Matthew Gerber, PhD

Mihir Ghosh, PhD

Roni Hazim, PhD

Nan Hultgren, PhD

Somaye Jafari, PhD

Robert Knight, PhD

Chao Ma, PhD

Ala Morshedian, PhD

Joann Roberts, PhD

Sarah Robertson, PhD

Maxime Ruiz, PhD

Sophie Skarlatou, PhD

Benjamin Smith, PhD

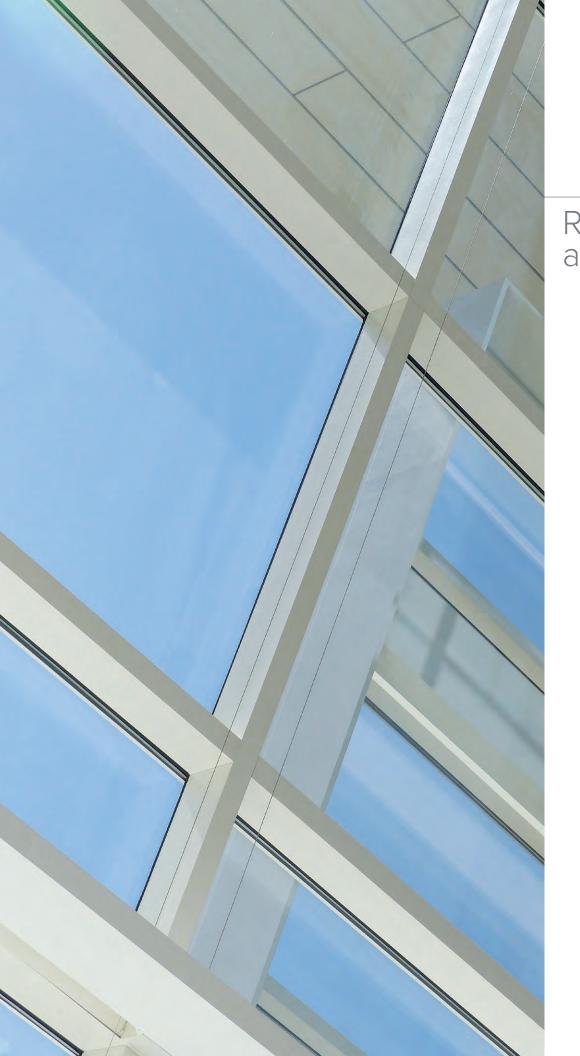
Carlos Torets Serrano, PhD

Simona Torriano, PhD

Rutuja Unhale, MD

Lin Zhang, PhD

Wenlin Zhang, MD, PhD



Research and Funding

Research and Funding

Vision-Science Research Active Funding

ADMINISTERED BY THE STEIN EYE INSTITUTE

Faculty

Anthony Aldave, MD

Does COVID-19 Vaccination Increase the Risk of Corneal Transplant Rejection? Eye Bank Association of America Duration: 7/1/21–6/30/23 \$5,000

Diabetes Endothelial Keratoplasty Study (DEKS): Impact of Diabetes on Corneal Transplant Success and Endothelial Cell Loss
JAEB Center for Health Research
Duration: 1/27/22–4/30/26
\$64,740

Determining the Impact of SLC4A11
Deficiency on Oxidative Stress and
Assessing the Therapeutic Effect of
SkQ1 Treatment in SLC4A11-Deficient
Cell-Based Models of Corneal
Endothelial Dystrophies
UCLA Academic Senate Council
on Research
Duration: 7/1/21–6/30/22
\$2,500

The Use of Long-Term Preserved Corneas for Perforated Corneal Ulcer in Vietnam DGSOM Global Health Program

(GHP)/Global Health Seed Grant Duration: 6/1/21–5/31/22

\$50,000

Ava K. Bittner, OD, PhD

CARE Study: Community Access Through Remote Eyesight Administration for Community Living Sub-award from New England College of Optometry

Duration: 1/27/22-4/30/26

Total: \$402,517

Beacon Sensors and Telerehabilitation to Assess and Improve Use of Devices for Visual Functioning (BeST-AID) National Eye Institute Duration: 9/1/19–8/31/22

Total: \$469,937

Beacon Sensors and Telerehabilitation to Assess and Improve Use of Devices for Visual Functioning (BeST-AID) American Academy of Optometry Duration: 3/1/19–2/28/23 \$100,000

Development of a Behavioral Intervention with Socially Assistive Robots to Enhance Magnification Device Use for Reading National Eye Institute Duration: 2/1/20–1/31/23

\$412,927

Joseph Caprioli, MD

Clinical Research Program in Glaucoma Simms-Mann Family Foundation Duration: 7/1/14–6/30/22 \$50,000

Anne L. Coleman, MD, PhD

2019 Grant Application to the Nicholas Endowment for the UCLA Mobile Eye Clinic (UMEC) The Nicholas Endowment Duration: 12/5/19–12/31/22 \$75.000

Joseph L. Demer, MD, PhD

Biomechanical Analysis in Strabismus Surgery National Eye Institute Duration: 5/1/20–4/30/24 \$29.825

Data-Driven Biomechanical Simulation of Eye Movement and Strabismus National Eye Institute Sub-award from George Mason University Duration: 6/1/19–5/30/23

\$481,358

Sophie X. Deng, MD, PhD

Development of Stem Cell-Based Therapies for Limbal Stem Cell Deficiency National Eye Institute Duration: 2/1/19–1/31/24 \$242.500

Rashida Wilkinson: Activation of Wnt Signaling to Improve In Vitro Human Limbal Stem Cell Maintenance National Eye Institute Diversity Supplement Duration: 6/20/22–12/31/22 \$11,244 Celine Shields: Effect of Inhibition of Wnt Signaling Using Small Molecules in Human Limbal Epithelial National Eye Institute Diversity Supplement Duration: 6/20/22–12/31/22 \$1,571,682

Development of Small-Molecule Wnt Mimetics for Corneal Epithelial Cell Regeneration National Eye Institute (Multi-Pl with Jie J. Zheng, PhD) Duration: 9/30/18–8/31/23 \$242,500

Gordon L. Fain, PhD

Physiology of Photoreceptors National Eye Institute Duration: 1/1/22–12/31/26 \$351,000

Jean-Pierre Hubschman, MD

Vitreoretinal Surgery via Robotic Microsurgical System with Image Guidance, Force Feedback, Virtual Fixture, and Augmented Reality National Eye Institute Duration: 2/1/19–1/31/24 \$29,405

Intraocular Robotic Interventional and Surgical System for Automated Cataract Surgery National Eye Institute Duration: 9/30/19–8/31/23 \$1,702,751

A Natural History of Macular (Parafoveal) Telangiectasia Lowy Medical Research Institute Duration: 9/1/05–12/31/21 \$673,535

Michael Ip, MD

The SCORE 2 Long-Term Follow-Up (SCORE2 LTF)
National Eye Institute
Sub-award from
Pennsylvania State University
Duration: 4/1/19–3/31/23
\$57,704

John A. Irvine, MD

CAM-101-01 Cambium Medical Technologies LLC Duration: 7/10/2019–7/9/2023 \$74,572

Colin A. McCannel, MD

Ranbizumab with Neovascular Degeneration: GR40549

Genentech, Inc.

Duration: 11/26/2016-12/31/2022

\$1,192,272

ADX-2191-PVR-001 Alderya Therapeutics, Inc. Duration: 2/14/20–2/13/24

\$108,913

Tara A. McCannel, MD, PhD

AU-011-101 Aura Biosciences, Inc. Duration: 9/28/17–2/9/23 \$256.629

AU-011-202 Aura Biosciences, Inc. Duration: 4/16/21-4/15/25 \$268,788

Kevin M. Miller, MD NXGT-202-QROS Johnson & Johnson Duration: 9/10/20–9/10/24 \$196,030

Bartly J. Mondino, MD

RPB Unrestricted Grant Research to Prevent Blindness, Inc. Duration: 1/1/12–12/31/22

\$115,000

Kouros Nouri-Mahdavi, MD

Detection of Disease Progression in Advanced Glaucoma National Eye Institute Duration: 3/1/20–2/28/25

\$1,153,250

Yi-Rong Peng, PhD

Deciphering the Molecular Underpinnings of Foveal Formation Research to Prevent Blindness, Inc Career Development Award Duration: 1/1/22–12/31/25 \$350.000

Molecular and Evolutionary Mapping of Neural-Circuit Specialization in High-Acuity Vision Klingenstein-Simon Fellowship Award in Neuroscience Duration: 7/1/21–6/30/24

\$225,000

Transcriptomic and Genetic Dissection of Foveal Formation and Malformation Knights Templar Eye Foundation Career Starter Grant Duration: 7/1/21–9/30/22

\$70,000

Stacy L. Pineles, MD

Pediatric Eye Disease Investigator Group (PEDIG) JAEB Center for Health Research Duration: 7/27/21–12/31/23 \$51,543

Pediatric Eye Disease Investigator Group (PEDIG) Jaeb Center for Health Research Duration: 1/1/19–12/31/23

\$72,765

Roxana A. Radu, MD

Gemini Therapeutics, Inc. CDA20214570: Discussion with Gemini Duration: 4/7/21–4/6/22 Non-monetary Agreement

CDA20221314 : Gene Therapy Candidate for Preclinical Studies Replay Holdings, Inc. Duration: 9/17/21–9/16/22 Non-monetary Agreement

CDA20224708: Complement Inhibition in Stargardt Animal Disease Alexion Pharmaceuticals, Inc. Duration: 4/5/22–4/5/24 Non-monetary Agreement

Alapakkam P. Sampath, PhD

Molecular Basis of Photoreceptor Wiring National Eye Institute (Multi-PI award with Scripps Clinic and Research Foundation) Duration: 5/1/17–4/1/22 \$90,760

Analyses of Retinal Circuits After Rod Rescue in a Mouse Model of Human Blindness National Eye Institute (Multi-Pl award with University of Southern California) Duration: 9/1/16–8/31/22 \$736,680

Vision Science Training Program National Eye Institute Duration: 9/1/17–8/31/22 \$1,142,122

Molecular Mechanisms of Photoreceptor Adaptation National Eye Institute Duration: 2/1/19–1/31/24 \$1,644,473

Instrumentation Grant for Stein Eye Investigators Bruce Ford and Anne Smith Bundy Foundation

Foundation Duration: 8/16/11–8/15/22

\$100,000

David Sarraf, MD

In Vivo Ultrastructure of Chorioretinal Disease National Eye Institute Sub-award from Doheny Eye Institute Duration: 9/30/21–8/31/24

\$21.146

Gabriel H. Travis, MD

Mechanisms for Light-Driven Chromophore Synthesis by Müller Cells to Regenerate Cone Opsin and Maintain Cone Sensitivity National Eye Institute Duration: 1/1/20–12/31/24 \$1,266,335

Functional Characterization of the ABCA4 Transporter in Photoreceptors from a Zebrafish Model of Recessive Stargardt Disease Research to Prevent Blindness, Inc. Stein Innovation Award Duration: 7/1/21–6/30/24 \$300.000

Victoria L. Tseng, MD, PhD

Social Vulnerability and Incidence of Glaucoma Surgery in the California Medicare Population American Glaucoma Society Duration: 11/30/21–12/1/22

\$10,000

Edmund Tsui, MD

Discovery of Quantitative Imaging Biomarkers in Juvenile Idiopathic Arthritis-Associated Uveitis Thrasher Research Fund Duration: 7/1/20–6/30/23 \$26.750

Imaging Biomarkers in Juvenile Idiopathic Arthritis-Associated Uveitis Pfizer Health Solutions, Inc. Duration: 6/16/21–6/30/23 \$150,000

Objective Measures of Intraocular Inflammation in Pediatric Anterior Uveitis NIH-National Eye Institute Duration: 9/1/21–7/31/26 \$246,583

Irena Tsui, MD

Retinal and Choroidal Vasculature Changes in Healthy and High-Risk Pregnancies National Eye Institute Duration: 2/1/20–1/31/23 \$439,426

Federico G. Velez, MD

DDO001F12201

Novartis Pharmaceuticals Corporation Duration: 6/1/2021–3/31/2024 \$275.074

David S. Williams, PhD

Vision Research Core at UCLA National Eye Institute Duration: 9/1/20–6/30/25 \$500.000

Cellular Mechanisms of Disease in Patient-Specific RPE Cells Foundation Fighting Blindness Sub-award from University of California, San Francisco Duration: 6/1/17–5/31/23 \$169,930

RPE Cell Biology, Aging, and Disease National Eye Institute Duration: 9/1/17–5/31/23 \$287,941

Test of Readthrough Drug Treatment for UGA PTC in the Usher 1B Gene Foundation Fighting Blindness Duration: 1/1/20–12/31/22 \$121,250

Antonio Escudero Paniagua, PhD (Dr. David Williams, mentor)

(Postdoctoral Fellow)
Addressing the Link About Impairment in Phagosomes Degradation and AMD BrightFocus Foundation
Duration: 7/1/21–6/30/23
\$100,000

Nan Hultgren, PhD (Dr. David Williams, mentor)

(Postdoctoral Fellow) Investigating the Role of Mitochondrial Dynamics in Retinal Pigment Epithelium National Eye Institute Duration: 9/1/20–8/31/23 \$131.316

Exploring the Relationship of Water Flow Across the RPE and Mutant-MYO7A/Usher 1B National Eye Institute Duration: 1/1/20–12/31/22 \$423.150

Xian-Jie Yang, PhD

Neuroprotection Mechanism for Photoreceptors National Eye Institute Duration: 5/1/16–4/30/22 \$366,660

Katherine Pohl (Dr. Xian-Jie Yang, mentor)

Understanding OPA1 Mutation-Driven Dominant Optic Atrophy Using Human PSC-Derived Retinal Ganglion Cells National Eye Institute Duration: 9/30/21–9/29/23 \$92.072

Yuhua Zhang, PhD

In Vivo Characterization of Metabolic Function of Photoreceptors and Retinal Pigment Epithelium Cells in Age-Related Macular Degeneration Research to Prevent Blindness, Inc. Duration: 1/1/22–12/31/24

Jie J. Zheng, PhD

\$300.000

Development of Small-Molecule Wnt Mimetics for Corneal Epithelial Cell Regeneration National Eye Institute (Multi-PI with Sophie Deng, MD, PhD) Duration: 9/30/18–8/31/23 \$242,500

Vision Science Summer Research Program University of California-Historically Black Colleges and Universities Initiative (UC-HBCU) Duration: 12/1/20–11/30/21 \$27,000

Professional Research Series

Doug Chung, PhD

Elucidating the Role of SLC4A11 in Congenital Hereditary Endothelial Dystrophy Knights Templar Eye Foundation, Inc. Duration: 7/1/21–12/31/22 \$70,000

Matthias Elgeti, PhD

Exploring the Conformational Landscape of G Protein Coupled Receptors National Institute of General Medical Sciences Duration: 4/1/21–12/31/25 \$639.600

Anna Matynia, PhD

Molecular, Cellular, Anatomical, and Neurobiological Investigation of Melanopsin-Expressing Corneal Innervation, and Its Role in Pain and Photophobia National Eye Institute Duration: 2/1/20–12/31/24 \$1,146,600

Microglia Function in Pathogenesis of Retinal Hemangioblastomas Associated with Von Hippel-Lindau Disease VHL Alliance Duration: 11/15/19–2/14/23

\$100,000



Vision-Science Research **Active Funding**

ADMINISTERED BY THE **DOHENY EYE INSTITUTE**

Faculty

Steven Barnes, PhD

Visual Processing by GABA-pH Hybrid Feedback at the Photoreceptor Synapse The Plum Foundation Duration: 7/22/20-7/21/21 \$50,000

Deborah Ferrington, PhD

Role of Immunoproteasome in Airway Viral Infection National Jewish Health Sub-award on NIAID Grant Al50082 Duration: 5/1/22-4/30/25 \$83,999

Kaustabh Ghosh, PhD

Role of Retinal Capillary Stiffness in Diabetic Retinopathy National Eye Institute Duration: 9/1/17-6/30/23 \$284,460

Alex A. Huang, MD, PhD

Dynamic Variable Aqueous Humor Outflow and Glaucoma Therapies in the Human Eye National Eye Institute Duration: 5/1/20-4/30/22 \$321,955

Investigating Subconjunctival Lymphatics for the Treatment of Glaucoma and Eye Disorders Glaucoma Research Foundation Shaffer Grant Duration: 2/1/20-1/31/22

\$50,000

Venous Congestion Countermeasure (VCCM)/Investigating the Structure and Function of the Eye (iSafe) KBR Wyle/NASA Duration: 10/1/20-9/30/21

\$20,489

Ram Kannan, PhD

Novel Mechanism of Subretinal Fibrosis in Age-Related Macular Degeneration National Eye Institute Duration: 5/1/20-4/30/24 \$298,330

SriniVas R. Sadda, MD

Functionally Validated Structural Endpoints for Early AMD University of Alabama at Birmingham Sub-award on NEI Grant EY029595 Duration: 5/1/19-2/29/24 \$154.364

Discovery and Validation of AMD Biomarkers for Progression Using Deep Learning National Eye Institute Duration: 8/1/19-7/31/22 \$125.000

Artificial Intelligence for Assessment of Stargardt Macular Atrophy National Eye Institute Duration: 1/1/20-12/31/22 \$121,250

Fully-Automated Lesion Characterization in Ultrawide-Field Retinal Images Eyenuk, Inc. Sub-award on NEI Grant EY028081 Duration: 9/1/20-8/31/22 \$63.730

Epidemiology of Biomarkers of AMD Progression National Eye Institute Duration: 9/30/21-8/31/26 \$492,368

Deming Sun, MD

Role of IL-17+ Autoreactive T Cells in Experimental Autoimmune Uveitis (EAU) National Eye Institute Duration: 1/1/20-12/31/23 \$291,590

Yuhua Zhang, PhD

In Vivo Ultrastructure of Chorioretinal Disease National Eye Institute Duration: 1/1/19-12/31/24 \$235,582

Clinical Research **Active Funding**

ADMINISTERED BY UCLA

Anthony J. Aldave, MD

A Phase 2, Multicenter, Randomized, Controlled, Double-Masked, Clinical Trial to Evaluate the Efficacy and Safety of OC-01 (Varenicline) Nasal Spray in Subjects with Neurotrophic Keratopathy (the Olympia Study) (Protocol# OPP-102) Oyster Point Pharma, Inc. Duration: 8/11/21-8/10/25 \$53,936

A Phase 2, Randomized, Prospective, Double-Masked, Vehicle-Controlled Study to Assess the Efficacy and Safety of Nexagon® (NEXAGON) Applied Topically in Subjects with Corneal Persistent Epithelial Defects (PED) Resulting from Severe Ocular Chemical and Orthermal Injuries

(Protocol# NEX-PED-005) OcuNexus Therapeutics, Inc. Duration: 3/8/22-3/7/26

\$45,775

Benjamin B. Bert, MD

Treatment of Ocular Discomfort in Glaucoma Patients Using Multiple **Topical Medications** Novartis Pharmaceuticals Duration: 3/31/20-12/31/21 \$83,553

Observational Study of Conjunctivitis of Dupixent Treatment for Atopic Dermatitis

Regeneron Pharmaceuticals, Inc. Duration: 3/11/21-3/10/26

\$163,828

Joseph Caprioli, MD

Protocol INN-005 InnFocus, Inc. Duration: 2/4/16-11/13/20 \$435,556

INN-005-EXT InnFocus, Inc Duration: 4/29/20-4/28/25 \$63,388

Sophie X. Deng, MD, PhD

Safety and Feasibility of Cultivated Autologous Limbal Stem Cells for Limbal Stem Cell Deficiency California Institute for Regenerative Medicine (CIRM) Duration: 12/1/19-11/20/23 \$4,650,000

K-321-201

Kowa Research Institute, Inc. Duration: 6/17/20–6/17/24

\$1,341,428

Brian A. Francis, MD, MS

Field Test of Glaucoma Outcomes

Survey

Emmes Corporation Duration: 2/15/21–2/14/23

\$49,300

Simon Fung, MD

Structural and Functional Changes of Corneal Innervation After Treatment with Cenegermin Dompé S.p.A. Duration: 3/12/20–1/1/25

Duration: 3/12/20–1/1/25

\$287,946

An Observational, Multicenter Study of

the Prevalence of CTX

Retrophin, Inc.

Duration: 1/6/16-10/29/22

\$15,205

Michael B. Gorin, MD, PhD

Xolaris Biogen, Inc

Duration: 9/28/17-4/1/22

\$135,770

ALK-001

Alkeus Pharmaceuticals Duration: 5/23/16–12/31/21

\$46,070

ARIS

Greater Baltimore Medical Center; funded by National Eye Institute

Duration: 5/1/19-6/1/24

\$80,000 STAR

Biogen, Inc

Duration: 6/13/18-6/13/21

\$96,333

SOLSTICE Biogen, Inc

Duration: 11/17/20-11/16/25

\$304,950

\$39,180

Gary N. Holland, MD

META-MUST National Eye Institute Sub-award from Johns Hopkins University Duration: 9/30/14–1/31/22 **ZEDS**

New York University
Duration: 4/3/17–7/31/22

\$345,545

ADalimumab Versus Conventional ImmunoSupprEssion for Uveitis

(ADVISE) Trial

National Eye Institute

Sub-award from

Johns Hopkins University Duration: 9/30/18–8/31/23

\$63,785

Predicting Uveitis Onset in Children with

Juvenile Idiopathic Arthritis
National Eye Institute
Sub-award from
Cincinnati Children's Hospital

Duration: 9/20/19–6/30/21

\$98,280

Hugo Y. Hsu, MD

ST266-PED-202

Noveome Biotherapeutics, Inc. Duration 3/4/22–3/3/26

\$153,304

Alex A. Huang, MD, PhD

DE-126 Santen, Inc.

Duration: 2/17/21-2/16/25

\$133,245

Jean-Pierre Hubschman, MD

Extension Study of NT-501 Ciliary Neurotrophic Factor (CNTF) Implant for Macular Telangiectasia (MacTel) Lowy Medical Research Institute Duration: 8/14/17–6/30/22

\$53,145

A Phase 3 Multicenter Randomized, Sham-Controlled Study to Determine the Safety and Efficacy of Renexus® in Macular Telangiectasia Type 2 Lowy Medical Research Institute Duration: 2/26/18–12/31/22

\$313,320

A Natural History of Macular (Parafoveal) Telangiectasia Lowy Medical Research Institute Duration: 9/1/05–12/31/21

\$673,535

Efficacy and Safety of High Dose Aflibercept in Patients with

Neovascular AMD Bayer Healthcare LLC Duration: 10/20/20–10/20/25

\$393.839

Michael Ip, MD

APL2-304

Apellis Pharmaceuticals Duration: 5/9/19-5/8/23

\$529,741

AR13503

Aerie Pharmaceuticals, Inc. Duration: 7/24/19–7/23/23

\$1,389,358

GR40398 Genentech, Inc.

Duration: 3/5/19-3/5/23

\$593,348

GR40550

Genentech Foundation Duration: 1/17/20–1/16/24

\$1,427,007

ISEE2008 IVERIC Bio, Inc.

Duration: 7/1/20–7/1/24

Duration. //i/20

\$232,530

OPT1039 Clinical Evaluation of the

P200xe Indy Optos PLC

Duration: 4/17/20-4/16/24

\$238,060

KS301P103

Kodiak Sciences, Inc. Duration: 9/22/21–9/21/25

\$162,638

KS301P105

Kodiak Sciences, Inc. Duration: 9/23/21–9/23/25

\$80,068

APL2-GA-305

Apellis Pharmaceuticals Duration: 11/4/21–11/3/25

\$364,425

RGX-314-2104 REGENXBIO, Inc.

Duration: 12/2/21-12/1/25

\$395,430

John A. Irvine, MD

CAM-101-01

Cambium Medical Technologies LLC

Duration: 7/10/19-7/9/23

\$74,572

Colin A. McCannel, MD

GR40549 Genentech, Inc.

Duration: 11/26/18-12/31/22

\$1,192,272

GR40550

Genentech, Inc.

Duration: 1/13/20-1/12/24

\$1,427,007

ADX-2191-PVR-001 Aldeyra Therapeutics, Inc. Duration: 2/14/20-2/13/24

\$108,913

Tara A. McCannel, MD, PhD

AU-011-101

Aura Biosciences, Inc. Duration: 9/28/17-2/9/23

\$256,629

AU-011-202

Aura Biosciences, Inc. Duration: 4/16/21-4/15/25

\$268.788

Kevin M. Miller, MD

STEELE

Johnson & Johnson Duration: 9/10/21-9/10/24

\$196.030

Stacy L. Pineles, MD

Luminopia VR Device Amblyopia Study

Luminopia, Inc.

Duration: 11/28/18-11/28/21

\$52.103

Daniel B. Rootman, MD

RVT-1401-2001 Immunovant, Inc.

Duration: 5/14/19-5/13/23

\$368.875

SriniVas R. Sadda, MD

ARIS

Greater Baltimore Medical Center; Funded by National Eye Institute

Duration: 7/1/19-6/1/24

\$80.000

Alfredo A. Sadun, MD, PhD

GS-LHON-CLIN-06 GenSight Biologics Duration: 1/3/18-9/12/22

\$607.766

GS-LHON-CLIN-05 GenSight Biologics Duration: 8/23/18-12/14/22

\$334,236

David Sarraf, MD

GR40973 Genentech, Inc.

Duration: 8/2/19-10/31/22

\$414,347

Steve D. Schwartz, MD

7317-CL-0003

Astellas Institute for Regenerative

Medicine

Duration: 8/22/18-11/01/23

\$857,468

OPH2005

Ophthotech Corporation Duration: 4/10/18-8/10/22

\$385.246

NGM621-GA-201

NGM Biopharmaceuticals, Inc.

Duration: 1/21/21-1/24/25

\$148,515

ISEE2008

IVERIC Bio, Inc.

Duration: 7/1/20-7/1/24

\$232,530

GR41675

Genentech, Inc.

Duration: 7/21/20-7/20/24

\$778.024

Victoria L. Tseng, MD, PhD

Social Vulnerability and Incidence of

Glaucoma Surgery

American Glaucoma Society Duration: 11/30/21-12/01/22

\$10,000

Edmund Tsui, MD

Kowa FM-700

Kowa Research Institute, Inc. Duration: 2/1/20-12/31/22

\$249,600

Comparison of Biometry Measurements

Using Cylite HP-OCT and

Argos SS-OCT in Dense Cataracts

Cylite

Duration: 1/18/21-1/17/26

\$10,577

Irena Tsui, MD

Retinal and Choroidal Vasculature

Changes in Healthy and High-Risk

Pregnancies

National Eye Institute

Duration: 2/1/20-1/31/23

\$439,426

Clinical Research Studies

Clinical Trials

RECRUITING IN FISCAL YEAR 2022

ABP 938

A randomized, double-masked, phase 3 study of ABP 938 efficacy and safety compared to aflibercept (Eylea®) in subjects with neovascular age-related macular degeneration. Investigators: David Sarraf, MD, Michael B. Gorin, MD, PhD, Colin A. McCannel, MD

Comparing Three Delivery Methods of Mitomycin C for Trabeculectomy Surgery

In this pilot explorative study, investigators are going to estimate and compare the outcomes of three different delivery methods of MMC for trabeculectomy: a subconjunctival injection at the site of future trabeculectomy two to four weeks before the surgery, a subconjunctival injection intraoperatively, and topical sponge applied intraoperatively (typical use) in patients with primary open angle glaucoma who did not have any prior filtering surgeries. Investigators: Joseph Caprioli, MD, Anne L. Coleman, MD, PhD, JoAnn A. Giaconi, MD. Simon K. Law. MD. PharmD. and Kouros Nouri-Mahdavi, MD

Corneal Epithelial Defect

This phase 2b, multicenter, randomized, double-blind, placebo-controlled study with open-label extension evaluates the safety and efficacy of ST266 eye drops in the treatment of persistent corneal epithelial defects (Protocol#ST266-PED-202). Investigator: Sophie X. Deng, MD, PhD

Corneal Nerves After Cenegermin

This study is to determine the structural and functional effects of cenegermin on the cornea, using noninvasive technologies, including the Ocular Surface Disease Index, corneal sensitivity testing, tear film testing, imaging and confocal microscopy. Investigators: Simon Fung, MD, Anthony J. Aldave, MD, Saba Al-Hashimi, MD, and Sophie X. Deng, MD, PhD

Corneal Persistent Epithelial Defects

This phase 2, randomized, prospective, double-masked, vehicle-controlled study assesses the efficacy and safety of Nexagon® (NEXAGON) applied topically in subjects with corneal persistent epithelial defects (PED) resulting from severe ocular chemical and/or thermal injuries (Protocol# NEX-PED-005). Investigator: Anthony J. Aldave, MD

Diabetes Endothelial Keratoplasty

This study looks at the impact of diabetes on corneal transplant success and endothelial cell loss (DEKS). Investigators: Anthony J. Aldave, MD, Sophie X. Deng, MD, PhD, and Saba Al-Hashimi, MD

Evaluation of a New Drug for Stargardt Disease

The study purpose is to find out whether a new drug for Stargardt disease is safe and effective. There are currently no proven treatments for Stargardt disease, a disease that leads to blindness in almost all cases. Investigators: Michael B. Gorin, MD, PhD, and Steven Nusinowitz, PhD

Guard Trial

A multicenter, randomized, controlled, prospective, adaptive phase 3 clinical trial of repeated intravitreal injections of ADX-2191 versus standard-ofcare for the prevention of proliferative vitreoretinopathy. Investigators:
Colin McCannel, MD, Jean-Pierre
Hubschman, MD, Pradeep S. Prasad, MD, MBA, and Irena Tsui, MD

Macular Edema Ranibizumab Versus Intravitreal Anti-inflammatory Therapy (MERIT) Trial

The MERIT Trial was designed to determine which intravitreal therapy offers the best balance of effectiveness and tolerability in treating persistent uveitic macular edema in eyes with controlled uveitis but persistent macular edema, specifically by comparing the relative efficacy and safety of intravitreal ranibizumab (Lucentis®) and intravitreal methotrexate to intravitreal dexamethasone implant (Ozurdex®). Investigators: Gary N. Holland, MD, Colin A. McCannel, MD, and Pradeep S. Prasad, MD

Neurotrophic Keratopathy

This phase 2, multicenter, randomized, controlled, double-masked clinical trial evaluates the efficacy and safety of OC-01 (Varenicline) nasal spray in subjects with neurotrophic keratopathy (the Olympia Oyster Study). Investigators: Anthony J. Aldave, MD, and Simon Fung, MD

Neurotrophic Keratitis

This multicenter, randomized, double-masked, vehicle-controlled, parallel-group study evaluates the safety and efficacy of CSB-001 ophthalmic solution 0.1% in stage 2 and 3 neurotrophic keratitis subjects. Investigator: Sophie X. Deng, MD, PhD

RVT-1401 for the Treatment of Patients with Active, Moderate-to-Severe Graves Ophthalmopathy

The purpose of this phase 2b, multicenter, randomized, double-blind, placebo-controlled study is to assess the efficacy and safety/tolerability of three dose regimens of RVT-1401 in the treatment of patients with active, moderate-to-severe Graves ophthalmopathy. In addition, the study is designed to characterize RVT-1401 exposure to reduction in anti-TSHR IgG. Investigators: Daniel B. Rootman, MD, MS, and Robert Alan Goldberg, MD

Safety and Feasibility of Cultivated Autologous Limbal Stem Cells (LSCs) for Limbal Stem Cell Deficiency

Cell therapy using cultivated autologous LSCs has been developed as a potentially better alternative to various direct transplantation methods of limbal tissues; it greatly lowers the risk of damage to the donor eye by decreasing the amount of tissues that need to be harvested from the donor. Investigators: Sophie X. Deng, MD, Anthony J. Aldave, MD, and Vivian Shibayama, OD

Steele

The purpose of this clinical study is to evaluate the rotational stability of the TECNIS Toric II IOL. Investigators: Kevin M. Miller, MD, John D. Bartlett, MD, Shawn R. Lin, MD, and Mitra Nejad, MD

Uveitis

This phase 3 randomized, active-controlled, double-masked study evaluates the safety and efficacy of TRS01 eye drops in the treatment of subjects with active noninfectious anterior uveitis including subjects with uveitic glaucoma. Investigator: Edmund Tsui, MD

Xiidra Study

This is a prospective study evaluating the benefit of Xiidra in treating patients currently using one or more topical glaucoma antihypertensives and who self-describe symptoms of ocular surface irritation. Investigators: Benjamin B. Bert, MD, and Brian A. Francis, MD, MS

Zoster Eye Disease Study (ZEDS)

The purpose of this study is to find out whether one year of a low dose of valacyclovir reduces complications of shingles affecting the eye. The study will involve two groups of participants who have eye problems due to shingles. One group will receive daily valacyclovir medication and the other group will receive a placebo. Investigators: Gary N. Holland, MD, Anthony J. Aldave, MD, Sophie X. Deng, MD, PhD, and John A. Irvine, MD

Clinical Trials

NOT RECRUITING IN FISCAL YEAR 2022

Comparing the Efficacy and Safety of Intravitreal APL-2 Therapy with Sham Injections in Patients with Geographic Atrophy (GA) Secondary to Age-Related Macular Degeneration (AMD)

This phase 3 study is to evaluate the efficacy of APL-2 compared to sham injection in patients with GA secondary to AMD, which is assessed by change in the total area of GA lesions from baseline as measured by fundus autofluorescence imaging. Investigators: Michael S. Ip, MD, SriniVas R. Sadda, MD, Gad Heilweil, MD, Mohammed Khan, MD, and Phillip Le, MD, PhD

Corticosteroids for Uveitic Macular Edema (ADVISE)

This research study compares three treatments for macular edema in patients who have uveitis. Macular edema is swelling of the retina at the back of the eye, and it can cause vision loss. The standard treatment is to inject corticosteroid drugs next to the eye or directly into the eye. Investigators: Gary N. Holland, MD, and Colin A. McCannel, MD

DE-126 Ophthalmic Solution

A phase 2b, randomized, double-masked, active-controlled, parallel-group, multicenter study assessing the efficacy and safety of DE-126 ophthal-mic solution 0.002% compared with timolol maleate ophthalmic solution 0.5% in subjects with primary open angle glaucoma or ocular hypertension. Investigator: Alex A. Huang, MD, PhD

Determining the Safety and Efficacy of Renexus in Macular Telangiectasia Type 2

This study is assessing the safety of the NT-501 implant in patients with macular telangiectasia type 2. The implant, a small capsule of cells that is placed inside the eye, allows a controlled, sustained release of CNTF directly to the retina. Investigators: Jean-Pierre Hubschman, MD, Steven D. Schwartz, MD, and Hamid Hosseini, MD

Efficacy, Safety, and Pharmacokinetics of the Port Delivery System with Ranibizumab in Patients with Neovascular Age-Related Macular Degeneration (ARCHWAY)

The primary objective of this phase 3 study is to evaluate the non-inferiority and equivalence in efficacy of ranibizumab delivered via the PDS Q24W with the 100mg/mL formulation compared with that of 10mg/mL Q4W intravitreal ranibizumab injections. Investigators: Colin A. McCannel, MD, Pradeep S. Prasad, MD, MBA, and David Sarraf, MD

Evaluating the Efficacy of a Single Intravitreal Injection for Patients with Leber Hereditary Optic Neuropathy

This clinical trial is to assess the effectiveness of a gene therapy in improving the visual outcome in patients with Leber Hereditary Optic Neuropathy (LHON) due to a mitochondrial mutation. Investigator: Alfredo A. Sadun, MD, PhD

Evaluating the Use of an Implant for Patients with Macular Degeneration (PAGODA)

This clinical trial determines the efficacy, safety, and pharmacokinetics of ranibizumab delivered through the implant using three ranibizumabformulation arms compared with the control arm in patients with subfoveal neovascular (wet) age-related macular degeneration. The study also evaluates the safety of the ranibizumab port delivery system combination product. Investigators: Colin A. McCannel, MD, Tara A. McCannel, MD, PhD, Pradeep S. Prasad, MD, MBA, Michael B. Gorin, MD, PhD, David Sarraf, MD, Michael S. Ip, MD, Phillip Le, MD, PhD, Gad Heilweil, MD, and SriniVas R. Sadda, MD

Evaluation of Corneal Cross-Linking Keratoprosthesis Carrier Tissue

This clinical trial evaluates the safety and efficacy of corneal collagen cross-linking the keratoprosthesis carrier tissue in subjects who are candidates for high-risk keratoprosthesis implantation because of a history of corneal melts, sterile corneal ulcers, or autoimmune diseases (eg, Stevens-Johnson syndrome, ocular cicatricial pemphigoid). Investigators: Anthony J. Aldave, MD, and Sophie X. Deng, MD, PhD

Gallego

The purpose of this study is to compare the safety and efficacy of FHTR2163 versus a simulated injection on patients with geographic atrophy secondary to age-related macular degeneration. Investigators: David Sarraf, MD, Michael B. Gorin, MD, PhD, Colin A. McCannel, MD, and Pradeep S. Prasad, MD, MBA

Glimmer

This prospective, randomized, double-masked, active comparator-controlled, multicenter, two-arm, phase 3 study evaluates the efficacy and safety of intravitreal KSI-301 compared with intravitreal aflibercept in participants with visual impairment secondary to treatment-naive diabetic macular edema (DME). Investigators: Gad Heilweil, MD, and SriniVas R. Sadda, MD

IAI-OCTA Study

This study is utilizing a new, FDA approved, non-standard of care technology (optical coherence tomography-angiography by Optovue) to image and evaluate the treatment outcomes of using standard of care intravitreal Aflibercept injections for their approved use in patients diagnosed with neovascular age-related macular degeneration who are naive to previous Anti-VEGF therapies. Investigator: David Sarraf, MD

ISEE2008

The objective of this study is to evaluate the safety and efficacy of Zimura intravitreal administration in patients with geographic atrophy secondary to dry age-related macular degeneration. Investigators: Michael S. Ip, MD, Steven D. Schwartz, MD, Gad Heilwell, MD, and Philip Le, MD, PhD

K-321-201

This double-masked, randomized, placebo-controlled, parallel-group, 12-week, phase 2 study investigates the safety and efficacy of ripasudil (K-321) eye drops after descemetorhexis in patients with Fuchs endothelial corneal dystrophy. Investigators: Sophie X. Deng, MD, PhD, and Anthony J. Aldave, MD

Multicenter, Open-Label Extension Study to Evaluate the Long-Term Safety and Tolerability of the Port Delivery System with Ranibizumab in Patients with Neovascular Age-Related Macular Degeneration (PORTAL)

Continuous delivery of ranibizumab from the implant, with a prolonged fixed period between refills, is a novel approach that may result in less-frequent need for retreatment than monthly dosing and patient monitoring. Investigators: Colin A. McCannel, MD, Pradeep S. Prasad, MD, MBA, and David Sarraf, MD

NGM621

This phase 2 multicenter, randomized, double-masked, sham-controlled study investigates the safety and efficacy of intravitreal injections of NGM621 in subjects with geographic atrophy (GA) secondary to age-related macular degeneration (AMD). Investigators: Steven D. Schwartz, MD, Jean-Pierre Hubschman, MD, Pradeep S. Prasad, MD, MBA, Hamid Hosseini, MD, and Irena Tsui, MD

NT-501 Ciliary Neurotrophic Factor Implant for Macular Telangiectasia

The primary objective of this extension study is to investigate long-term safety and efficacy of the NT-501 implant in participants previously enrolled in NTMT protocols. Investigators: Jean-Pierre Hubschman, MD, Steven D. Schwartz, MD, and Hamid Hosseini, MD

Pavilion

This phase 3, multicenter, randomized study evaluates the efficacy, safety, and pharmacokinetics of the port delivery system with ranibizumab in patients with diabetic retinopathy. Investigators: Steven D. Schwartz, MD, Colin A. McCannel, MD, Jean-Pierre Hubschman, MD, Pradeep S. Prasad, MD, MBA, Hamid Hosseini, MD, and Irena Tsui, MD

Protocol to Follow-up with Patients on Emergency Administration of EPI-743 with Leber Hereditary Optic Neuropathy

EPI-743, a form of vitamin E that has been changed to a new compound in the laboratory, is an experimental drug that may improve mitochondrial function. Mitochondrial disease manifestations appeared to improve when the EPI-743 was given to cells from a patient with Leber hereditary optic neuropathy that were grown in the laboratory. Investigator: Alfredo A. Sadun, MD, PhD

Pulsar

This randomized, double-masked, active-controlled, phase 3 study investigates the efficacy and safety of high dose aflibercept in patients with neovascular age-related macular degeneration. Investigators: Jean-Pierre Hubschman, MD, Steven D. Schwartz, MD, Pradeep S. Prasad, MD, MBA, Hamid Hosseini, MD, and Irena Tsui, MD

Research with Retinal Cells Derived from Stem Cells for Stargardt Macular Dystrophy

This study evaluates the long-term safety and tolerability of MA09-hRPE cellular therapy in subjects with advanced Stargardt macular dystrophy from one to five years following the surgical procedure to implant the MA09-hRPE cells. Investigators: Steven D. Schwartz, MD, Hamid Hosseini, MD, Jean-Pierre Hubschman, MD, Pradeep Prasad, MD, and Irena Tsui, MD

Retinal Gene Therapy for Choroideremia

The objective of this phase 3 clinical trial is to evaluate the efficacy and safety of a single subretinal injection of AAV2-REP1 in subjects with choroideremia. Investigator: Michael B. Gorin, MD, PhD

Clinical Studies

AMD Ryan Initiative Study— Longitudinal Study of Early AMD and Reticular Pseudodrusen

The primary objectives of the study are to enroll participants with early AMD to assess rate of change in drusen volume and progression rates to large drusen, and associate these morphologic changes with psychophysical changes, including visual acuity and dark adaptation. Investigators: Michael B. Gorin, MD, PhD, and SriniVas R. Sadda, MD

Analysis of the Corneal and Limbal Epithelial Changes in Limbal Stem Cell Deficiency Using In Vivo Confocal Microscopy

Investigators are working to establish a system for diagnosing limbal stem cell deficiency at a cellular level by correlating the information from impression cytology tests, confocal microscopy pictures, and medical records. Investigators: Anthony J. Aldave, MD, and Sophie X. Deng, MD, PhD

Anterior Chamber Flare Measurements

The evaluation and detection of inflammation is critical in management of uveitis. Flare, which is one of the commonly assessed ocular inflammation parameters, is the appearance of light reflected from solutes in the anterior chamber. This study seeks to compare two platforms of laser flare photometry and to evaluate the reproducibility of these measurements. Investigators: Edmund Tsui, MD and Gary N. Holland, MD

Arm-Mounted Heidelberg OCT-A for Noninvasive Vascular Zone Imaging in Infants with Retinopathy of Prematurity (ROP)

This study evaluates OCT-A imaging data on preterm infants who are screened and/or treated for ROP, especially evaluating the potentially beneficial effects of anti-VEGF treatment on foveal development and visual outcomes. Investigators: Alex A. Huang, MD, PhD, and Irena Tsui, MD

Beacon Sensors and Telerehabilitation

The primary goal of this project is to refine the methods and procedures for implementing innovative technologies for low vision rehabilitation, in order to develop future protocols for randomized controlled trials. Investigators: Ava K. Bittner, OD, PhD, Melissa Chun, OD, and Jennie Kageyama, OD

Biomechanical Analysis in Strabismus Surgery

This study aims to develop new diagnostic tests and computer models that will lead to improvements in strabismus surgery. Tests of binocular alignment and eye movements, as well as magnetic resonance imaging of the extraocular muscles, are being performed in the Institute's Clinical and Basic Science Ocular Motility Laboratory before and after strabismus surgery. To date, this research has fundamentally contributed to the knowledge of the functional anatomy of the extraocular muscles and connective tissues, and allowed discovery of causes of common strabismus and development of new types of surgeries. Investigator: Joseph L. Demer, MD, PhD

Characteristics of the Brow-Eyelid Margin Relationship

The study purpose is to determine if changing the effect of gravity has an effect on eyelid position. Investigators: Robert Alan Goldberg, MD, and Daniel B. Rootman, MD, MS

Choroideremia Health Outcomes

The purpose of this observational study is to gather information on patient and caregiver experience with choroideremia. Investigator: Michael Gorin, MD, PhD

Clinical Measurements of the Optic Nerve in Glaucoma

The goal of this study is to develop novel structural measures of the optic nerve and nerve fiber layer, which are sensitive and specific for early and progressive glaucomatous optic nerve damage. Investigators: Joseph Caprioli, MD, Anne L. Coleman, MD, PhD, and Simon K. Law, MD, PharmD

Comparison of MHz OCT to Standard OCT imaging

This study will test a new MHz OCT system developed by engineering collaborators and compare the performance of this new OCT system to a standard clinical OCT device. The newly designed OCT system will be five to 10 times faster, leading to a marked improvement in resolution and significant reduction of artifacts. Investigator: Kouros Nouri-Mahdavi, MD

COVaRiPAD

This proposal seeks to understand the vigor of immune responses in patients taking immunosuppressive medications to treat autoimmune diseases, along with characterizing and quantifying any adverse events related to the administration of the SARS-CoV-2 vaccine. Investigator: Edmund Tsui, MD

COVID Vaccine-Associated Ocular Inflammation Registry

The study is interested in collecting data from three groups of patients with vitreoretinal disease and/or uveitis: 1) Those with new inflammation after COVID-19 vaccinations; 2) Those with pre-existing inactive uveitis and that present with inflammation after COVID-19 vaccinations; and 3) Those with inactive uveitis who did not flare after COVID-19 vaccination. Investigator: Edmund Tsui, MD

Development of a Behavioral Intervention with Socially Assistive Robots to Enhance Magnification Device Use for Reading

The primary goals of this research are to perform the initial development and preliminary evaluation of a prototype socially assistive robot specifically for low vision rehabilitation involving reading with magnifiers, in order to develop future protocols for larger scale clinical trials. Investigators: Ava K. Bittner, OD, PhD, Melissa Chun, OD, and Jennie Kageyama, OD

Effect of External Eyelid Weighting on Lid Position in Normal and Ptosis Patients

This investigation compares the ability of normal and ptotic patients to maintain eyelid position by adapting to acute and dramatic changes in protracting forces by using eyelid weights. This project will help elucidate the physiology of the eyelid position maintenance system, and provide insight into its ability to respond to changes in disease. Investigator: Daniel B. Rootman, MD, MS

Effect of Glaucoma Drainage Devices on the Cornea in Comparison to Filtering Surgery with Antimetabolites in Cases of Glaucoma

This study aims to evaluate the endothelial cell number in patients undergoing glaucoma drainage device implantation as part of their regular eye care in comparison to the endothelial cell number in patients having filtering surgery with antimetabolites or medical treatment. Investigators: JoAnn A. Giaconi, MD, Joseph Caprioli, MD, Anne L. Coleman, MD, PhD, Simon K. Law, MD, PharmD, and Kouros Nouri-Mahdavi, MD

Effect of Yoga on Glaucoma

The purpose of this study is to examine the practice of yoga and its ability to improve a patient's vision by relieving stress and reducing eye pressure. Investigator: Anne L. Coleman, MD, PhD

Evaluating a Microshunt for the Treatment of Glaucoma

This study is to assess the safety and efficacy of a microshunt when used to lower intraocular pressure (IOP) in subjects with primary open angle glaucoma whose IOP is not controlled when using maximum-tolerated glaucoma medications. Investigators:

Joseph Caprioli, MD, Anne L. Coleman, MD, PhD, JoAnn A. Giaconi, MD, Simon K. Law, MD, PharmD, and Brian A. Francis, MD, MS

Extended-Use Program of Elamipretide Topical Ophthalmic Solution for Patients with Leber Hereditary Optic Neuropathy (LHON)

This extended-use program is to provide elamipretide to patients with LHON previously enrolled in the SPILH-201 clinical trial who are still benefitting from treatment per the discretion of the treating physician. Investigators: Alfredo A. Sadun, MD, and Rustum Karanjia, MD

Eye DMI

Epidemiological study to evaluate the prevalence and progression of diabetic macular ischemia in patients with diabetic retinopathy treated with panretinal photocoagulation. Investigator: David Sarraf, MD

Eye Health Imaging Study

The purpose of this study is to expand the normative database for the Heidelberg Spectralis OCT by collecting ophthalmic data from healthy eyes of people of Hispanic/Latino, Asian, and African American descent. Investigators: Kouros Nouri-Mahdavi, MD, and Joseph Caprioli, MD

Field Test of Glaucoma Outcomes Survey (GOS)

The American Glaucoma Society is interested to learn how quality of life improves for patients after minimally invasive glaucoma surgery combined with cataract surgery. They have designed a questionnaire and are conducting research to find out how reliable the questionnaire is as a tool for measuring patient quality of life after surgery. Investigator: Brian A. Francis, MD

Genetic and Anatomic Studies of Eve Movement Disorders

This study is conducting magnetic resonance imaging of the extraocular muscles. This procedure clarifies the phenotypes and mechanisms of congenital cranial dysinnervation syndromes whose hereditary properties have been characterized using modern molecular genetics. Patients with these syndromes have severe forms of strabismus. Investigator: Joseph L. Demer, MD, PhD

Glaucoma Imaging Study

This study is evaluating different imaging techniques and their use in improving open-angle glaucoma detection.
Investigators: Kouros Nouri-Mahdavi, MD, and Joseph Caprioli, MD

Hyaluronic Acid Gels for Upper Lid Retraction in Active State Thyroid Eye Disease

This study is to determine if hyaluronic acid gel (HAG) can be used to correct upper eyelid retraction, improve dry eye related symptoms, aesthetic appearance, and quality of life in active-stage thyroid eye disease (TED). The study also aims to determine the long-term outcome of TED and how long the effects of HAG can last. Investigator: Daniel B. Rootman, MD, MS

Identifying Novel Genes for Fuchs Corneal Endothelial Dystrophy

Investigators are working to identify the gene(s) responsible for Fuchs corneal endothelial dystrophy, an inherited disorder that may result in irreversible corneal swelling and loss of vision. Investigators: Anthony J. Aldave, MD, Gary N. Holland, MD, and Bartly J. Mondino, MD

Imaging of Intraocular Inflammation

The aim of this proposed research is to longitudinally monitor intraocular inflammation in patients with uveitis. Investigators: Edmund Tsui, MD, Simon Fung, MD, and Gary N. Holland, MD

In-Vivo Ultrastructure of Chorioretinal Diseases

The study will utilize a novel adaptive optics (AO) imaging instrument that integrates scanning laser ophthalmoscopy and optical coherence tomography (AO-SLO-OCT), allowing for in-vivo ultrastructure assessment of RPD and individual photoreceptors in both en face and cross-sectional planes. The study will use the AO imaging to monitor the progression of the RPD and their impact on overlying photoreceptors. Investigators: David Sarraf, MD, and Yuhua Zhang, PhD

Long-term Follow-up of ND4 LHON Subjects Treated with GS010 Ocular Gene Therapy in the RESCUE or REVERSE

To assess the long-term safety of intravitreal GS010 administration up to five years post treatment in subjects who were treated in the RESCUE or REVERSE studies. Investigators: Alfredo A. Sadun, MD, and Rustum Karanjia, MD

Low Vision Patients' Preferences for Illumination During Near Reading

This prospective longitudinal study aims to evaluate low vision patients' reading performance and level of difficulty when using additional preferred lighting for near reading as provided by a commercially available desk lamp or a bulb placed in a generic gooseneck desk lamp specified according to the patient's preferred settings with a lighting assessment tool. Investigators: Ava K. Bittner, OD, PhD, Melissa Chun, OD, and Jennie Kageyama, OD

Molecular and Cytogenetic Studies of Ocular Melanoma

This research is to study ocular melanoma tumor tissue and to identify key molecular and genetic features that could help predict those patients who may be at high risk for metastasis. Investigators: Lynn K. Gordon, MD, PhD, Tara A. McCannel, MD, PhD, and Bradley R. Straatsma, MD, JD

Natural History Study of Leber Hereditary Optic Neuropathy

Leber hereditary optic neuropathy (LHON) is one of the diseases where the mitochondria of the retina cells are not functioning correctly, which can lead to loss of vision. This study is to obtain electroretinography (ERG) data and optical coherence tomography (OCT) data from patients who carry the Leber hereditary optic neuropathy gene. Investigator: Alfredo A. Sadun, MD, PhD

Natural History Study of Macular Telangiectasia

The primary study objective is to develop a registry of participants with MacTel Type 2 (as confirmed by the Reading Center) who may agree to be contacted for inclusion in future clinical trials. Investigators: Jean-Pierre Hubschman, MD, Hamid Hosseini, MD, Allan E. Kreiger, MD, Tara A. McCannel, MD, PhD, Pradeep S. Prasad, MD, MBA, Irena Tsui, MD, and Steven D. Schwartz, MD

Natural History of the Progression of Choroideremia

This study characterizes the visual function and retinal structural changes associated with X-linked choroideremia with the intention of determining the best means of measuring disease progression and the rate of natural progression for this condition. Investigators: Michael B. Gorin, MD, PhD, and Steven Nusinowitz, PhD

Natural History of the Progression of X-Linked Retinitis Pigmentosa

This study is to characterize the visual function and retinal structural changes associated with X-linked retinitis pigmentosa to determine the best means of measuring disease progression and the rate of natural progression for this condition. Investigator: Michael B. Gorin, MD, PhD

Neuroendocrine Tumor Metastases in the Eye and Orbit

The purpose of this study is to understand the diversity in presentation of carcinoid tumors of the orbit, as well as to identify, stage, and grade related factors that may affect prognosis and thus treatment decisions. Also considered will be if there are features of carcinoid tumor presentations in the orbit that can predict outcome and thus guide therapeutic decision-making. Investigator: Daniel B. Rootman, MD, MS

Nonexudative Age-Related Macular Degeneration Imaged with Swept Source OCT

OCT imaging with SS-OCTA will be utilized to study the natural history of disease. Investigator: SriniVas R. Sadda, MD

Noninvasive Methods for Early Detection of Alzheimer Disease

The purpose of this study is to obtain electroretinography data and optical coherence tomography data from patients with Alzheimer disease, with the aim of permitting earlier intervention and improved disease monitoring. Investigator: Alfredo A. Sadun, MD, PhD

Observational Study of Conjunctivitis in the Setting of Dupixent Treatment

The primary objective of the study is to characterize the clinical phenotype(s) of DUPIXENT®-associated conjunctivitis events. Investigator: Benjamin B. Bert, MD

Observational Study of Patients Diagnosed with Idiopathic Bilateral Cataracts

The purpose of this study is to understand better how many people who have been diagnosed with early-onset idiopathic bilateral cataracts may have a rare but treatable disease called cerebrotendinous xanthomatosis (CTX). Often one of the first signs of CTX is cataract from an unknown cause at an early age. Investigators: Federico G. Velez, MD, Stacy L. Pineles, MD, and Joseph L. Demer, MD, PhD

OCT-A and Visual Acuity in Human Immunodeficiency Virus Associated Neuroretinal Disorder

This study aims to characterize the microvascular abnormalities in patients with HIV via OCT-A and investigate the relationships between capillary density, nerve fiber layer thickness, and other measures of visual function (visual acuity, contrast sensitivity, color vision, visual fields). In addition, to compare the OCT-A data in HIV-positive patients versus controls to evaluate the hypothesis that HIV-positive patients have significant differences in microvascular flow compared to normal eyes. Investigators: Gary N. Holland, MD, and David Sarraf, MD

Ocular Biometric Measurements in Angle-Closure Glaucoma

The purpose of this study is to determine the potential contributing factors in angle-closure patients of different ethnicities and to determine predictive factors for this type of glaucoma. Investigators: Joseph Caprioli, MD, Anne L. Coleman, MD, PhD, Simon K. Law, MD, PharmD, and Kouros Nouri-Mahdavi, MD

Ocular Hypertension Treatment Study

Since topical hypotensive medications are safe and effective in delaying or preventing primary open angle glaucoma, this study is examining whether other forms of treatment can be deferred with little or no penalty. Investigator: Anne L. Coleman, MD, PhD

Ocular Imaging Study

This study is about improving existing anterior and posterior segment imaging using optical coherence tomography (OCT) instruments and/or other imaging devices. Investigators would like to know if different imaging devices can improve the quality of images and visualization of imaged tissues. Investigators: SriniVas R. Sadda, MD, Anthony C. Arnold, MD, Vikas Chopra, MD, Brian A. Francis, MD, MS, Gad Heilweil, MD, Hugo Y. Hsu, MD, Alex S. Huang, MD, PhD, Michael S. Ip, MD, John A. Irvine, MD, Phillip Le, MD, Alfredo A. Sadun, MD, PhD, David Sarraf, MD, James C. Tan, MD, PhD, and Irena Tsui, MD

Ocular Protrusion in Sitting and Supine Positions

The aim of this study is to compare the degree of ocular protrusion in normal individuals and patients with thyroid eye disease between sitting and lying (supine) positions. Investigators: Robert Alan Goldberg, MD, and Daniel B. Rootman, MD, MS

Ocular Surface Microbiome Study

This study aims to investigate and understand the normal ecosystem of microbes that live on the eye's surface and how their ecological system changes and responds to routine eye care and treatments. Investigators: Hugo Hsu, MD, Vikas Chopra, MD, and Gad Heilweil, MD

Oculoplastic Registry

Many orbital and ophthalmic plastic surgical diseases are not well studied in the medical literature. The purpose of this study is to contribute to a large database of electronic measurements from medical records that allow us to study diseases in a way that was difficult or impossible before. Investigators: Robert Alan Goldberg, MD, and Daniel B. Rootman, MD, MS

Optic Nerve Appearance in Age-Related Macular Degeneration

In order to evaluate the relationship between macular degeneration and optic nerve change, digital imaging technology and photography are being used to assess the structural appearance of the optic nerve in patients with age-related macular degeneration. Investigator: Simon K. Law, MD, PharmD

Optical Coherence Tomography Angiography Images of Pregnant Women

This study aims to identify changes that occur in the retina as a result of gestational associated diseases (eg, gestational diabetes, high blood pressure, increased myopia) and unknown changes that may affect the eyes during gestation and in the two to three months following birth. Investigator: Irena Tsui, MD

Optical Coherence Tomography Angiography of Foveal Avascular Zone in Premature Children

This prospective study evaluates blood vessel development in children and adults who are born early and compares them with children and adults who were not born early, by getting optical coherence tomography (OCT), OCT-angiography, color pictures, refraction, and axial length on subjects with retinopathy of prematurity and without retinopathy of prematurity. Investigators: Irena Tsui, MD, Stacy L. Pineles, MD, and Federico G. Velez, MD

Optic Nerve in Amblyopia

Amblyopia is a major cause of child-hood visual loss. This study uses high resolution, surface-coil magnetic resonance imaging to study optic nerve size in amblyopia. It tests the theory that the optic nerve is smaller than normal in amblyopia and that optic nerve size may be a limiting factor in restoration of vision by amblyopia treatment. Investigator: Joseph L. Demer, MD, PhD

Pediatric Cataract Surgery Outcomes Registry

The study aim is to collect core clinical data on children and teens undergoing surgery for cataracts in order to conduct analyses and generate hypotheses. Clinical outcomes data will be collected from affected subjects after cataract surgery has been performed. Investigators: Stacy L. Pineles, MD, and Federico G. Velez, MD

Pediatric Cornea and Anterior Segment Diseases Registry

Pediatric cornea and anterior segment diseases are rarely encountered by ophthalmologists. As such, details on the causes, features, and optimal treatment for these conditions are inadequately described. The information on this registry would allow us to study these diseases. Investigator: Simon Fung, MD

Pediatric Optic Neuritis Prospective Outcomes Study (PON1)

Optic neuritis is an acute inflammatory disease of the optic nerve. The purpose of this study is to collect information about children who have optic neuritis and what happens to their eyesight. Investigator: Stacy L. Pineles, MD

PET/CT Imaging for Early Detection of Ocular Melanoma

This research involves the use of combined positron emission tomography (PET)/computed tomography (CT) scans in subjects with ocular melanoma to ideally develop better ways of monitoring for tumor spread and allow for early treatment if metastasis is found. Investigators: Tara A. McCannel, MD, PhD, and Bradley R. Straatsma, MD, JD

Predicting Eye Disease in Childhood Arthritis-Uveitis Study (PEDIA-U)

The purpose of this study is to further the understanding of juvenile idiopathic arthritis and uveitis (JIA-U). Investigators: Gary N. Holland, MD, and Edmund Tsui, MD

Pro-Inflammatory Cytokines, Dry Eye, and Thyroid Eye Disease

This study is to determine whether there are specific inflammatory proteins in tears of patients with active-stage thyroid eye disease (TED). If these inflammatory proteins exist, the study aims to determine whether they can be used to predict dry eye symptomatology and TED activity. Investigators: Robert Alan Goldberg, MD, and Daniel B. Rootman, MD, MS

Prospective Study Examining Pentosan Retinal Toxicity

Patients will be evaluated for the dose and treatment duration of Pentosan. The goal is to determine the risk and toxic profile of Pentosan, as well as the incidence of interstitial cystitis, in an effort to establish clinical guidelines for retinal toxicity screening. Investigator: David Sarraf, MD

Ptosis Surgery Outcomes Scale

This investigation is to define and validate a universal measure for ptosis outcomes that can be used in defining both value and efficacy in ptosis surgery. Investigator: Daniel B. Rootman, MD. MS

Research to Evaluate Latest Improvements with Electronic Visual **Enhancement Devices (RELIEVED)**

This prospective study aims to evaluate patient preferences for wearable electronic visual aids for low vision rehabilitation and changes in visual functioning with these devices. Investigators: Ava K. Bittner, OD, PhD, Melissa Chun, OD, and Jennie Kageyama, OD

Research with Retinal Cells Derived from Stem Cells for Dry Age-Related Macular Degeneration (AMD)

This study evaluates the long-term safety and tolerability of MA09-hRPE cellular therapy in subjects with advanced dry AMD from one to five years following the surgical procedure to implant the MA09-hRPE cells. Investigators: Steven D. Schwartz, MD, Hamid Hosseini, MD, Jean-Pierre Hubschman, MD, Pradeep S. Prasad, MD, MBA, and Irena Tsui, MD

Role of Pattern Electroretinogram (PERG) in Glaucoma

This study is researching the electrophysiological test, pattern electroretinogram (PERG) to determine the role of PERG in estimating the risk of future glaucoma progression and the reversibility of glaucomatous damage after treatment. The latter could help clinicians better determine to what extent eye pressure needs to be lowered to prevent disease progression. Investigators: Joseph Caprioli, MD, Anne L. Coleman, MD, PhD, JoAnn A. Giaconi, MD. Simon K. Law. MD. PharmD. and Kouros Nouri-Mahdavi, MD

Solstice

This long-term follow-up study evaluates the safety and efficacy of retinal gene therapy in subjects with choroideremia previously treated with adenoassociated viral vector encoding Rab escort protein-1 (AAV2-REP1) and in subjects with x-linked retinitis pigmentosa previously treated with adenoassociated viral vector encoding RPGR (AAV8-RPGR). Investigator: Michael B. Gorin, MD, PhD

Studies on Tissue in Autoimmune Diseases

This study aims to determine the cause of eye problems in Graves disease and other autoimmune diseases. Examination is being done of material removed from orbits during surgical therapy for Graves disease or other problems requiring surgery on the tissue surrounding the eyes, of thyroid tissue removed during the course of surgical therapy, or of blood drawn for laboratory tests. Investigator: Robert Alan Goldberg, MD

Study of Macular Disease Using **Spectral Domain Optical Coherence** Tomography Angiography (SD-OCTA)

The RTVue XR 100 Avanti with SSADA will be used to screen patients with macular disease as detected with clinical examination or ancillary testing. such as with standard OCT, color fundus photography, fluorescein angiography, or fundus autofluorescence. Investigators: Michael B. Gorin, MD, PhD, Colin A. McCannel, MD, David Sarraf, MD, and Steven D. Schwartz, MD

Study of Ocular Disease Using Hyper Parallel Optical Coherence Tomography

A novel imaging technology termed hyper parallel OCT (HP-OCT) will be used to evaluate patients with cataracts, corneal disease, macular disease, optic nerve disease, and iris changes that may occur from associated ocular diseases and procedures, as well as uveitic diseases as detected with clinical examination or ancillary testing, such as with standard OCT. Investigators: Edmund Tsui, MD, and Saba Al-Hashimi, MD

Study of Ocular Disease Using Hyper Parallel Optical Coherence Tomography (HP-OCT)

This study will investigate the utility of a novel instrument, HP-OCT. This instrument provides high-speed 3D volumetric imaging and has the potential to perform numerous simultaneous measurements all in a single instrument. Investigators: Edmund Tsui, MD, Saba Al-Hashimi, MD, and Simon Fung, MD

Tear Collections for Patients with Limbal Stem Cell Deficiency

The purpose of this study is to find markers specific to limbal stem cell deficiency not present in normal or dry eye diseased eyes. These markers could become additional diagnostic markers to confirm the disease and possibly targets for drug development. Investigator: Sophie X. Deng, MD, PhD

Temporal Fossa in Different Ethnicities

The aim of this study is to investigate differences in anatomy of temporal fossa between different ethnicities using three-dimensional CT scan images. Better knowledge of these differences is important for cosmetic procedures to achieve better results and fewer complications. Investigators: Robert Alan Goldberg, MD, and Catherine J. Hwang, MD

Understanding the Genetics of Inherited Eye Disorders

This study searches for the gene(s) responsible for inherited disorders that are either specific to the eye or are part of the medical condition. The study provides for the clinical characterization of affected individuals and at-risk family members, in conjunction with molecular genetic testing, to identify the causative genes and mutations. Investigators: Anthony J. Aldave, MD, and Michael B. Gorin, MD, PhD

Vision-Related Quality of Life and Ocular Dominance

This study is designed to evaluate how quality of life is impacted by glaucoma in relation to eye dominance. It aims to determine whether quality of life is affected more by glaucoma if it primarily affects the dominant eye. Investigators: Joseph Caprioli, MD, Anne L. Coleman, MD, PhD, JoAnn A. Giaconi, MD, and Simon K. Law, MD, PharmD

2021–2022 Publications of the Full-Time Faculty

Peer-reviewed publication subjects an author's scholarly work and research to the scrutiny of others who are experts in the same field, and it is considered necessary to ensure academic scientific quality. Below, in chronological order, are some of the peer-reviewed work, as well as scientific books and book chapters, published this academic year by our full-time faculty.

July 2021

Aldave AJ, DeMatteo J, Chamberlain WD, Philippy B, Farooq AV, Buckman N, Crosson A, Li J, Meinecke E and Kaufman AH. COVID and the cornea: from controversies to consensus.

Report of the Eye Bank Association of America Medical Advisory Board Policy and Position Review Subcommittee.

Cornea. 2021 Jul 1;40(7):809–816.

Men M, Fung SSM, Tsui E. What's trending: a review of social media in ophthalmology. Curr Opin Ophthalmol. 2021 Jul 1;32(4):324–330.

Karlin JN, Le C, Rootman DB. Upper eyelid weighting for lagophthalmos results in contralateral upper eyelid elevation. Orbit. 2022 Aug;41(4):464–468. Epub 2021 Jul 6.

Ugradar S, Kang J, Kossler AL, Zimmerman E, Braun J, Harrison AR, Bose S, Cockerham K, Douglas RS. Teprotumumab for the treatment of chronic thyroid eye disease. Eye (Lond). 2022 Aug;36(8):1553–1559. Epub 2021 Jul 9.

Nejad M, Lin SR, Hwang LH, Landig M, Al-Hashimi S, Bartlett, JD. Effect of over-the-counter brimonidine tartrate 0.025% ophthalmic solution on pupil size in healthy adults. Graefes Arch Clin Exp Ophthalmol. 2021 Nov; 259(11):3333–3338. Epub 2021 Jul 12.

Corradetti G, Byon I, Corvi F, Cozzi M, Staurenghi G, **Sadda SR**. Retro Mode Illumination for Detecting and Quantifying the Area of Geographic Atrophy in Non-Neovascular Age-Related Macular Degeneration. Eye (Lond). 2021 Jul 14. Gu B, Sarraf D, Ip M, Sadda SR, Zhang Y. In Vivo Measurement of the Lineal Density of Red Blood Cells in Human Retinal Capillaries Using High-Speed Adaptive Optics Ophthalmoscopy. Opt Lett. 2021 Jul 15;46(14):3392–3395.

Gill H, Niederer RL, Shriver E, Gordon LK, Coleman AL, Danesh-Meyer HV. An eye on gender equality: A review of the evolving role and representation of women in ophthalmology. Am J Ophthalmol. 2021 Jul 17; S0002-9394(21)00372-X.

Iovino C, Au A, Ramtohul P, Bacci T, AlBahlal A, Khan AM, Al-Abdullah AA, Wendel R, Chhablani J, **Sadda S**, Freund KB, **Sarraf D**. Coincident PAMM and AMN and Insights into a Common Pathophysiology: Coincident PAMM and AMN. Am J Ophthalmol. 2021 Jul 17:S0002-9394(21)00371-8.

Pineles SL, Repka MX, Yu F, Velez FG, Perez C, Sim D, Coleman AL. Strabismus Surgery Decreases the Risk of Injuries in Pediatric Patients in the OptumLabs Data Warehouse. Am J Ophthalmol. 2021 Jul 17; S0002-9394(21)00373-1

Holekamp NM, Sadda S, Sarraf D, Guymer R, Hill L, Blotner S, Spicer G, Gune S. Effect of Residual Retinal Fluid on Visual Function in Ranibizumab-Treated Neovascular Age-Related Macular Degeneration: Effect of Retinal Fluid on Vision Outcomes in HARBOR. Am J Ophthalmol. 2021 Jul 18:S0002-9394(21)00358-5.

Pineles SL, Repka MX, Yu F, Velez FG, Perez C, Sim D, Coleman AL. Strabismus surgery decreases the risk of injuries in pediatric patients in the OptumLabs Data Warehouse. Am J Ophthalmol. 2022 Apr;236:147–153. Epub 2021 Jul 18.

Lejoyeux R, Benillouche J, Ong J, Errera MH, Rossi EA, Singh SR, Dansingani KK, Da Silva S, Sinha D, Sahel JA, Freund KB, **Sadda SR**, Lutty GA, Chhablani J. Choriocapillaris: Fundamentals and Advancements. Prog Retin Eye Res. 2021 Jul 19:100997.

Schönbach EM, Strauss RW, Cattaneo MEGV, Fujinami K, Birch DG, Cideciyan AV, Sunness JS, Zrenner E, **Sadda SR**, Scholl HPN; ProgStar Study Group. Longitudinal Changes of Fixation Stability and Location within 24 Months in Stargardt Disease: ProgStar Report No. 16: Short title: Longitudinal Changes of Fixation in Stargardt Disease. Am J Ophthalmol. 2021 Jul 20: S0002-9394(21)00380-9.

Mejia-Vergara AJ, Arnold AC, Bonelli L, Raviskanthan S, Lee AG. Papilledema and intracranial hypertension in leukemia: case series and review. Can J Ophthalmol. 2022 Apr;57(2):e54–e56. Epub 2021 Jul 21.

Chadha A, Paniagua AE, **Williams DS**. Comparison of ciliary targeting of two rhodopsin-like GPCRs: role of C-terminal localization sequences in relation to cilium type. J Neurosci. 2021 Sep 8;41(36):7514–7531. Epub 2021 Jul 22.

Sun D, Ko MK, Shao H, Kaplan J. Adenosine receptor ligation tips the uveitogenic Th1 and Th17 balance towards the latter in experimental autoimmune uveitis-induced mouse. Curr Res Immunol. 2021;2:93–103. Epub 2021 Jul 26. Xu X, Ritz B, Coleman AL, Liew Z, Deapen D, Lee E, Bernstein L, Pinder R, Marshall SF, Heck JE. Non-steroidal Anti-inflammatory Drug Use and Risk of Age-Related Macular Degeneration in the California Teachers Study. Drugs Aging. 2021 Sep;38(9):817–828. Epub 2021 Jul 26.

August 2021

Corvi F, Corradetti G, **Sadda SR**. Retinal Dialysis Revealed by Swept-Source OCT. Ophthalmology. 2021 Aug;128(8):1235.

Yu EJ, **Nejad M**, **Miller KM**. Outcomes of Resident-Performed FS-LASIK for Myopia and Myopic Astigmatism. J Refract Surg. 2021 Aug;37(8):545–551. Epub 2021 Aug 1.

Huang X, Sun J, Majoor J, Vermeer KA, Lemij H, Elze T, Wang M, Boland MV, Pasquale LR, Mohammadzadeh V, **Nouri-Mahdavi K**, Johnson C, Yousefi S. Estimating the Severity of Visual Field Damage From Retinal Nerve Fiber Layer Thickness Measurements With Artificial Intelligence. Transl Vis Sci Technol. 2021 Aug 2;10(9):16.

Pole C, Au A, Navajas E, Freund KB, Sadda S, Sarraf D. En Face Optical Coherence Tomography Imaging of Foveal Dots in Eyes with Posterior Vitreous Detachment or Internal Limiting Membrane Peeling. Invest Ophthalmol Vis Sci. 2021 Aug 2;62(10):5.

Choo CH, Boto-de-los-Bueis A, Chung DD, Aldave AJ. Confirmation of *PRDX3* c.568G>C as the genetic basis of Punctiform and polychromatic pre-Descemet corneal dystrophy. Cornea 2021 Aug 6.

Kwong JMK, **Caprioli J**, Sze YH, Yu FJ, Li KK, To CH, Lam TC. Differential Retinal Protein Expression in Primary and Secondary Retinal Ganglion Cell Degeneration Identified by Integrated SWATH and Target-Based Proteomics. Int J Mol Sci. 2021 Aug 10;22(16):8592

Verma A, Bacci T, Sarraf D, Freund KB, Sadda SR. Vortex Vein Imaging: What Can It Tell Us? Clin Ophthalmol 2021 Aug 10;15:3321–3331

Zhao Y, Wang LK, Eskin A, Kang X, Fajardo VM, Mehta Z, **Pineles S**, Schmidt RJ, Nagiel A, Satou G, Garg M, Federman M, Reardon LC, Lee SL, Biniwale R, Grody WW, Halnon N, Khanlou N, Quintero-Rivera F, Alejos JC, Nakano A, Fishbein GA, Van Arsdell GS, Nelson SF, Touma M. Recessive ciliopathy mutations in primary endocardial fibroelastosis: a rare neonatal cardiomyopathy in a case of Alstrom syndrome. J Mol Med (Berl). 2021 Nov;99(11):1623–1638. Epub 2021 Aug 13.

Zhong Z, Balayan A, Tian J, Xiang Y, Hwang HH, Wu X, Deng X, Schimelman J, Sun Y, Ma C, Dos Santos A, You S, Tang M, Yao E, Shi X, Steinmetz NF, **Deng SX**, Chen S. Bioprinting of dual ECM scaffolds encapsulating limbal stem/progenitor cells in active and quiescent statuses. Biofabrication. 2021 Aug 13;13(4):10.1088/1758-5090/ac1992.

Glasgow BJ. Tear Lipocalin and Lipocalin-Interacting Membrane Receptor. Front Physiol. 2021 Aug 19; 12:684211.

Babiuch A, Wykoff CC, Hach J, Srivastava S, Talcott KE, Yu HJ, Nittala M, Sadda S, Ip MS, Le T, Hu M, Reese J, Ehlers JP. Longitudinal Panretinal Microaneurysm Dynamics on Ultra-Widefield Fluorescein Angiography in Eyes Treated with Intravitreal Aflibercept for Proliferative Diabetic Retinopathy in The RECOVERY Study. Br J Ophthalmol. 2021 Aug;105(8):1111– 1115. Epub 2020 Aug 22.

Heidary G, Aakalu VK, Binenbaum G, Chang MY, Morrison DG, VanderVeen DK, Lambert SR, Trivedi RH, Galvin JA, **Pineles SL**. Adjustable sutures in the treatment of strabismus: a report by the American Academy of Ophthalmology. Ophthalmology. 2022 Jan;129(1):100–109. Epub 2021 Aug 24.

Pollan SG, Teng PC, Jan YJ, Livingstone J, Huang C, Kim M, Mariscal J, Rodriguez M, Chen JF, You S, DiVizio D, Boutros PC, Chan KS, Rasorenova O, Cress A, Spassov D, Moasser M, Posadas EM, Freedland SJ, Freeman MR, **Zheng JJ**, Knudsen BS. Loss of CDCP1 triggers FAK activation in detached prostate cancer cells. Am J Clin Exp Urol. 2021 Aug 25; 9(4):350–366. Pineles SL, Repka MX, Yu F, Velez FG, Perez C, Sim D, Coleman AL. Prevalence of pediatric eye disease in the OptumLabs Data Warehouse. Ophthalmic Epidemiol. 2021 Aug 29;1–8.

September 2021

Campagna GA, Liu ST, **Tsui E**. Trichomegaly and Trichiasis Associated with Pemigatinib. Ophthalmology. 2021 Sep; 128(9):1364.

Founti P, Coleman AL, Wilson MR, Yu F, Harris A, Pappas T, Anastasopoulos E, Koskosas A, Salonikiou A, Keskini C, Malamas A, Kilintzis V, Raptou A, Tzoanou G, Topouzis F. Twelve-year Incidence of Open-angle Glaucoma: The Thessaloniki Eye Study. J Glaucoma. 2021 Sep 1;30(9): 851–858.

Kitayama K, Young AG, Ochoa A 3rd, Yu F, Wong KY, **Coleman AL**. The agreement between an iPad visual field app and Humphrey frequency doubling technology in visual field screening at health fairs. J Glaucoma. 2021 Sep 1; 30(9):846–850.

Quiros PA, Gordon LK. Neuro-Ophthalmology: Creating a Diverse, Equitable, and Inclusive Subspecialty Is the Responsibility of Everyone. J Neuroophthalmol. 2021 Sep 1;41(3): 279–284.

Ugradar S. Quantifying the Digestion of Cross-Linked Hyaluronic Acid Fillers With Hyaluronidase. Dermatol Surg. 2021 Sep 1;47(9):1233–1236.

Kaplan HJ, **Sun D**, Shao H. Damageassociated Molecular Patterns in Clinical and Animal Models of Uveitis. Ocul Immunol Inflamm. 2022 Apr 3; 30(3):734–740. Epub 2021 Sep 3.

Jiang G, Yun J, Kaplan HJ, Zhao Y, Sun D, Shao H. Vaccination with circulating exosomes in autoimmune uveitis prevents recurrent intraocular inflammation. Clin Exp Ophthalmol. 2021 Dec; 49(9):1069–1077. Epub 2021 Sep 8.

Chen JL, Vatanatham CC, **Tsui E**. Relapsed acute lymphoblastic leukemia. Am J Ophthalmol. 2021 Dec; 232:e1. Epub 2021 Sep 9. Lee WW, Bansal A, Sadda SR, Sarraf D, Berger AR, Wong DT, Kertes PJ, Kohly RP, Hillier RJ, Muni RH. Outer Retinal Folds after Pars Plana Vitrectomy vs. Pneumatic Retinopexy for Retinal Detachment Repair: Post hoc analysis from PIVOT. Ophthalmol Retina. 2022 Mar;6(3):234–242. Epub 2021 Sep 11.

Danesh K, Cohen LM, Liu Y, **Karlin JN**, **Rootman DB**. Systemic eosinophilic disease presenting as dacryoadenitis. Orbit. 2021 Sep 12:1–5.

Ugradar S, Braun J, Wang Y, Zimmerman E, Douglas RS. Facial and Eyelid Changes in Thyroid Eye Disease Are Reversed by Teprotumumab. Plast Reconstr Surg Glob Open. 2021 Sep 15; 9(9):e3809.

Fang M, Chanwimol K, Maram J, Datoo O'Keefe GA, Wykoff CC, Sarraf D, Brown A, Lampen SIR, Zhou B, Rusakevich AM, Sadda S. Morphological Characteristics of Eyes with Neovascular Age-Related Macular Degeneration And Good Long-Term Visual Outcomes After Anti-VEGF Therapy. Br J Ophthalmol. 2021 Sep 24: bjophthalmol-2021-319602.

Golla A, Chen A, **Tseng VL**, Lee SY, Pan D, Yu F, **Coleman AL**. Association Between E-Cigarette Use and Visual Impairment in the United States. Am J Ophthalmol. 2021 Sep 26; 235:229–240.

Fukuda S, Narendran S, Varshney A, Nagasaka Y, Wang SB, Ambati K, Apicella I, Pereira F, Fowler BJ, Yasuma T, Hirahara S, Yasuma R, Huang P, Yerramothu P, Makin RD, Wang M, Baker KL, Marion KM, Huang X, Baghdasaryan E, Ambati M, Ambati VL, Banerjee D, Bonilha VL, Tolstonog GV, Held U, Ogura Y, Terasaki H, Oshika T, Bhattarai D, Kim KB, Feldman SH, Aguirre JI, Hinton DR, Kerur N, Sadda SR, Schumann GG, Gelfand BD, Ambati J. Alu Complementary DNA Is Enriched In Atrophic Macular Degeneration And Triggers Retinal Pigmented Epithelium Toxicity Via Cytosolic Innate Immunity. Sci Adv. 2021 Oct;7(40):eabj3658. Epub 2021 Sep 29.

Smith CS, Karlin JN, Cohen LM, Rootman DB. Transorbital Debulking of Sphenoid Wing Meningioma. J Craniofac Surg. 2022 May 1;33(3):859– 862. Epub 2021 Sep 29.

October 2021

Ugradar S, Wang Y, Douglas R. Teprotumumab for Asymmetric Thyroid Eye Disease. Ophthalmology. 2021 Oct; 128(10):1416.

Bonnet C, Vazirnia P, Deng SX, Aldave AJ, Miller KM. Sutured Custom Foldable Silicone Artificial Iris Implantation Combined With Intraocular Lens Implantation and Penetrating Keratoplasty: Safety and Efficacy Outcomes. Cornea. 2021 Oct 1;40(10):1236–1247.

Ghaffari R, Bonnet C, Yung M, Bostan C, Harissi-Dagher M, **Aldave AJ**. Infectious keratitis after Boston type 1 keratoprosthesis implantation. Cornea. 2021 Oct 1;(1)40(10):1298–308.

Cooper AM, Flanagan ER, Ronis T, et al (Holland GN). Knowledge about juvenile idiopathic arthritis-associated uveitis: more frequent reminders are associated with higher patient and family uveitis knowledge. Pediatr Rheumatol Online J. 2021 Oct 2;19(1):149.

Gillespie BW, Niziol LM, Ehrlich JR, Johnson CA, Caprioli J, VanVeldhuisen PC, Lichter PR, Musch DC. Demographic, Comorbid, and Clinical Variables Associated With Pointwise Visual Field Damage in Glaucoma: Data From the AGIS and CIGTS Clinical Trials. Transl Vis Sci Technol. 2021 Oct 4; 10(12):28.

Xiong Y-Z, Rong L, Kwon M, **Bittner AK**, Owsley C, Legge GE. A Unified Rule for Binocular Contrast Summation Applies to Normal Vision and Common Ocular Pathologies. Invest Ophthalmol Vis Sci. 2021 Oct 4;62(13):6.

Fogel Levin M, Freund KB, Gunnemann F, Greaves G, Sadda S, Sarraf D. Myopic Macular Pits: A Case Series With Multimodal Imaging. Can J Ophthalmol. 2021 Oct 6:S0008-4182(21)00348-3.

Huang JM, Khurana RN, Ghanekar A, Wang PW, Day BM, Blodi BA, Domalpally A, Quezada-Ruiz C, **Ip MS**. Disease-modifying effects of ranibizumab for central retinal vein occlusion. Graefes Arch Clin Exp Ophthalmol. 2021 Oct 6.

Demer JL. Vertical Comitance of Hypertropia in Congenital and Acquired Superior Oblique Palsy. J Neuroophthalmol. 2022 Mar 1; 42(1):e240–e247. Epub 2021 Oct 8. Ambati M, Apicella I, Wang SB, Narendran S, Leung H, Pereira F, Nagasaka Y, Huang P, Varshney A, Baker KL, Marion KM, Shadmehr M, Stains CI, Werner BC, **Sadda SR**, Taylor EW, Sutton SS, Magagnoli J, Gelfand BD. Identification of Fluoxetine As A Direct NLRP3 Inhibitor To Treat Atrophic Macular Degeneration. Proc Natl Acad Sci U S A. 2021 Oct 12; 118(41):e2102975118.

Pineles SL, Repka MX, Yu F, Velez FG, Perez C, Sim D, Coleman AL. Risk of physical injuries in children and teens with ophthalmic diagnoses in the OptumLabs Data Warehouse. JAAPOS. 2021 Dec;25(6):346.e1–346.e7. Epub 2021 Oct 13.

Fogel-Levin M, Wong A, Sadda SR, Freund KB, Sarraf D. Rare Case Report Of Extramacular Choroidal Macrovessel. Can J Ophthalmol. 2021 Oct 19:S0008-4182(21)00361-6.

Gupta K, Unhale R, Garner OB, **Deng SX**, **Fung SS**. Infectious Keratitis Isolates and Susceptibility in Southern California. Cornea. 2022 Sep 1;41(9): 1094–1102. Epub 2021 Oct 19.

Douglas RS, Kahaly GJ, **Ugradar S**, Elflein H, Ponto KA, Fowler BT, Dailey R, Harris GJ, Schiffman J, Tang R, Wester S, Jain AP, Marcocci C, Marinò M, Antonelli A, Eckstein A, Führer-Sakel D, Salvi M, Sile S, Francis-Sedlak M, Holt RJ, Smith TJ. Teprotumumab Efficacy, Safety, and Durability in Longer-Duration Thyroid Eye Disease and Re-treatment: OPTIC-X Study. Ophthalmology. 2022 Apr;129(4):438–449. Epub 2021 Oct 21.

Bonnet C, Oh D, Mei H, Robertson S, Chang D, Bourges JL, Behar-Cohen F, **Zheng JJ, Deng SX**. Wnt6 plays a complex role in maintaining human limbal stem/progenitor cells. Sci Rep. 2021 Oct 22;11(1):20948.

Figueiredo N, Sarraf D, Gunnemann F, Sadda SR, Bansal A, Berger AR, Wong DT, Kohly RP, Kertes PJ, Hillier RJ, Muni RH. Longitudinal Assessment of Ellipsoid Zone Recovery Using En Face Optical Coherence Tomography after Retinal Detachment Repair: En Face OCT Ellipsoid Zone Recovery after RD Repair. Am J Ophthalmol. 2021 Oct 22: S0002-9394(21)00529-8.

Kong X, Ibrahim-Ahmed M, Bittencourt MG, Strauss RW, Birch DG, Cideciyan AV, Ervin AM, Ho A, Sunness JS, Audo IS, Michaelides M, Zrenner E, Sadda S, Ip MS, West S, Scholl HPN; SMART Study Group. Longitudinal Changes in Scotopic and Mesopic Macular Function as Assessed with Microperimetry in Patients With Stargardt Disease: SMART Study Report No. 2. Am J Ophthalmol. 2022 Apr;236:32–44. Epub 2021 Oct 23.

Bittner AK, Estabrook M, Dennis N. Bluetooth low energy beacon sensors to document hand-held magnifier use at home by people with low vision. Sensors (Basel) 2021 Oct 25; 21(21):7065.

Aref AA, Scott IU, VanVeldhuisen PC, King J, Ip MS, Blodi BA, Oden NL; Study of Comparative Treatments for Retinal Vein Occlusion 2 (SCORE2) Investigator Group. Intraocular Pressure-Related Events After Anti-Vascular Endothelial Growth Factor Therapy for Macular Edema Due to Central Retinal Vein Occlusion or Hemiretinal Vein Occlusion: SCORE2 Report 16 on a Secondary Analysis of a Randomized Clinical Trial. JAMA Ophthalmol. 2021 Oct 28:e214395.

Bonnet C, Lee A, Shibayama VP, Tseng CH, **Deng SX**. Clinical outcomes and complications of fluid-filled scleral lens devices for the management of limbal stem cell deficiency. Cont Lens Anterior Eye. 2021 Oct 30:101528.

November 2021

Attiku Y, He Y, Nittala MG, Sadda SR. Current Status and Future Possibilities of Retinal Imaging in Diabetic Retinopathy Care Applicable to Low- And Medium-Income Countries. Indian J Ophthalmol. 2021 Nov; 69(11):2968–2976.

Gorin M. Genotype-Phenotype Analysis of Atrophic Age-Related Macular Degeneration: What Does It Mean When You Don't Find What You Were Expecting? Ophthalmol Retina. 2021 Nov;5(11):1059–1060.

Saxena S, **Sadda SR**. Focus on External Limiting Membrane and Ellipsoid Zone in Diabetic Macular Edema. Indian J Ophthalmol. 2021 Nov;69(11): 2925–2927.

Babiuch AS, Wykoff CC, Yordi S, Yu H, Srivastava SK, Hu M, Le TK, Lunasco L, Reese J, Nittala MG, Sadda SR, Ehlers JP. The 2-Year Leakage Index and Quantitative Microaneurysm Results of the RECOVERY Study: Quantitative Ultra-Widefield Findings in Proliferative Diabetic Retinopathy Treated with Intravitreal Aflibercept. J Pers Med. 2021 Nov 1;11(11):1126.

Ipp E, Liljenquist D, Bode B, Shah VN, Silverstein S, Regillo CD, Lim JI, Sadda S, Domalpally A, Gray G, Bhaskaranand M, Ramachandra C, Solanki K; EyeArt Study Group. Pivotal Evaluation of an Artificial Intelligence System for Autonomous Detection of Referrable and Vision-Threatening Diabetic Retinopathy. JAMA Netw Open. 2021 Nov 1;4(11):e2134254.

Miller KM, Dyk DW, Yalamanchili S. Experimental study of occlusion break surge volume in 3 different phacoemulsification systems. J Cataract Refract Surg. 2021 Nov 1;47(11):1466–1472.

Zhou E, Shi Z, Qiao X, Mataric MJ, **Bittner AK**. Designing a Socially Assistive Robot to Support Older Adults with Low Vision. Social Robotics: 13th International Conference, ICSR 2021. 2021 Nov 2. LNAI, volume 13086.

Liang Q, Le Q, Wang L, Cordova D, Baclagon E, Garrido SG, Levin M, Jin Y, Tseng CH, Rao J, **Deng SX**. Cytokeratin 13 Is a New Biomarker for the Diagnosis of Limbal Stem Cell Deficiency. Cornea. 2022 Jul 1;41(7):867–873. Epub 2021 Nov 3.

Mahmoudinezhad G, Salazar D, Morales E, Tran P, Lee J, **Hubschman JP, Nouri-Mahdavi K, Caprioli J**. Risk factors for microcystic macular oedema in glaucoma. Br J Ophthalmol. 2021 Nov 5:bjophthalmol-2021-320137.

Robertson SYT, Roberts JS, **Deng SX**. Regulation of Limbal Epithelial Stem Cells: Importance of the Niche. Int J Mol Sci. 2021 Nov 5;22(21):11975.

Miller KM, Oetting TA, Tweeten JP, Carter K, Lee BS, Lin S, Nanji AA, Shorstein NH, Musch DC; American Academy of Ophthalmology Preferred Practice Pattern Cataract/Anterior Segment Panel. Cataract in the Adult Eye Preferred Practice Pattern. Ophthalmology. 2022 Jan;129(1):P1—P126. Epub 2021 Nov 12. Ugradar S, Massry GG. Commentary on: The Zoom Boom: How Video Calling Impacts Attitudes Towards Aesthetic Surgery in the COVID-19 Era. Aesthet Surg J. 2021 Nov 12; 41(12):NP2094—NP2095.

Gundlach B, Kokhanov A, Altendahl M, Suh S, Fung S, Demer J, Pineles S, Khitri M, Chu A, Tsui I. Real-world visual outcomes of laser and anti-VEGF treatments for retinopathy of prematurity. Am J Ophthalmol. 2022 Jun;238:86–96. Epub 2021 Nov 14.

Tanji T, Cohen E, Shen D, Zhang C, Yu F, **Coleman AL, Zheng JJ**. Age at Glaucoma Diagnosis in Germline Myocilin Mutation Patients: Associations with Polymorphisms in Protein Stabilities. Genes (Basel). 2021 Nov 16; 12(11):1802.

Aleassa M, Le A, **Demer JL**. Special features of superior oblique hypofunction due to tendon abnormalities. Strabismus. 2021 Dec;29(4):243-25. Epub 2021 Nov 17.

Fan W, Nittala MG, Wykoff CC, Brown DM, Uji A, Van Hemert J, Fleming A, Robertson G, Sadda SR, Ip MS. A new biomarker quantifying the effect of antivegf therapy in eyes with proliferative diabetic retinopathy on ultra-wide field fluorescein angiography: RECOVERY Study. Retina. 2021 Nov 19.

Howell GL, Chavez G, McCannel CA, Quiros PA, Al-Hashimi S, Yu F, Fung S, DeGiorgio C, Huang Y, Straatsma BR, Braddock CH, Holland GN. Prospective randomized trial comparing simulator-based versus traditional teaching of direct ophthalmoscopy for medical students. Am J Ophthalmol. 2022 Jun;238:187–196. Epub 2021 Nov 19

Scott IU, Oden NL, VanVeldhuisen C, Ip MS. SCORE2 Report 17: Macular thickness fluctuations in anti-VEGF-treated patients with central or hemiretinal vein occlusion. Graefes Arch Clin Exp Ophthalmol. 2022 May; 260(5):1491–1500. Epub 2021 Nov 29.

Karlin JN, Ahankoob N, Rootman DB. Multiple Arterial Vascular Anomalies in the Periorbital, Paranasal, and Intracranial Spaces Treated With Systemic Bevacizumab. J Craniofac Surg. 2021 Nov–Dec 01;32(8):e768–e771.

Karlin JN, Farajzadeh J, Stacy S, Esfandiari M, Rootman DB. The Effect of Zero Gravity on Eyelid and Brow Position. Ophthalmic Plast Reconstr Surg. 2021 Nov–Dec 01;37(6):592–594.

December 2021

Kelesidis T, Madhav S, Petcherski A, Cristelle H, O'Connor E, Hultgren NW, Ritou E, Williams DS, Shirihai OS, Reddy ST. The ApoA-I mimetic peptide 4F attenuates in vitro replication of SARS-CoV-2, associated apoptosis, oxidative stress and inflammation in epithelial cells. Virulence. 2021 Dec;12(1):2214–2227.

Aref AA, Scott IU, VanVeldhuisen PC, King J, Ip MS, Blodi BA, Oden NL; Study of Comparative Treatments for Retinal Vein Occlusion 2 (SCORE2) Investigator Group. Intraocular Pressure-Related Events After Anti-Vascular Endothelial Growth Factor Therapy for Macular Edema Due to Central Retinal Vein Occlusion or Hemiretinal Vein Occlusion: SCORE2 Report 16 on a Secondary Analysis of a Randomized Clinical Trial. JAMA Ophthalmol. 2021 Dec 1;139(12): 1285–1291.

Demer JL, Kline LB, Vaphiades MS, Tavakoli M. Comments on Disorders of the Fourth Cranial Nerve: Response. J Neuroophthalmol. 2021 Dec 1;41(4): e824–e825.

Kuan V, Warwick A, Hingorani A, Tufail A, Cipriani V, Burgess S, Sofat R; International AMD Genomics Consortium (Gorin, MB). Association of Smoking, Alcohol Consumption, Blood Pressure, Body Mass Index, and Glycemic Risk Factors With Age-Related Macular Degeneration: A Mendelian Randomization Study. JAMA Ophthalmol. 2021 Dec 1;139(12): 1299–1306.

Rabiolo A, Fantaguzzi F, Sacconi R, Gelormini F, Borrelli E, Triolo G, Bettin P, McNaught Al, **Caprioli J**, Querques G, Bandello F. Combining Structural and Vascular Parameters to Discriminate Among Glaucoma Patients, Glaucoma Suspects, and Healthy Subjects. Transl Vis Sci Technol. 2021 Dec 1;10(14):20. Wang SB, Narendran S, Hirahara S, Varshney A, Pereira F, Apicella I, Ambati M, Ambati VL, Yerramothu P, Ambati K, Nagasaka Y, Argyle D, Huang P, Baker KL, Marion KM, Gupta K, Liu B, Hinton DR, Canna SW, Sallam T, Sadda SR, Kerur N, Gelfand BD, Ambati J. DDX17 is an essential mediator of sterile NLRC4 inflammasome activation by retrotransposon RNAs. Sci Immunol. 2021 Dec 3;6(66):eabi4493. Epub 2021 Dec 3.

Diala FGI, McCarthy K, Chen JL, **Tsui E**. Multimodal imaging in pediatric uveitis. Ther Adv Ophthalmol. 2021 Dec 6; 13:25158414211059244.

Graybeal K, Sanchez L, Zhang C, Stiles L, **Zheng JJ**. Characterizing the metabolic profile of dexamethasone treated human trabecular meshwork cells. Exp Eye Res. 2022 Jan;214:108888. Epub 2021 Dec 9.

Le Q, Chauhan T, Cordova D, Tseng CH, **Deng SX**. Biomarkers of in vivo limbal stem cell function. Ocul Surf. 2022 Jan;23:123–130. Epub 2021 Dec 10.

Bonnet C, Chehaibou I, McCannel CA, McCannel TA, Prasad PS, Kreiger AE, Schwartz SD, Aldave AJ, Hubschman JP. Retinal detachment in eyes with Boston type 1 keratoprosthesis: surgical techniques and mid-term outcomes. Retina. 2021 Dec 20.

Aguwa UT, Wang J, Woreta F, Pettey J, Sun G, **Pineles S**, Srikumaran D. Residency program diversity recruitment and education: survey of efforts and barriers to implementation. J Surg Educ. 2022 May–Jun;79(3):595–605. Epub 2021 Dec 21.

Mohammadzadeh V, Su E, Rabiolo A, Shi L, Zadeh SH, Law SK, Coleman AL, Caprioli J, Weiss RE, Nouri-Mahdavi K. Ganglion Cell Complex: The Optimal Measure for Detection of Structural Progression in the Macula. Am J Ophthalmol. 2022 May;237:71–82. Epub 2021 Dec 21.

Bonnet C, Chauhan T, Encampira Luna E, Le Q, Tseng CH, **Deng SX**. Cell Morphology as an In Vivo Parameter for the Diagnosis of Limbal Stem Cell Deficiency. Cornea. 2021 Dec 23: 10.1097/ICO.000000000000002955.

January 2022

Anastasio T, **Demer J**, Leigh RJ, Luebke A, van Opstal AJ, Optican L, Ramat S, Zee DS eds. David A. Robinson's Modeling the Oculomotor Control System. Volume 267, Issue 1, Pages 2–435. Amsterdam: Elsevier, 2022.

Hong T, Mohammadi F, Chatterjee R, Chan E, Pourhomayoun M,
Mohammadzadeh V, **Nouri-Mahdavi K**,
Amini N. A Novel Similarity Measure for
Retinal Optical Coherence Tomography
Images. In Proc. of the International
Conference on Visual Computing
(Advances in Visual Computing).
Lecture Notes in Computer Science,
vol 13018. Springer, 2022.

Lee YH, **Khitri MR**. Chapter 33: Clinical Evaluation and Management of Infantile Nystagmus Syndrome. In Tejedor J; ed. Strabismus and Amblyopia: Scientific Basis and Clinical Management, McGraw-Hill Publications, 2022.

Nassisi M, **Sadda SR**. Ocular Imaging for Enhancing the Understanding, Assessment, and Management of Age-Related Macular Degeneration. Adv Exp Med Biol. 2021;1256:33–66.

Chen AC, Pelsor NP, Wang K, **Glasgow BJ**, **Aldave AJ**. Late Onset Interface Calcium Deposition After Laser In Situ Keratomileusis. Cornea. 2022 Jan 1; 41(1):116–120.

Bacci T, Oh DJ, Singer M, Sadda S, Freund KB. Ultra-Widefield Indocyanine Green Angiography Reveals Patterns of Choroidal Venous Insufficiency Influencing Pachychoroid Disease. Invest Ophthalmol Vis Sci. 2022 Jan 3; 63(1):17.

Chehaibou I, **Hubschman JP**, Kasi S, Su D, Joseph A, Prasad P, Abbey AM, Gaudric A, Tadayoni R, Rahimy E. Spontaneous Conversion of Lamellar Macular Holes to Full-Thickness Macular Holes: Clinical Features and Surgical Outcomes. Ophthalmol Retina. 2021 Oct;5(10):1009–1016. Epub 2021 Jan 5.

Mustak H, Lo C, Cohen LM, Tran A, Almanzor R, McCannel TA, Goldberg RA, Rootman DB. Extrascleral extension of choroidal melanoma after iodine-125 brachytherapy treatment: a case series. Eye (Lond). 2022 Jan 5.

Chen JJ, Sotirchos ES, Henderson AD, Vasileiou ES, Flanagan EP, Bhatti MT, Jamali S, Eggenberger ER, Dinome M, Frohman LP, Arnold AC, Bonelli L, Seleme N, Mejia-Vergara AJ, Moss HE, Padungkiatsagul T, Stiebel-Kalish H, Lotan I, Hellmann MA, Hodge D, Oertel FC, Paul F, Saidha S, Calabresi PA, Pittock SJ. OCT retinal nerve fiber layer thickness differentiates acute optic neuritis from MOG antibodyassociated disease and Multiple Sclerosis: RNFL thickening in acute optic neuritis from MOGAD vs MS. Mult Scler Relat Disord, 2022 Feb:58:103525. Epub 2022 Jan 11.

Wykoff CC, Yu HJ, Avery RL, Ehlers JP, Tadayoni R, **Sadda SR**. Retinal Non-Perfusion in Diabetic Retinopathy. Eye (Lond). 2022 Jan 11.

Roelofs KA, Duckwiler G, Gundlach B, Yoo B, Diniz SB, Cohen LM, Goldberg RA, Rootman DB. Orbital Vascular Malformations: Determining Outflow with Valsalva Maneuver-Augmented Computed Tomography Angiography. Ophthalmology. 2022 May;129(5):590–592. Epub 2022 Jan 12.

Dong PN, Hang DTT, Duong NTN, Lien MT, Chen AC, **Aldave AJ**. Infectious keratitis in Vietnam: etiology, organisms and management at Vietnam National Eye Hospital. Int J Ophthal. 2022 Jan 18;15(1):128–134.

Arnold RW, Donahue SP, Silbert DI, Longmuir SQ, Bradford GE, Peterseim MMW, Hutchinson AK, O'Neil JW, de Alba Campomanes AG, Pineles SL; AAPOS Vision Screening and Research Committee. AAPOS uniform guidelines for instrument-based pediatric vision screen validation 2021. JAAPOS. 2022 Feb;26(1):1.e1–1.e6. Epub 2022 Jan 20.

Hubschman S, Hou K, Sarraf D, Tsui I. An unusual presentation of peripapillary pachychoroid syndrome. Am J Ophthalmol Case Rep. 2022 Jan 22; 25:101338.

Liu J, Laiginhas R, Corvi F, Ferris FL 3rd, Lim TH, **Sadda SR**, Waheed NK, Iyer PG, Shen M, Shi Y, Trivizki O, Wang L, Vanner EA, Feuer WJ, Gregori G, Rosenfeld PJ. Diagnosing Persistent Hyper-Transmission Defects on En Face OCT Imaging of Age-Related Macular Degeneration. Ophthalmol Retina. 2022 Jan 27: S2468-6530(22)00033-1.

Morshedian A, Sendek G, Ng SY, Boyd K, Radu RA, Liu M, Artemyev NO, Sampath, AP, and Fain GL. Reproducibility of the rod photoreceptor response depends critically on the concentration of the phosphodiesterase effector enzyme. J. Neurosci. 2022 Mar 16;42(11):2180–2189. Epub 2022 Jan 28

Zhong Z, Wang J, Tian J, Deng X, Balayan A, Sun Y, Xiang Y, Guan J, Schimelman J, Hwang H, You S, Wu X, Ma C, Shi X, Yao E, **Deng SX**, Chen S. Rapid 3D bioprinting of a multicellular model recapitulating pterygium microenvironment. Biomaterials. 2022 Mar; 282:121391. Epub 2022 Jan 28.

Betzler BK, Ding J, Wei X, Lee JM, Grewal DS, Fekrat S, **Sadda SR**, Zarbin MA, Agarwal A, Gupta V, Schmetterer L, Agrawal R. Choroidal Vascularity Index: A Step Towards Software as A Medical Device. Br J Ophthalmol. 2022 Feb;106(2):149–155. Epub 2021 Jan 29.

Sun D, Shao H, Born WK, Kaplan HJ. $\gamma\delta$ T cells activated in different inflammatory environments are functionally distinct. J. Immunol. 2022 Mar 1; 208(5):1224–1231. Epub 2022 Jan 31.

Kim JS, Gonzales L, Lester J, Householder N, Boxrud C, **Goldberg R**, **Ugradar S**. Thrombogenicity of Hyaluronic Acid Fillers: A Quantitative Thrombodynamics Study. Ophthalmic Plast Reconstr Surg. 2022 Jan—Feb 01; 38(1):68—72.

February 2022

Equiterio BS, Garcia DM, Cruz AA, Rootman DB, Goldberg RA, Sales Sanz M, Galindo-Ferreiro A, Diniz S. Lid Flare Measurement with Lateral Midpupil Distances. Curr Eye Res. 2021 Sep;46(9):1309–1313. Epub 2021 Feb 1.

Zhang Y, Sadda SR, Sarraf D, Swain TA, Clark ME, Sloan KR, Warriner WE, Owsley C, Curcio CA. Spatial Dissociation of Subretinal Drusenoid Deposits and Impaired Scotopic and Mesopic Sensitivity in AMD. Invest Ophthalmol Vis Sci. 2022 Feb 1; 63(2):32.

Meer E, Solanes F, Kohn L, Kuo CY, Wong DA, **Pineles S**, **Tsui I**. Ocular findings associated with FADD deficiency resemble familial exudative vitreoretinopathy. Am J Ophthalmol Case Rep. 2022 Feb 3;25:101305.

Nittala MG, Metlapally R, **Ip MS**, Chakravarthy U, Holz FG, Staurenghi G, Waheed N, Velaga SB, Lindenberg S, Karamat A, Koester J, Ribeiro R, **Sadda S**. Association of Pegcetacoplan With Progression of Incomplete Retinal Pigment Epithelium and Outer Retinal Atrophy in Age-Related Macular Degeneration: A Post Hoc Analysis of the FILLY Randomized Clinical Trial. JAMA Ophthalmol. 2022 Feb 3.

Ayres BD, Fant BS, Landis ZC, Miller KM, Stulting RD, Cionni RJ, Fram NR, Hamilton S, Hardten DR, Koch DD, Masket S, Price FW Jr, Rosenthal KJ, Hamill MB, Snyder ME. Results of the United States Food and Drug Administration Clinical Trial of the Custom-Flex Artificial Iris. Ophthalmology. 2022 Jun;129(6):614–625. Epub 2022 Feb 5.

Gardiner SK, Kinast RM, Chen TC, Strouthidis NG, De Moraes CG, Nouri-Mahdavi K, Myers JS, Jeoung JW, Lind JT, Rhodes LA, Budenz DL, Mansberger SL. Clinicians' Use of Quantitative Information when Assessing the Rate of Structural Progression in Glaucoma. Ophthalmol Glaucoma. 2022 Feb 7:S2589-4196(22)00019-9.

Tsui E, Rathinam SR, Gonzales JA, Thundikandy R, Kanakath A, Balamurugan S, Vedhanayaki R, Lim LL, Suhler EB, Al-Dhibi HA, Doan T, Keenan J, Ebert CD, Kim E, Madow B, Porco TC, Acharya NR; FAST Research Group. Outcomes of Uveitic Macular Edema in the First-line Antimetabolites as Steroid-Sparing Treatment Uveitis Trial. Ophthalmology. 2022 Jun;129(6):661–667. Epub 2022 Feb 8.

Cassedy A, Altaye M, Andringa J, et al (Holland GN). Assessing the validity and reliability of the effects of youngsters' eyesight on quality of life questionnaire among children with uveitis. Arthritis Care Res (Hoboken). 2022 Mar;74(3):355–363. Epub 2022 Feb 9.

Wong BM, Matsumoto JH, **Pineles SL**. Eyelid nystagmus in a child with cardio-faciocutaneous syndrome associated with BRAF mutation. JAAPOS. 2022 Apr;26(2):95–97. Epub 2022 Feb 9.

Fogel-Levin M, Sadda SR, Rosenfeld PJ, Waheed N, Querques G, Freund KB, Sarraf D. Advanced Retinal Imaging and Applications for Clinical Practice: A Consensus Review. Surv Ophthalmol. 2022 Feb 17:S0039-6257(22)00035-2.

de Gainza A, Morales E, Salazar D, Yu F, Afifi A, **Nouri-Mahdavi K**, **Caprioli J**. Structural-Functional Glaucoma Progression Trajectory in Two-dimensional Space. J Glaucoma. 2022 Feb 18.

Roberts JS, Ma C, Robertson SYT, Kang S, Han CS, **Deng SX, Zheng JJ**. R-etodolac is a more potent Wnt signaling inhibitor than enantiomer, S-etodolac. Biochem Biophys Rep. 2022 Feb 19;30:101231.

Zloto O, Aharon L, Ben-Bassat Mizrachi I, Kesler A, **Quiros PA**, Huna-Baron R. Papilledema and Cerebral Venous Sinus Thrombosis Due to JAK2 Mutation. J Neuroophthalmol. 2022 Mar 1;42(1):e452. Epub 2021 Feb 19.

Ganesh D, **Lin SR**. Global metrics on ocular biometry: representative averages and standard deviations across ten countries from four continents. Eye (Lond). 2022 Feb 21.

Munk MR, Kashani AH, Tadayoni R, Korobelnik JF, Wolf S, Pichi F, Koh A, Ishibazawa A, Gaudric A, Loewenstein A, Lumbroso B, Ferrara D, Sarraf D, Wong DT, Skondra D, Rodriguez FJ, Staurenghi G, Pearce I, Kim JE, Freund KB, Parodi MB, Waheed NK, Rosen R, Spaide RF, Nakao S, Sadda S, Vujosevic S, Wong TY, Murata T, Chakravarthy U, Ogura Y, Huf W, Tian M. Recommendations for OCTA reporting in retinal vascular disease: A Delphi approach by International Experts. Ophthalmol Retina. 2022 Feb 21:S2468-6530(22)00066-5.

Quiros PA, Gordon LK. Socioeconomic Factors May Affect Diversity in Neuro-Ophthalmology: Response. J Neuroophthalmol. 2022 Feb 22.

Shekhar K., Whitney IE, Butrus S, Peng YR, Sanes JR. Diversification of multipotential postmitotic mouse retinal ganglion cell precursors into discrete types. Elife. 2022 Feb 22;11:e73809.

Chen D, Modi Y, Goduni L, Chong J, Tsui E, Breazzano MP, Dedania V, Marr B, Sarraf D. Intraocular Metastasis of Large T-cell Lymphoma Transformed from Mycosis Fungoides. Ocul Immunol Inflamm. 2022 Feb 24:1–4.

March 2022

Chen JL, Men M, Naini BV, **Tsui E**. IgG4-related hypertensive granulomatous anterior uveitis. Am J Ophthalmol Case Rep. 2022 Mar 1;26:101465.

Crespo-Trevino R, Schiffman J, **Ugradar S**, Cockerham K, Douglas R, de Leon-Garza D, Tang R. Thyroid dermopathy responds to teprotumumab therapy. Endocrinol Diabetes Metab Case Rep. 2022 Mar 1;2022:21-0201.

Fan W, Nittala MG, Wykoff CC, Brown DM, Uji A, Hemert JV, Fleming A, Robertson G, Sadda SR, Ip M. New Biomarker Quantifying the Effect of Anti-Vegf Therapy In Eyes with Proliferative Diabetic Retinopathy on Ultrawide Field Fluorescein Angiography: RECOVERY Study. Retina. 2022 Mar 1; 42(3):426–433.

Repka MX, Dean TW, Kraker RT, Li Z, Yen KG, de Alba Campomanes AG, Young MP, Rahmani B, Haider KM, Whitehead GF, Lambert SR, Kurup SP, Kraus CL, Cotter SA, Holmes JM, (Pineles SL). Visual acuity and ophthalmic outcomes 5 years after cataract surgery among children younger than 13 years. JAMA Ophthalmol. 2022 Mar 1;140(3):269–276.

Ugradar S, Kossler AL, Douglas R, Cockerham K. A Paradigm Shift in the Management of Thyroid Eye Disease How Teprotumumab Has Changed the Therapeutic Interface. J Neuroophthalmol. 2022 Mar 1;42(1):26–34. Review.

Deffler RA, Xu J, **Bittner AK**, Bowers AR, Hassan SE, Ross NC, Cooley S-S, Doubt A, Davidorf FH, Dougherty BE, RADARS study group. Use and Perceptions of Advanced Driver Assistance Systems by Older Drivers with and without Age-related Macular Degeneration. Transl Vis Sci Technol. 2022 Mar 2;11(3):22.

Huang P, Narendran S, Pereira F, Fukuda S, Nagasaka Y, Apicella I, Yerramothu P, Marion KM, Cai X, **Sadda SR**, Gelfand BD, Ambati J. The Learning Curve of Murine Subretinal Injection Among Clinically Trained Ophthalmic Surgeons. Transl Vis Sci Technol. 2022 Mar 2;11(3):13. Matynia A, Wang J, Kim S, Li Y, Dimashkie A, Jiang Z, Hu J, Strom SP, Radu RA, Chen R, Gorin MB. Assessing Variant Causality and Severity Using Retinal Pigment Epithelial Cells Derived from Stargardt Disease Patients. Transl Vis Sci Technol. 2022 Mar 2;11(3):33.

Ji X, Zhao L, Umapathy A, Fitzmaurice B, Wang J, Williams DS, Chang B, Naggert JK, Nishina PM: Loss of LYST function causes elevated levels of oxidative stress and of ECM-remodeling proteases in retinal pigment epithelial cells. PLoS One. 2022 Mar 3;17(3): e0254469.

Bonnet C, González S, Roberts JS, Robertson SYT, Ruiz M, **Zheng J**, **Deng SX**. Human limbal epithelial stem cell regulation, bioengineering and function. Prog Retin Eye Res. 2021 Nov;85:100956. Epub 2021 Mar 4.

Hazim RA, **Williams DS**. Microtubule motor transport of organelles in a specialized epithelium: the RPE. Front Cell Dev Biol. 2022 Mar 4;10:852468.

Wykoff CC, Nittala MG, Boone CV, Yu HJ, Fan W, Velaga SB, Ehlers JP, Ip MS, Sadda SR; RECOVERY Study Group. Final Outcomes from the Randomized RECOVERY Trial of Alfibercept for Retinal Nonperfusion in Proliferative Diabetic Retinopathy. Ophthalmol Retina. 2022 Mar 4:S2468-6530(22)00086-0.

Shao H, Kaplan HJ, **Sun D**. Bidirectional effect of IFN-γ on Th17 responses in experimental autoimmune uveitis. Front. Ophthalmol. 2022 Mar 7. 2:1–23.

Gardiner SK, Kinast RM, De Moraes CG, Budenz DL, Jeoung JW, Lind JT, Myers JS, Nouri-Mahdavi K, Rhodes LA, Strouthidis NG, Chen TC, Mansberger SL. Clinicians' Use of Quantitative Information while Assessing the Rate of Functional Progression in Glaucoma. Ophthalmol Glaucoma. 2022 Mar 12: S2589-4196(22)00049-7.

Bonnet C, Tseng CH, Kruse F, **Deng SX**. Comment on: Long-Term Outcome After Superficial Keratectomy of the Abnormal Epithelium for Partial Limbal Stem Cell Deficiency. Am J Ophthalmol. 2022 Jun;238:202–203. Epub 2022 Mar 13.

Jones AV, MacGregor S, Han X, Francis J, Harris C; SCOPE Study group (**Gorin MB**), Kavanagh D, Lotery A, Waheed N. Evaluating a Causal Relationship between Complement Factor I Protein Level and Advanced Age-Related Macular Degeneration Using Mendelian Randomization. Ophthalmol Sci. 2022 Jun;2(2):100146. Epub 2022 Mar 18.

Lee JJ, Lee JE, Sadda SR, Park SW, Byon I. Impact of Signal Strength on Quantitative Retinal and Choriocapillaris Flow Measurement from Optical Coherence Tomography Angiography. Sci Rep. 2022 Mar 18;12(1):4692.

Meer EA, Lee YH, Repka MX, Borlik MF, Velez FG, Perez C, Yu F, Coleman AL, Pineles SL. Association of mood disorders, substance abuse, and anxiety disorders in children and teens with serious structural eye diseases. Am J Ophthalmol. 2022 Aug;240:135–142. Epub 2022 Mar 18.

Fain GL, Sampath AP. Light responses of mammalian cones. Pflugers Arch. 2021 Sep;473(9):1555–1568. Epub 2021 Mar 19. Review.

Choo CH, Chung DD, Ledwitch KV, Kassels A, Meiler J, **Aldave AJ**. Confirmation of association of *TGFBI* p.Ser591Phe mutation with variant lattice corneal dystrophy. Ophthalmic Genet. 2022 Mar 22:1–4.

Pan C, Banerjee K, Lehmann GL, Almeida D, Hajjar KA, Benedicto I, Jiang Z, **Radu RA**, Thompson D, Rodriguez-Boulan E, Nociari MM. Lipofuscin causes atypical necroptosis through lysosomal membrane permeabilization. Proc. Natl. Acad. Sci. USA. 2021 Nov 23;118(47):e2100122118.

Velaga SB, Nittala MG, Hariri A, **Sadda SR**. Correlation between Fundus Autofluorescence and En Face OCT Measurements of Geographic Atrophy. Ophthalmol Retina. 2022 Mar 23: S2468-6530(22)00132-4.

Douglas RS, Kossler AL, Abrams J, Briceño CA, Gay D, Harrison A, Lee M, Nguyen J, Joseph SS, Schlachter D, Tan J, Lynch J, Oliver L, Perry R, Ugradar S. Expert Consensus on the Use of Teprotumumab for the Management of Thyroid Eye Disease Using a Modified-Delphi Approach. J Neuro-ophthalmol. 2022 Mar 24.

Fan W, Uji A, Wykoff CC, Brown DM, van Hemert J, Falavarjani KG, Wang K, Sadda SR, Ip MS. Baseline retinal vascular bed area on ultra-wide field fluorescein angiography correlates with the anatomical outcome of diabetic macular oedema to ranibizumab therapy: two-year analysis of the DAVE Study. Eye (Lond). 2022 Mar 24.

Scott IU, Oden NL, VanVeldhuisen PC, Ip MS, Blodi BA, SCORE2 Study Investigator Group. Baseline Characteristics and Outcomes After Anti-Vascular Endothelial Growth Factor Therapy for Macular Edema in Participants with Hemiretinal Vein Occlusion Compared With Participants With Central Retinal Vein Occlusion: Study of Comparative Treatments for Retinal Vein Occlusion 2 (SCORE2) Report 18. JAMA Ophthalmol. 2022 Mar 24:e220352.

Law SM, **Zheng JJ**. Premise and peril of Wnt signaling activation through GSK-3 β inhibition. iScience. 2022 Mar 25;25(4):104159.

Tan CS, Ngo WK, Chay IW, Ting DS, Sadda SR. Neovascular Age-Related Macular Degeneration (nAMD): A Review of Emerging Treatment Options. Clin Ophthalmol. 2022 Mar 25;16:917–933.

Lee B, Corradetti G, **Sadda SR**. Multimodal Imaging in A Case of Rubella Retinopathy. Can J Ophthalmol. 2022 Mar 26:S0008-4182(22)00085-0.

Nouri-Mahdavi K. An alternate technique for goniotomy. J Ophthalmic Vis Res. 2022 Apr 29;17(2):158–159.

Pineles SL, Henderson RJ, Repka MX, Heidary G, Liu GT, Waldman AT, Borchert MS, Khanna S, Graves JS, Collinge JE, Conley JA, Davis PL, Kraker RT, Cotter SA, Holmes JM. The pediatric optic neuritis prospective outcomes study: two year results. Ophthalmology. 2022 Aug;129(8):856–864. Epub 2022 Mar 29.

Anaya-Alaminos R, Rassmussen ML, Fung S, Potic J, González-Andrades M. Comparative analysis of European residency programs: benchmarking and harmonizing ophthalmology training in Europe. Eye (Lond). 2022 Mar 30.

April 2022

de Gainza A, Morales E, Salazar D, Yu F, Afifi A, **Nouri-Mahdavi K**, **Caprioli J**. Structural-Functional Glaucoma Progression Trajectory in 2-Dimensional Space. J Glaucoma. 2022 Apr 1;31(4): 250–260.

Douglas RS, Dailey R, Subramanian PS, Barbesino G, **Ugradar S**, Batten R, Qadeer RA, Cameron C. Proptosis and Diplopia Response With Teprotumumab and Placebo vs the Recommended Treatment Regimen With Intravenous Methylprednisolone in Moderate to Severe Thyroid Eye Disease: A Meta-analysis and Matching-Adjusted Indirect Comparison. JAMA Ophthalmol. 2022 Apr 1; 140(4):328–335.

Lee YH, Repka MX, Borlik MF, Velez FG, Perez C, Yu F, Coleman AL, Pineles SL. Association of strabismus with mood disorders, schizophrenia and anxiety disorders among children. JAMA Ophthalmol. 2022 Apr 1; 140(4):373–381.

Malkin AG, Ross NC, Chun MW, **Bittner AK**, CARE Study team. Why Are Visual Assistive Mobile Apps Underutilized by Low Vision Patients? Optom Vis Sci. 2022 Apr 1;99(4):333–334.

Yoon SB, Ma YC, Venkat A, Liu CA, **Zheng JJ**. Applying Protein-Protein Interactions and Complex Networks to Identify Novel Genes in Retinitis Pigmentosa Pathogenesis. Int J Mol Sci. 2022 Apr 2;23(7):3962.

Wei Q, Mutawak B, **Demer JL**. Biomechanical modeling of actively controlled rectus extraocular muscle pulleys. Sci Rep. 2022 Apr 6;12(1):5806.

Huang P, Narendran S, Pereira F, Fukuda S, Nagasaka Y, Apicella I, Yerramothu P, Marion KM, Cai X, **Sadda SR**, Gelfand BD, Ambati J. Subretinal Injection in Mice to Study Retinal Physiology and Disease. Nat Protoc. 2022 Apr 13.

Hou KK, Au A, Corradetti G, Sarraf D. Chapter 4: Optical Coherence Tomography Angiography, Ryan's Retina, 7th Edition. Elsevier. 2022 Apr 13.

Sadda S, Schachat A, Wilkinson C, Hinton D, Wiedemann P, Freund KB, Sarraf D (Eds). Ryan's Retina. 7th Edition. Elsevier. 2022 Apr 13. Airaldi M, Corvi F, Cozzi M, Nittala MG, Staurenghi G, **Sadda SR**. Differences in Long-Term Progression of Atrophy Between Neovascular And Non-Neovascular Age-Related Macular Degeneration. Ophthalmol Retina. 2022 Apr 20:S2468-6530(22)00189-0.

Frederiksen R, Fain GL, Sampath AP. A hyperpolarizing rod bipolar cell in the sea lamprey, Petromyzon marinus. J Exp Biol. 2022 Apr 15; 225(8):jeb243949. Epub 2022 Apr 20.

Scott IU, VanVeldhuisen PC, Oden NL, **Ip MS**, Blodi BA; SCORE2 Investigator Group. Month 60 Outcomes After Treatment Initiation With Anti-Vascular Endothelial Growth Factor Therapy for Macular Edema Due to Central Retinal or Hemiretinal Vein Occlusion. Am J Ophthalmol. 2022 Apr 21;240:330–341.

Au A, Jung J, Johnson MW, Baumal C, Daily MJ, Gomolin JE, Gupta RR, Rahimy E, Wu L, **Sadda SR, Sarraf D**. Henle Fiber Layer Hemorrhage in Macular Telangiectasia Type 2: Is Right Eye Dominance Coincidence or Consequence? Am J Ophthalmol. 2022 Apr 22:S0002-9394(22)00146-5.

Tseng VL, Topouzis F, Yu F, Keskini C, Pappas T, Founti P, Anastasopoulos E, Harris A, Wilson R, Coleman AL.
Associations between Dietary Salt Intake and Prevalence of Glaucoma in the Thessaloniki Eye Study. J Glaucoma. 2022 Jul 1;31(7):494–502. Epub 2022 Apr 27.

Sun D, Shao H, Kaplan HJ. TLR ligand ligation switches adenosine receptor usage and augmented Th17-promoting effect of BMDCs in experimental autoimmune uveitis. Current Research in Immunology. 2022 Apr 29 3:73–84.

May 2022

Moran AL, Carter SP, Kaylor JJ, Jiang Z, Broekman S, Dillon ET, Gómez Sánchez A, Minhas SK, van Wijk E, Radu RA, Travis GH, Carey M, Blacque OE, Kennedy BN. Dawn and dusk peaks of outer segment phagocytosis, and visual cycle function require Rab28. FASEB J. 2022 May;36(5):e22309.

Karmouta R, Altendahl M, Romero T, Piersante NP, Langston S, **Khitri MR**, Kading J, **Tsui I**, Chu A. Social determinants of retinopathy of prematurity outcomes. JAMA Ophthalmol. 2022 May 1; 140(5):496–502.

Ganesh D, Coleman AL, Shibayama V, Tseng VL. Netarsudil induced corneal flattening in a child with secondary open-angle glaucoma. Case Rep Ophthalmol. 2022 May 2;13(2): 330–335.

Grover S, Sharma M; International Age-related Macular Degeneration Genomics Consortium (**Gorin MB**). Sleep, Pain, and Neurodegeneration: A Mendelian Randomization Study. Front Neurol. 2022 May 2;13:765321.

Yaghy A, Lee AY, Keane PA, Keenan TDL, Mendonca LSM, Lee CS, Cairns AM, Carroll J, Chen H, Clark J, Cukras CA, de Sisternes L, Domalpally A, Durbin MK, Goetz KE, Grassmann F, Haines JL, Honda N, Hu ZJ, Mody C, Orozco LD, Owsley C, Poor S, Reisman C, Ribeiro R, Sadda SR, Sivaprasad S, Staurenghi G, Ting DS, Tumminia SJ, Zalunardo L, Waheed NK. Artificial Intelligence-Based Strategies to Identify Patient Populations and Advance Analysis in Age-Related Macular Degeneration Clinical Trials. Exp Eye Res. 2022 May 4;220:109092.

Karlin JN, Katsev B, Kapelushnik N, Simon GB, Rootman DB. Revision ptosis surgery for under-correction after Müller muscle conjunctival resection. J Plast Reconstr Aesthet Surg. 2022 May 6:S1748-6815(22)00301-1.

Ramtohul P, Iovino C, Au A, Bacci T, Pichi F, Corradetti G, Corvi F, Manoharan N, Marin Al, Tadayoni R, Sadda S, Freund KB, Sarraf D. Clinical and Morphologic Characteristics of Perivenular Fern-like Leakage on Ultra-Widefield Fluorescein Angiography. Ophthalmol Retina. 2022 May 8: S2468-6530(22)00232-9.

Corvi F, Bacci T, Corradetti G, Staurenghi G, **Sarraf D**, Freund KB, **Sadda S**. Characterisation of the Vascular Anterior Surface of Type 1 Macular Neovascularisation After Anti-VEGF Therapy. Br J Ophthalmol. 2022 May 10:bjophthalmol-2021-320047.

Nguyen AAK, **Tsui E**, Smith JR. Social media and ophthalmology: A review. Clin Exp Ophthalmol. 2022 May;50(4): 449–458. Epub 2022 May 12.

He Y, Chen X, **Tsui I**, Vajzovic L, **Sadda SR**. Insights into the Developing Fovea Revealed by Imaging. Prog Retin Eye Res. 2022 May 17:101067.

Yadav S, Kafieh R, Zimmerman HG, Kauer-Bonin J, **Nouri-Mahdavi K**, Mohammadzadeh V, Shi L, Kadas AM, Friedmann P, Motamedi S, Brandt AU. J Imaging. 2022 May 17;8(5):139.

Ugradar S, Kim JS, Trost N, Parunakian E, Zimmerman E, Ameli K, Shoji MK, Lee WW. Changes to Eye Whiteness and Eyelid/Brow Position With Topical Oxymetazoline in Aesthetic Patients. Aesthet Surg J. 2022 May 18; 42(6):582–589.

Tsui E, Chen JL, Jackson NJ, Leyva O, Rasheed H, Baghdasaryan E, Fung SSM, McCurdy DK, Sadda SR, Holland GN. Quantification of Anterior Chamber Cells in Children with Uveitis Using Anterior Segment Optical Coherence Tomography. Am J Ophthalmol. 2022 May 21:S0002-9394(22)00209-4.

Demer JL, Clark RA. Masquerading Superior Oblique Palsy. Am J Ophthalmol. 2022 May 23: S0002-9394(22)00212-4.

Oncel D, Manafi N, Nittala MG, Velaga SB, Stambolian D, Pericak-Vance MA, Haines JL, **Sadda SR**. Effect of OCT B-Scan Density on Sensitivity for Detection of Intraretinal Hyperreflective Foci in Eyes with Age-Related Macular Degeneration. Curr Eye Res. 2022 May 23:1–16.

Gu L, Kwong JM, **Caprioli J, Piri N**. DNA and RNA oxidative damage in the retina is associated with ganglion cell mitochondria. Sci Rep. 2022 May 24; 12(1):8705.

Fan W, Fleming A, Van Hemert J, Wykoff C, Brown D, Robertson G, Wang K, Falavarjani KG, **Sadda S**, **Ip MS**. Retinal Vascular Bed Area in Eyes with Retinal Vein Occlusion on Ultra-Wide Field Fluorescein Angiography: WAVE STUDY. Retina. Epub May 30, 2022.

Cohen LM, Goldberg RA, Rootman DB. Recurrence of Distensible Orbital Venous-dominant Venolymphatic Malformations After Sclerotherapy Versus Embolization with Excision. Ophthalmic Plast Reconstr Surg. 2022 May–Jun 01;38(3):283–288.

Cruz AAV, Equitério B, Diniz SB, Garcia DM, Rootman DB, Goldberg RA, Galindo-Ferreiro A, Marqués-Fernández V, Sales-Sanz M. Upper Eyelid Contour Changes After Orbital Decompression in Graves Orbitopathy. Ophthalmic Plast Reconstr Surg. 2022 May-Jun 01;38(3):289-293.

June 2022

Tseng VL. Alcohol and cataract surgery: Factors to consider in observational analyses. Ophthalmology. 2021 Jun:128:848-9.

Guo X, Dang W, Li N, Wang Y, Sun D, Nian H, Wei R. PPAR-a agonist fenofibrate ameliorates Sjögren's syndromelike dacryoadenitis by modulating Th1/ Th17 and Treg cell responses in NOD mice. Invest. Ophthalmol Vis Sci. 2022 Jun 1;63(6):12.

Wang KM, Tseng VL, Liu X, Pan D, Yu F, Baker R, Mondino BJ, Coleman AL. Association between geographic distribution of eye care providers and visual impairment in California. JAMA Ophthalmol. 2022 Jun 1;140(6): 577-584.

Chew EY, Clemons TE, Agrón E, Domalpally A, Keenan TDL, Vitale S, Weber C, Smith DC, Christen W; AREDS2 Research Group (Sadda SR). Long-term Outcomes of Adding Lutein/ Zeaxanthin and ω -3 Fatty Acids to the AREDS Supplements on Age-Related Macular Degeneration Progression: AREDS2 Report 28. JAMA Ophthalmol. 2022 Jun 2.

D Niruthisard D, **S Fung**. Recombinant Human Nerve Growth Factor for Pediatric Neurotrophic Keratopathy. Eye Contact Lens. 2022;48(7):303-305. Epub 2022 Jun 3.

Wong YS, Tseng VL, Yu F, Coleman AL. The Association between Dual Sensory Impairment and Hospital Admission in US California Medicare Beneficiaries. Ophthalmic Epidemiol. Epub 2022 Jun 6.

McDonald J, Cassedy A, Altaye M, et al (Holland GN). Comprehensive assessment of quality of life, functioning, and mental health in children with juvenile idiopathic arthritis and noninfectious uveitis. Arthritis Care Res (Hoboken). 2022 Aug;74(8):1311-1320. Epub 2022 Jun 8.

Chew L, Mohammadzadeh V, Mohammadi M, Toriz V, Rosa N, Gorin MB, Amini N, Nouri-Mahdavi K. Measurement of The Inner Macular Layers for Monitoring of Glaucoma: Confounding Effects of Age-Related Macular Degeneration. Ophthalmol Glaucoma. 2022 Jun 21:S2589-4196(22)00099-0.

Gu L, Caprioli J, Piri N. Rbfox1 expression in amacrine cells is restricted to GABAergic and VGlut3 glycinergic cells. Biosci Rep. 2022 Jun 22: BSR20220497.

Men M, Tsui E. Delayed onset anterior uveitis and macular edema after cessation of pembrolizumab. Am J Ophthalmol Case Rep. 2022 Jun 23; 27:101631.

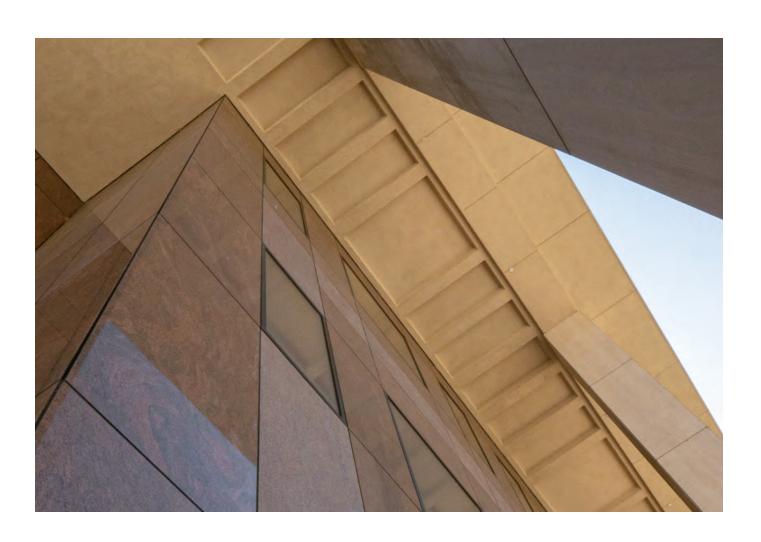
Ugradar S, Manoukian N, Azhdam A, Le A, Chen J, Rootman D, Goldberg RA, Lambros V. Orbital Aging: A CT Based Study of 240 orbits. Plast Reconstr Surg. 2022 Jun 24.

Zarei R, Azimi A, Fakhraei G, Eslami Y, Naderan M, Nouri-Mahdavi K, Caprioli J. Combined phacoviscocanalostomy versus phacoemulsification alone in patients with coexisting cataract and mild-to-moderate open-angle glaucoma; a randomized-controlled trial. Eye (Lond). 2022 Jun 25.

Margeta MA, Ratanawongphaibul K, Tsikata E, Zemplenyi M, Ondeck CL, Kim J, Coleman AL, Yu F, de Boer JF, Chen TC. Disc Hemorrhages are Associated with Localized Three-Dimensional Neuroretinal Rim Thickness Progression in Open-Angle Glaucoma. Am J Ophthalmol. 2022 Feb;234:188-198. Epub 2021 Jun 29.

Ciulla TA, Kapik B, Hu A, Harris A, Ip MS, Blodi B. Anatomic Biomarkers in Macular Edema Associated with Retinal Vein Occlusion. Ophthalmol Retina. 2022 Jun 30:S2468-6530(22)00324-4.

Mahmoudinezhad G, Mohammadzadeh V, Martinyan J, Edalati K, Zhou B, Yalzadeh D, Amini N, Caprioli J, Nouri-Mahdavi K. Comparison of GCL and GCIPL Measures for Detection of Early Glaucoma. Ophthalmol Glaucoma. 2022 Jun 30: S2589-4196(22)00103-X.





About the Institute

About the Institute



The bronze bust of Dr. Jules Stein was created by renowned Cubist sculptor Jacques Lipchitz.

stablished in 1966, the UCLA Stein Eye Institute vision-science campus 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 a medical doctor to become a national advocate for vision science; and **Bradley R. Straatsma, MD, JD**, founding director of the Stein Eye Institute and founding chair of the UCLA Department of Ophthalmology, who created a bold plan for building the scope of ophthalmology in the UCLA School of Medicine. Together Drs. Stein and Straatsma ensured the Institute would take a central role in transforming vision science as a powerful platform for discovery and patient care to eradicate one of the great scourges of human existence: blindness.

Under the leadership of **Bartly J. Mondino, MD**, director and chair since 1994, the Institute's core pillars have been increasingly developed and a broad agenda of program-building and expansion has been implemented.

The original dream for ophthalmology at UCLA has evolved into the Institute's bold transformation to a vision-science campus—an interconnected community of facilities and people that merge research, training for new ophthalmologists, premier patient care, community outreach programs, and ongoing education for doctors worldwide.

A historic partnership—a first of its kind—was forged with the Doheny Eye Institute in 2013, creating the nation's preeminent organization for ophthalmic care and vision research under the banner of the UCLA Department of Ophthalmology.

And today, patients across the Southland have access to the finest vision care at the Stein Eye Institute in Westwood; the UCLA Stein Eye Centers in Calabasas and Santa Monica; the Doheny Eye Centers UCLA in Arcadia, Orange County, and Pasadena; and UCLA-affiliated hospitals in Sylmar, Torrance, and West Los Angeles/Sepulveda.

Since its opening on November 3, 1966, the Institute's original mandate remains paramount: the relentless drive for excellence and the constant search for new possibilities in the treatment of the eye. The Institute's decades of accomplishments may have even exceeded the original soaring expectations of Dr. Stein who at the dedication ceremony defined his own prophecy for the Institute and the medical field he loved:

"The men and women who will occupy this building and use its resources will share in future achievements that will outstrip any that have been seen; for science today is moving ahead with fantastic speed, and we must be sure that eye research moves with it. The history of this Institute begins with this dedication. I am confident that it will be a proud history."

"If I am remembered for anything, it will not be for anything I did in show business, but for what I did to prevent blindness."

DR. JULES STEIN



Doris and Jules Stein

The legacy of Dr. and Mrs. Jules Stein arises from their role in the 20th century as visionaries. Through brilliance and beneficence, they created a multitude of programs aimed specifically at one goal: preserving and restoring eyesight. They approached this task dauntlessly, integrating the worlds of business, medicine, and philanthropy in such a way as to enhance each and leave in trust the promise of limitless accomplishment in the advancement of eye research and treatment. The Stein Eye Institute was established as a result of their philanthropy.

Board of Trustees

The Board of Trustees, established in 1977, ensures the Institute's orderly growth and development. The Board meets regularly during the year, with each trustee providing his/her unique counsel. Collectively, their invaluable contributions have included fiscal planning for the Institute, adoption of measures to facilitate recruitment of the world's finest vision scientists, allocation of funds for the purchase of vision research equipment, and recommendations for expansion programs.



Norman Abrams, Esq.
Distinguished Professor
of Law Emeritus
Acting Chancellor Emeritus
UCLA
2015—present



Charles T. Foscue President and Chief Executive Officer HAI Financial, Inc. 2020—present



Bartly J. Mondino, MD Director Stein Eye Institute 1994–present



Ronald L. Olson, Esq. Partner Munger, Tolles & Olson 1995–present



Nelson C. Rising, Esq. Chair and Chief Executive Officer Rising Realty Partners 2011–present



Katrina vanden Heuvel Publisher and Editor *The Nation* 1984–present



Casey Wasserman
President and
Chief Executive Officer
The Wasserman Foundation
1998–present



Bart H. Williams, Esq. Partner Proskauer Rose LLP 2021–Present



Marissa Goldberg
OBSERVER
Executive Director and
Chief Financial Officer
Doheny Eye Institute
2015—present

Executive Committee

The Executive Committee of the Stein Eye Institute and UCLA Department of Ophthalmology meets regularly during the year, with each member providing their unique expertise. The Committee ensures the orderly growth and development of the Institute and Department. It is involved in fiscal planning, expansion, recruitment, program development, and resolution of interdivisional issues.

Bartly J. Mondino, MD

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Mission Statement

The UCLA Stein Eye Institute is a vision-science campus dedicated to the preservation and restoration of vision through its global programs in innovative research, quality patient care, and multidisciplinary, integrative education, all with community outreach.

Giving Opportunities

For more than half a century, vision scientists at the UCLA Stein Eye Institute have extended the boundaries of current knowledge to pursue the goal of a lifetime of good vision for everyone. This noble undertaking has significantly benefited from a strong tradition of private philanthropy.

Contributions from individuals, foundations, and corporations help underwrite priority needs, which uphold scientific innovation, patient care, training and education, and a strong commitment to community engagement. The Stein Eye Institute offers a variety of giving options to those who wish to promote and participate in this tradition of excellence.

WAYS TO GIVE

Direct Gifts

Direct gifts—whether by cash, check, or credit card—are vitally important and provide Stein Eye with immediate resources, increasing the impact of these gifts.

Please make checks payable to **UC Regents**.

Endowments

Establishing an endowment is a visionary and generous act that honors the present and empowers the future. Endowments provide permanent resources that continue to grow. A portion of the annual investment income is used to support clinical, educational, and scientific initiatives, while the remaining investment yield is returned to principal. Thus, over the years, an endowment provides steady, reliable funding.

An endowment serves as an enduring legacy and can be named in honor of the donor, their family, loved ones, or another name of the donor's choosing. Giving opportunities exist for endowed chairs, endowed fellowships, and endowed funds for research, education, and patient care. These funds can be made payable over a period of up to five years.

Pledges

A pledge is a statement of intention to make a gift. Donors who seek to defer the bulk of their giving until a future date, or who want to give via installments over time, may use this giving strategy. A pledge may be followed by an immediate gift, or may simply confirm a donor's intention to make a gift in the future. Pledges are typically made in concert with a preliminary first installment and provide a source of consistent and dependable funding. This method often allows donors to give more generously than they may have originally considered.

Securities and Wires

Gifts of appreciated securities are tax deductible at their full market value. In most cases, appreciation in the value of the security benefits the university and does not cause a taxable event for the donor.

Matching Gifts

The easiest way to double—or even triple—a contribution is for the donor to request a match from their employer. Thousands of companies nationwide support their workforce by making such gifts to the organizations and institutions their employees care about. Check the Stein Eye database of matching gift companies at ww2.matchinggifts.com/ucla.

Real Estate

Real estate (primary residence, vacation home, commercial property, or land) is an asset that donors can leverage in a variety of ways to support the Stein Eye Institute, while reducing taxes and eliminating the burden of maintaining or selling the property. A donor also can use real estate to fund gifts that provide an income stream for life.

For residential properties, it is possible to arrange a sizable tax deduction

by deeding a home to the Stein Eye Institute, while continuing to occupy the property for life.

Bequests

Making a gift through a will or living trust offers the immediate satisfaction of creating a lasting and personal legacy that ensures Stein Eye's future and costs nothing now.

Charitable Gift Annuity

Donors may transfer money, securities, or real estate in trust to the Stein Eye Institute and receive income for themselves or another for life. Donors may receive immediate tax benefits, and ultimately, Stein Eye receives the trust property.

Qualified Retirement Plans

Naming The UCLA Foundation as a beneficiary of some or all of a qualified retirement plan may help donors minimize taxes and maximize philanthropic impact.

Tribute Gifts

Contributions may be made in memory, honor, or celebration of a loved one, or to commemorate a special occasion. Donations can be used for unrestricted program support or be directed to any area of Stein Eye.

YOUR GIFT CAN MAKE A DIFFERENCE

In whatever way you choose to support the Institute, you will be embarking on a partnership with one of the world's preeminent eye research centers. Such an investment will significantly expand Stein Eye's understanding of the causes of eye diseases, help develop alternative treatment options, and ultimately prevent blindness.

For information on how to incorporate the UCLA Stein Eye Institute into your estate and retirement planning, or to make a gift of any kind, please contact:

Leiloni Breidert

UCLA Stein Eye Institute Development Office 100 Stein Plaza, Room 1-124 Los Angeles, CA 90095-7000 Phone: (310) 206-6035 Fax: (310) 794-1665 giving@jsei.ucla.edu





