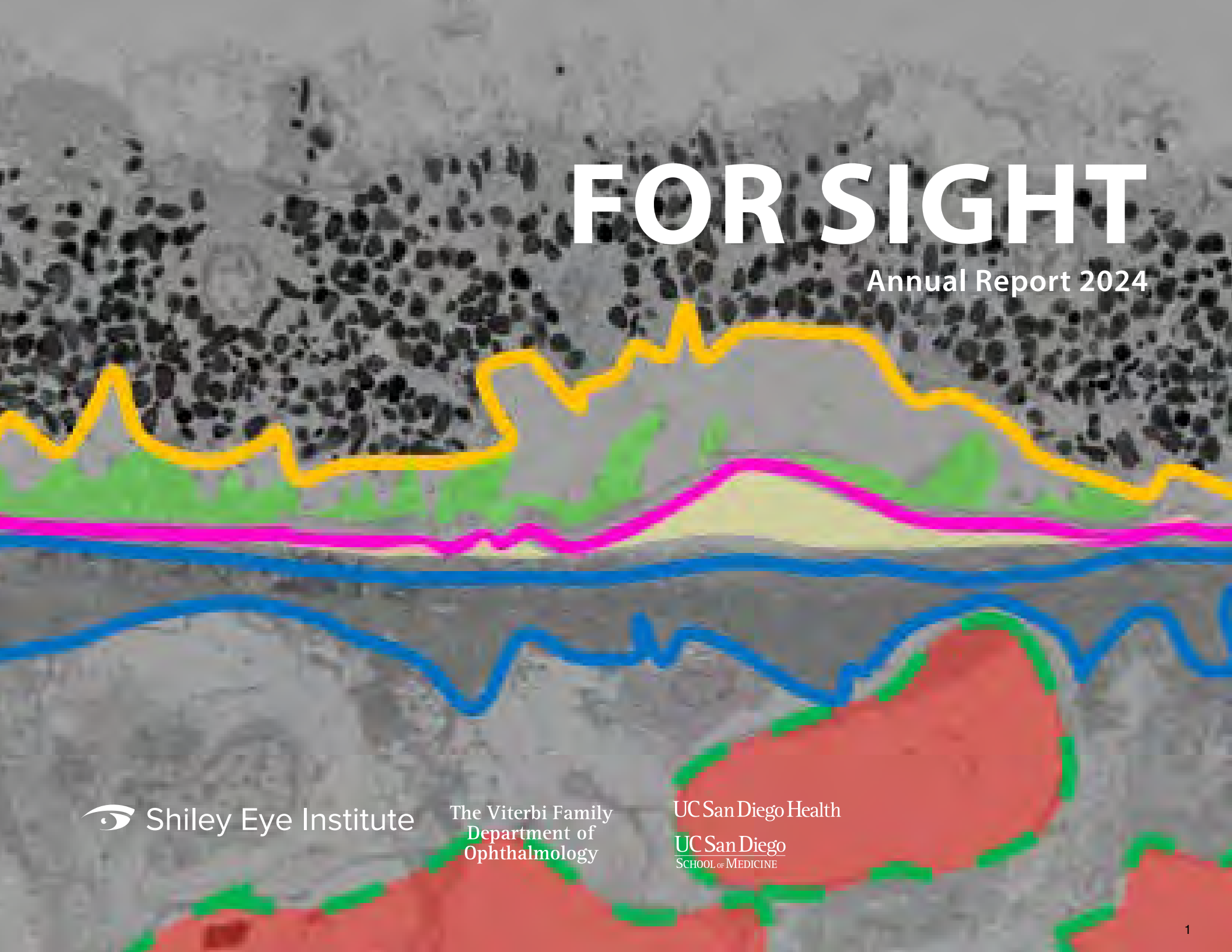


FOR SIGHT

Annual Report 2024

Shiley Eye Institute

The Viterbi Family Department of Ophthalmology

UC San Diego Health

UC San Diego School of Medicine

ON THE COVER
A scanning electron micrograph of a drusen (yellow) in patient with early AMD. Drusen form in an extracellular matrix known as Bruch's membrane (blue) that separates the retinal pigmented epithelium (pigmented cells, top) from the choroidal vasculature (red, bottom)

Image by Christopher Toomey, MD, PhD

Letter from the Chair

Dear Friends,

This past year has been a transformative journey for the Shiley Eye Institute (SEI) and the Viterbi Family Department of Ophthalmology. Our team of dedicated professionals – staff, clinicians, researchers and trainees – has not only deepened its commitment to patient care but also pushed the boundaries of discovery and innovation. Each day, their collective efforts remind us that what we do here goes beyond just clinical care, it's also about changing lives and advancing the future of vision science.

A heartfelt highlight this year was honoring Darlene Shiley with the UC San Diego Lifetime Legacy Award. Her enduring support continues to fuel advancements at SEI. The renovation of our second floor with expected completion in March 2025, made possible through her generosity, is set to deliver expanded clinical areas, state-of-the-art procedure rooms, a laser center, and an advanced microsurgery training facility. These additions will allow us to serve our patients in even greater capacities, with plans to welcome them in early 2025.

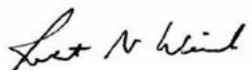
Among our most significant milestones is the ongoing development of the Viterbi Family Vision Research Center. This five-story, 100,000-square-foot facility is on track to become a hub of innovation. World-class labs, clinical trial spaces, and educational facilities will soon provide the tools we need to pioneer breakthroughs in eye care.

As you explore this report, you'll discover some of our most exciting accomplishments from the past year – whether it's celebrating the 20th anniversaries of the Hamilton Glaucoma Center and Jacobs Retina Center, receiving prestigious grants, or our ongoing work to foster a more diverse and inclusive environment.

Our success is a testament to the passion, innovation, and resilience of the entire SEI family. We continue to be driven by our vision of improving patient eyecare and vision research advancements. The support we receive from you – our partners, friends, and community – makes all this possible.

Together, we are shaping a brighter future. Thank you for your trust and partnership as we embark on the next chapter of growth at SEI.

Sincerely,



Robert N. Weinreb, MD
Chair and Distinguished Professor, Ophthalmology
Director, Shiley Eye Institute

Letter from the Chancellor

Dear Friends,

We are excited to share with you the latest achievements from the Shiley Eye Institute and Viterbi Family Department of Ophthalmology at UC San Diego Health, a leading center for ophthalmological research and care. This year, we are pleased to announce the expansion of our facility, made possible by a generous $10 million gift from Darlene Shiley.

Inside this report, you will find stories of innovation and excellence in patient care, research and education. You will also find updates about our ongoing construction, including the nearly complete Shiley second floor renovation, which will allow us to provide even better care to our patients, develop new treatments, and drive breakthroughs in vision research. Construction on the Viterbi Family Vision Research Center is also well underway, with plans to finish an educational facility, clinical trial spaces, and both wet and dry research laboratories in Spring 2025.

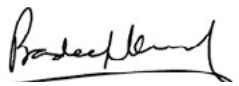
We are deeply grateful to Darlene Shiley and her late husband Donald for their long-standing commitment to transformative eye care in San Diego. Their remarkable generosity has enabled us to make significant investments in clinical care, research and faculty development. More than 30 years ago, they made a transformational gift to establish the internationally recognized Shiley Eye Institute at UC San Diego Health, positioning us as a global hub for world-class eye care.

This year, we were honored to recognize Darlene Shiley with the Lifetime Legacy Award – the third in history – in recognition of her decades-long legacy of generosity and support for UC San Diego. Her philanthropy has transformed lives here in San Diego and across the country, and we are so grateful for her continued partnership.

We would also like to thank our many donors who share our vision for excellence in ophthalmological care. Your support is crucial to our mission and enables us to push the boundaries of what is possible in vision research and patient care.

Thank you for your partnership and support.

With kind regards,



Pradeep K. Khosla, PhD
Chancellor, UC San Diego
Joan and Irwin Jacobs Chancellor's Endowed Chair

Letter from the Vice Chancellor

Dear Friends,

The field of ophthalmology is advancing at an extraordinary pace, and nowhere is this progress more evident than at the UC San Diego Shiley Eye Institute and Viterbi Family Department of Ophthalmology. For over three decades, this institution has been a beacon of innovation, collaboration and hope by providing exceptional eye care while driving the discovery of new treatments and cures.

Currently, we stand on the threshold of an exciting new era. Next summer, the Viterbi Family Vision Research Center will open. This transformative new facility, supported by a foundational gift from Andrew J. Viterbi, PhD, will expand our understanding of eye health and accelerate breakthroughs in patient eye care. This innovative new center will create space for multidisciplinary collaboration, bringing together leading researchers, clinicians and educators from across the university to tackle the most pressing challenges in vision science.

The Shiley Eye Institute's evolution is a testament to the power of collective vision. Over the past year, we've celebrated advances in treatments for complex retinal diseases, the development of innovative tools for glaucoma management, and pioneering applications of artificial intelligence in vision care. Each of these achievements reflects the dedication of our talented faculty and the generous support of our philanthropic community.

As part of our commitment to meeting the growing demand for specialized eye care, we have also expanded the second floor of the Shiley Eye Institute's clinical facilities. This investment — made possible through a combination of institutional support and a gift from Darlene Shiley — underscores our shared goal of making world-class care accessible to all who need it.

The opening of the Viterbi Family Vision Research Center represents more than a new building — it signifies our relentless drive to push boundaries and set new standards in vision research and care. Together, we are shaping a future where the possibility of restored sight and enhanced quality of life becomes a reality for more people than ever before.

Thank you for your unwavering commitment to our mission. Your partnership inspires and empowers us to envision and achieve a brighter future for all.

John M. Carethers, MD
Vice Chancellor for Health Sciences
UC San Diego

Letter from the CEO

Dear Friends,

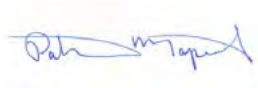
As we reflect on another extraordinary year at the Shiley Eye Institute, I am reminded of the transformative power of vision—both literal and metaphorical. Vision empowers us to see the world more clearly, inspires hope, sparks innovation, and drives progress. The Shiley Eye Institute and Viterbi Family Department of Ophthalmology at UC San Diego Health are leading the way to discovering new therapies, treatments, and cures while providing the very best patient care in the region.

Because of the broad range of novel treatments, therapies, and outstanding personalized care available, the Shiley Eye Institute has become an important entry point for many patients who choose UC San Diego Health for all their care. And through initiatives such as the EyeMobile programs and groundbreaking advancements in gene and stem cell therapies, the Institute's dedication to community and discovery is second to none.

Fueled by its well-deserved reputation for excellence, demand for the Institute's world-class care continues to grow. In 2025, we will celebrate the opening of new clinical space at the Shiley Eye Institute thanks to a generous gift from longtime champion Darlene Shiley. Darlene's support, and that of her late husband Donald, has been instrumental in so many key moments for UC San Diego Health. We are grateful for the opportunity to grow our patient care capacity thanks to Darlene's continued partnership.

The opening of the Viterbi Family Vision Research Center, also in 2025, will expand research and clinical trial space right next door. Patients will have even more access to the world's most advanced medicine. These two expansion projects will ensure that the Shiley Eye Institute remains a global leader in research, education, and patient care for generations to come.

Looking ahead, I am filled with optimism for the new horizons we will chart together. With your continued support, we will turn bold ideas into life-changing realities and ensure that no one's future is limited by loss of sight.



Patty Maysent, MPH, MBA
CEO, UC San Diego Health

Executive Committee

ROBERT N. WEINREB, MD
Chair

NATALIE A. AFSHARI, MD
Vice Chair, Education

DON O. KIKKAWA, MD
Executive Vice Chair, Clinical

WILLIAM R. FREEMAN, MD
Vice Chair

SALLY L. BAXTER, MD, MSc
Division Chief, Informatics and Data Science

DAVID B. GRANET, MD
Vice Chair, Pediatric Ophthalmology

LINDA ZANGWILL, PhD
Interim Director, Research

CRAIG KISHABA, MBA
Administrative Vice Chair

2024 By The Numbers

98,837
Scheduling Phone Calls Handled

4,870
Same Day Appointments

156,671
Total Visits

7,555
Total Surgeries

EyeMobile

Providing no cost services to underserved children and adults within the San Diego region

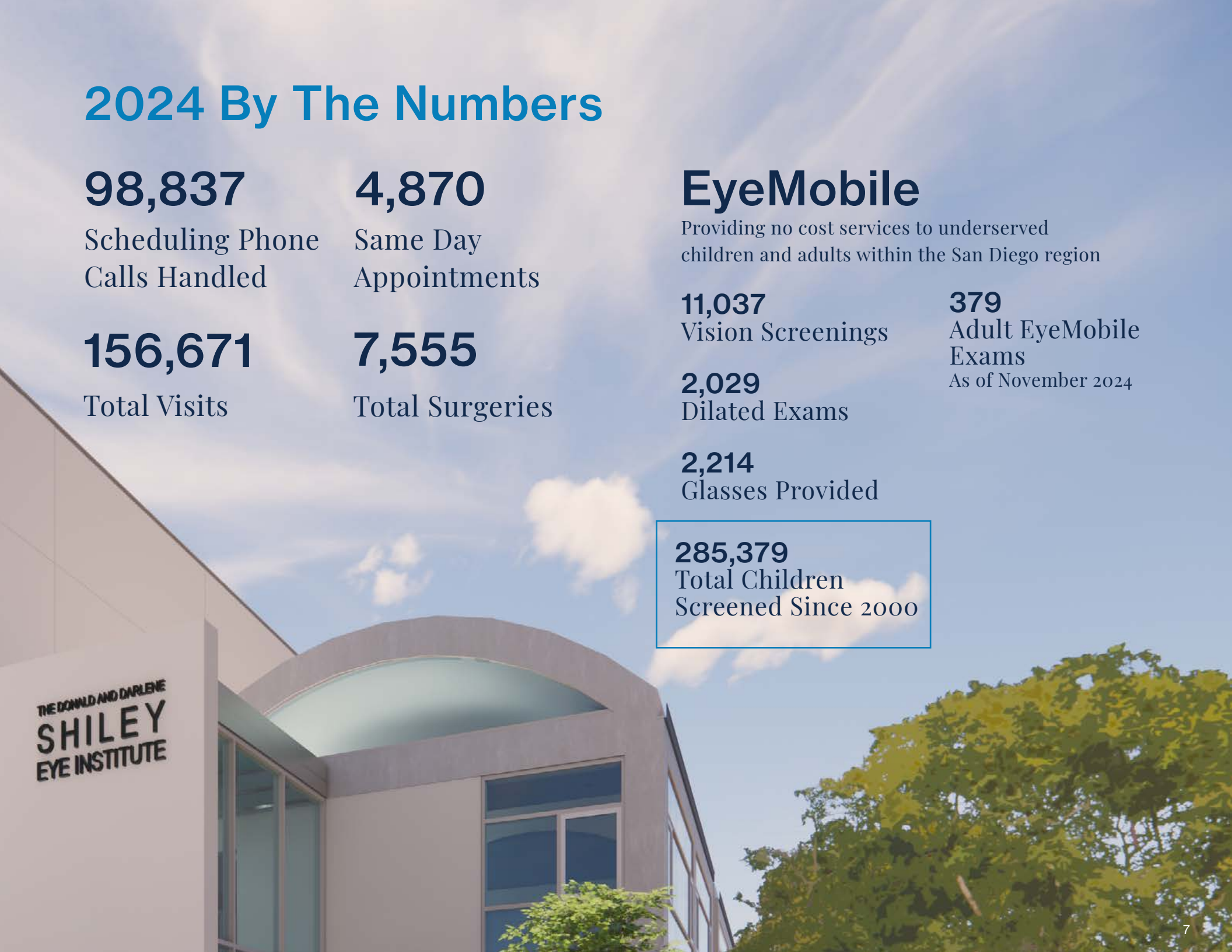
11,037
Vision Screenings

2,029
Dilated Exams

2,214
Glasses Provided

379
Adult EyeMobile Exams
As of November 2024

285,379
Total Children Screened Since 2000



Congratulations UC San Diego Lifetime Legacy Award Winner

Darlene Shiley

On March 23, 2024, Darlene Shiley was the recipient of the UC San Diego Lifetime Legacy Award for advancing healthcare and medicine in unique impactful ways. This award is granted only on the rarest occasions to exceptional campus visionaries.

Darlene Shiley is a visionary leader whose philanthropy has transformed lives here in San Diego and across the country. Shiley's wide-ranging philanthropic interests are the result of a fierce passion for helping others – a passion she shared with her late husband, Donald. This has led to a truly remarkable legacy of impact at the Shiley Eye Institute at UC San Diego.

Darlene Shiley with Stuart I. Brown, MD and Robert N. Weinreb, MD

More than 30 years ago, Darlene and Donald Shiley made a transformational gift to establish the internationally recognized Shiley Eye Institute at UC San Diego Health. Her sustained support has been vital. Most recently, she recognized the meteroic growth and excellence of the clinical enterprise and provided a generous gift to renovate an entire floor for additional and new clinical activities.

Meanwhile, her leadership in San Diego and nationwide reflects her enthusiasm and dedication to improving the lives of others, whether through access to world-class health care, leading-edge education, public broadcasting or the arts.

"With their visionary philanthropy, Darlene and Donald Shiley helped position UC San Diego as a global hub for world-class eye care with the establishment of what is now the Shiley Eye Institute," said Chancellor Pradeep K. Khosla, PhD.

"We are so grateful to Darlene for continuing a decades-long legacy of generosity and support for UC San Diego, enabling our renowned researchers and physicians to advance innovative discovery and clinical care to help patients from around the world."

Darlene Shiley with Pradeep K. Khosla, PhD

A Commitment to Clinical Excellence

In July 2023, the Shiley Eye Institute (SEI) and Viterbi Family Department of Ophthalmology embarked on a transformative journey to renovate the second floor offices and laboratories of the Shiley Eye Center to better serve our patients. Now, after months of planning, construction, and partnership with UC San Diego Health, SEI is on the horizon of completing its state-of-the-art clinical expansion.

In the early spring of 2025, SEI plans to welcome its first patients to the new clinical space. The expansion will have state of the art examining lanes, dedicated ophthalmic procedure rooms equipped with cutting-edge technology, the establishment of a refractive laser center, and the creation of a highly specialized microsurgery training center for the education of our residents and fellows. These enhancements were designed to improve patient access and strategically position SEI to sustain its legacy of providing clinical excellence and exceptional care.

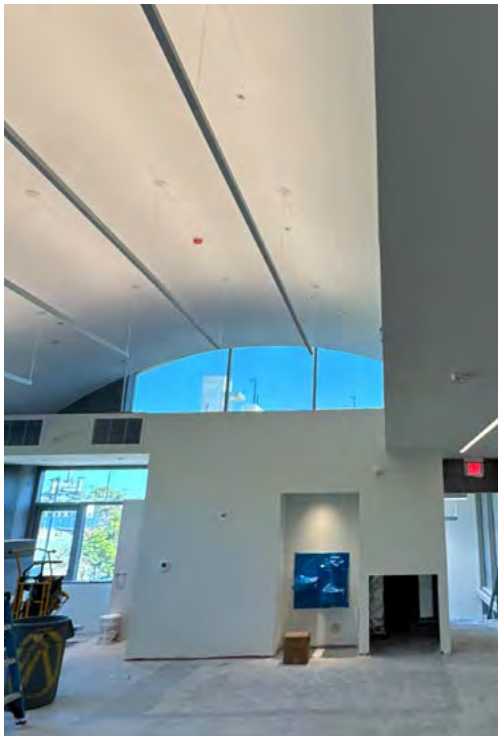
This incredible Shiley Eye Institute transformation was made possible through the generosity of Darlene Shiley, who made a $10 million gift in partnership with UC San Diego Health. She and her late husband, Donald, who passed away in 2010, have contributed to funding for SEI clinical enhancements, state-of-the-art equipment, groundbreaking research initiatives, community services and an endowed chair. Their commitment to SEI and the field of eye health has been a driving force behind its evolution.

Everyone at the Donald P. and Darlene V. Shiley Eye Institute and Viterbi Family Department of Ophthalmology is grateful for her longstanding support and unwavering commitment to clinical excellence!

Robert N. Weinreb, MD, Karen Anisko Ryan, MS, Darlene Shiley, Align Builders project managers Paco Moreno and Andy James

"I know I speak for every one of our faculty and staff when I say that the support of Darlene and Donald P. Shiley has been sustained, unwavering and key to our successes and leadership in ophthalmology and eye care," said Robert N. Weinreb, MD, Chair and Director, Shiley Eye Institute.

"Moreover, we are making discoveries here every day that translate into vision saving therapies that we hope will cure blindness; Darlene has been a central reason for this, too."



(L to R): Craig Kishaba, MBA (SEI), Brennan Burrows (Align Builders), Robert N. Weinreb, MD (SEI), Alyosha Verzhbinsky, FAIA (TEF Design), Frances Angelborg (UC San Diego), Mark Froemsdorf, AIA (TEF Design), Paco Moreno (Align Builders) and Paul Loeffler (TEF Design)

Viterbi Family Vision Research Center

Construction Update

Construction of the Viterbi Family Vision Research Center at the UC San Diego Shiley Eye Institute is expected to be completed in March 2025. This new 100,000-square-foot powerhouse for innovative research and vision saving discoveries was made possible by a gift made in 2018 by philanthropist Andrew J. Viterbi, PhD.

His $50 million contribution names the Viterbi Family Department of Ophthalmology, the Viterbi Family Vision Research Center and created six new endowed chairs for faculty. The generous donation was inspired by Viterbi's father, Achille Viterbi, MD, an ophthalmologist. This naming of the Department of Ophthalmology is the first named Health Sciences Department at UC San Diego.

"With this historic gift - the largest ever to the Department of Ophthalmology - UC San Diego has the potential to cure blindness to help millions of people worldwide," said Chancellor Pradeep K. Khosla, PhD.

In this effort to cure blindness, restore vision and provide sight to individuals who have irreversible vision loss from glaucoma, macular degeneration, retinal degenerations or cataracts, the Viterbi Family Vision Research Center will include a multitude of important entities including space for clinical trials, computational and experimental laboratory research, a conference center, and the newly established Hanna and Mark Gleiberman Center for Glaucoma Research.

The new clinical trial space is focused on precision ophthalmology, particularly gene therapy and stem cell-based treatments. A first floor Conference Center will provide the Department of Ophthalmology with a versatile meeting space to be utilized for patient, student and physician ophthalmology education, staff training, research symposiums and more. There is also a wet experimental laboratory and dry computational laboratory research space.

The newly established Hanna and Mark Gleiberman Center for Glaucoma Research, funded by a $20 million gift in 2022, will have a prominent presence in the Viterbi Family Vision Research Center. The Center will focus on research investigating damaged optic nerves from glaucoma, with the goal of protecting and restoring the vision of those with advanced disease.

"This gift, from Dr. Viterbi will create a lasting legacy in healthcare," stated Robert N. Weinreb, MD, Chair and Director, Shiley Eye Institute.

"It will allow our dedicated clinicians and vision scientists at the UC San Diego Shiley Eye Institute and Viterbi Family Department of Ophthalmology to make a difference in the lives of our patients and all those from throughout the world afflicted with blinding eye diseases."

He continued, "Our dream is the realization of the impossible. We are going to cure blinding eye diseases."

John M. Carethers, MD, Pradeep K. Khosla, PhD and Robert N. Weinreb, MD

SEI Faculty Receives the Trifecta of Grant Awards

Christopher B. Toomey, MD, PhD, Assistant Professor of Ophthalmology, receives three prestigious career development awards – from (1) the National Eye Institute, (2) Larry L. Hillblom Foundation and (3) Foundation for Fighting Blindness!

Toomey is a clinician-scientist and a vitreoretinal surgeon at the Shiley Eye Institute and Viterbi Family Department of Ophthalmology at UC San Diego. Toomey has a laboratory in the Glycobiology Research and Training Center on the UC San Diego campus.

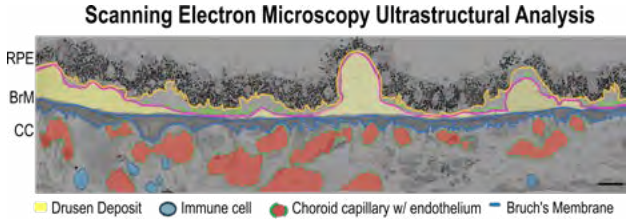


***Figure 1**: Scanning Electron Micrograph in AMD. Drusen (yellow) are lipoprotein and protein aggregates that form in an extracellular matrix, known as Bruch's membrane (BrM, dark blue), under the retinal pigmented epithelium (RPE) in patients with AMD. Underlying the drusen is the vascular supply to the retina, choriocapillaris (CC). Immune cells (light blue) and blood vessels (red) are segmented. Scale bar – 10 microns.*

Toomey's laboratory research program investigates the molecular origins of age-related macular degeneration (AMD). AMD affects approximately 20-30% of the population over the age of 70. Current AMD treatments are for patients who have vision loss and are in the late stages of their disease. The AMD research that Toomey is doing focuses on discovering treatments to prevent the disease prior to the onset of vision loss. His goal is to treat people early on, so they can be spared of all the complications associated with AMD.

The Toomey lab is performing quantitative analysis of scanning electron micrographs in AMD post-mortem samples to determine the ultrastructural origins of the disease. Drusen's (small yellow deposits that build up under the retina) extracellular deposits define the early and intermediate stages of AMD. In a collaboration with the Salk Research Institute Biophotonics Facility and the Sanford Burnham Prebys Medical Discovery Institute, Toomey performs scanning electron microscopy (**Figure 1**) combined with laser capture microdissection proteomics on drusen to understand the intersection between

aging, genetics and metabolism in the progression of AMD.

Most recently, Toomey has received research grants from National Eye Institute, Research to Prevent Blindness, Foundation for Fighting Blindness, Alcon Research Institute, Larry L. Hillblom Foundation and the Robert Machemer, MD and International Retinal Research Foundation to support his research endeavors.

40 Years of Leadership & Legacy

Robert N. Weinreb, MD

This year marked 40 years of service at the UC San Diego Viterbi Family Department of Ophthalmology for **Robert N. Weinreb, MD**, Chair and Distinguished Professor, Viterbi Family Department of Ophthalmology and Director of the Shiley Eye Institute. He also holds the Morris Gleich, MD Chair in Glaucoma.

Weinreb is a clinician, a surgeon and a scientist. Over these four decades, he has provided world-class eye care to our patients, conducted groundbreaking glaucoma research, delivered outstanding teaching to our trainees and offered invaluable leadership to our team.

He is the recipient of numerous prestigious national and international awards, is cited for his contributions and leadership from the most influential publications and organizations worldwide, and served on all the major glaucoma associations globally.

To commemorate this remarkable milestone Shiley Eye Institute staff, faculty, and trainees hosted multiple celebrations to honor Weinreb's legacy for future generations of ophthalmologists and the lives of people around the world that continue to be shaped by his trailblazing research.

Driving Vision Forward

This year has been exceptional for the Shiley Eye Institute (SEI), and Viterbi Family Department of Ophthalmology EyeMobile programs. Through the generous support of our donors, we provide needed eye care to more children and now adults in the San Diego community.

Thanks to a generous gift from Dr. Bruce and Janet Lawrence, the program launched an EyeMobile for Adults – a retrofit of the previous EyeMobile for Children, which now operates in a new, larger vehicle. The EyeMobile for Adults includes a full-size exam room and a waiting area inside the vehicle. The ADA-compliant updates include: the outside door opening was enlarged, handrails and a wheelchair lift were added, and new flooring was installed.

Andrea Russo, OD with Dr. Bruce Lawrence

The EyeMobile for Adults is designed to serve underserved adults in San Diego who face barriers related to culture, language, understanding of care, transportation to appointments, and income. All services, just as the EyeMobile for Children, are provided at no cost to the patient. For years, staff from the EyeMobile for Children were asked by parents and grandparents, "Where can I get this service myself?" Now, they finally have an answer: the EyeMobile for Adults.

"The Lawrences' gift enables potentially sight-saving eye care to be brought directly to communities where many aged individuals do not have access to care. We are all deeply grateful for their forward-thinking gift which will continue to impact generations to come," said **Robert N. Weinreb, MD,** Chair and Director, Shiley Eye Institute.

The EyeMobile for Children also reached significant milestones and impacted the lives of thousands of children across San Diego County this year. Over the 2023-2024 school year the EyeMobile for Children provided over 11,000 vision screenings and over 2,000 eye exams! When a child needed glasses or even a replacement they were provided and delivered at no charge.

> *Since initiating this program in 2000, 285,379 children have been examined.*

The thousands of lives touched, and futures changed for children seen by the EyeMobile for Children has been possible by the continued support from many donors as well as Jane and Tom Fetter. For the past 14 years, the Fetters have been donating diesel fuel at no cost from their Chevron station. They have

since extended their generosity to the EyeMobile for Adults.

With the unwavering support of our donors and the dedication of the SEI team, we are breaking down barriers to provide essential vision services to those who need them most. The EyeMobile programs, fueled by generosity and guided by our commitment to serve, are not just bringing eye care to the community – they're bringing hope, independence, and a brighter future to thousands across San Diego.

Seeing Hope

Maggie Vincent's life was a whirlwind of activity and adventure. She was a Los Angeles Laker Girl who went on to teach English in Central America and then worked as a sales representative and sommelier.

Vincent began to experience odd symptoms. She was misdiagnosed and treated for an incorrect condition at another healthcare organization out of San Diego. The misdiagnoses resulted in a devastating stroke at age 31 where she lost vison in her left eye.

It was at this point Vincent was referred to UC San Diego Health and the Shiley Eye Institute (SEI), where she finally received a correct diagnosis and treatment for her rare condition: Susac Syndrome. As noted by the National Institute of Health, Susac Syndrome is an autoimmune condition that affects the very small blood vessels in the brain, retina, and inner ear (cochlea). The condition is characterized by three main symptoms: brain disease (encephalopathy), hearing loss, and vision loss.

Vincent's rheumatologist at UC San Diego referred her to SEI Assistant Professor and uveitis specialist, **Lingling Huang, MD, PhD** for expert eye care. "I was referred to Dr. Huang at Shiley because she had previous knowledge of my disease. Not a lot of doctors know about Susac Syndrome, so I wanted to go to a doctor that knew how to treat my illness! She saved my vision from any further loss," said Vincent.

"When I switched over to UC San Diego and Shiley, treatment was intense but good! I am grateful Dr. Huang didn't want me to lose any more vision. Not only did I feel taken care of, I also felt safe in the hands of my new doctors. Since receiving care at Shiley, I haven't lost any more vision, and the inflammation in both of my eyes has decreased! My disease isn't curable, but I am grateful that Dr. Huang made my life manageable, safe, and I no longer am afraid," said Vincent.

Currently, after a year of treatment at SEI, Vincent plans to continue seeing Huang for as long as needed. Despite being blind in her left eye, deaf in her left ear, and requiring monthly infusions indefinitely, Vincent has found happiness. She fills her days with cooking, reading, and learning new skills.

"UC San Diego and the Shiley Eye Institute have given me the gift of great care, comfort, and safety. I am forever thankful," said Vincent.

Lingling Huang, MD, PhD and Maggie Vincent

Personalized Medicine - Just for You!

Glaucoma is the leading cause of irreversible blindness in the world. Lowering eye pressure can prevent glaucoma progression, although treatments have never really been adjusted to individual patients. Treatment typically consists of eye drops, application of laser energy, or surgeries for the purpose of decreasing the amount of fluid entering the eye or increasing the amount of fluid exiting the eye to achieve a lower eye pressure. Rather than treating every eye the same, the goal of **Alex A. Huang, MD, PhD**, Associate Professor in the Viterbi Family Department of Ophthalmology and UC San Diego Shiley Eye Institute, is to identify the best way to lower eye pressure for each individual patient and individual eye based on their unique anatomy.

Huang has pioneered the development of a technology called aqueous angiography. Just like a plumber can use colored dyes to follow fluid flow in a house to identify where a leak is occurring in the plumbing, aqueous angiography places fluorescent tracers in the eye to visualize the fluid flow pathways of the eye, essentially unveiling each patient's plumbing pattern. Developed in the laboratory and translated to human patients, Huang discovered that the plumbing for each eye is unique as well as segmental, where some parts of the eye have greater or lesser flow. (Figure 1).

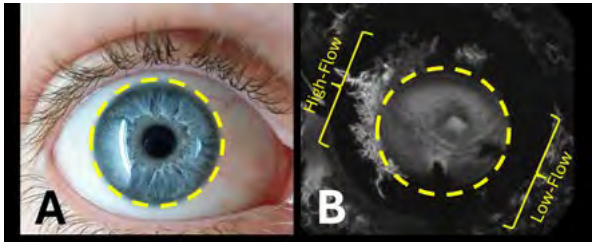
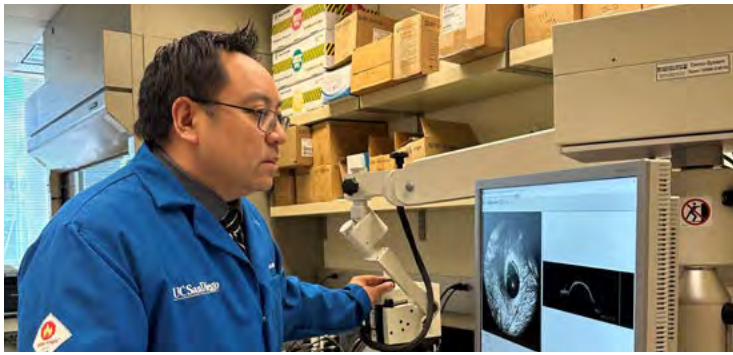


***Figure 1**: Fluid flow imaging in the eye. A) A human eye with the dotted circle placed for reference. B) A human eye receiving aqueous angiography. One part of the eye shows fluorescent tracer flow meaning that there are functioning fluid flow pathways. The other half of the eye is low-flow and needs to be targeted for improvement.*

More recently, Huang's team focused on using this information to guide glaucoma surgery. Some of the fastest and safest glaucoma surgeries are called Minimally Invasive Glaucoma Surgeries (MIGS). However, the problem is that the eye pressure-lowering potential of these surgeries is not enough. **Robert N. Weinreb, MD**, Chair and Director, Shiley Eye Institute, and an early career mentor for Huang, has lamented that while MIGS are minimally invasive, they sometimes also are "minimally effective."

To address this, with support from the National Institutes of Health, Huang has brought this challenging problem back to the laboratory. In perfusion experiments melding aqueous angiography with glaucoma surgery, he has shown that placing surgery in regions of the eye with lower flow leads to greater eye pressure lowering. According to Huang, "If a local area of the eye already has good plumbing, performing surgery there to increase flow further to lower eye pressure will not make much of a difference. Instead, we should target glaucoma surgery to areas where the flow is not good to improve fluid flow and lower the eye pressure."

With these results in hand, the next steps are to test personalized surgery using aqueous angiography in patients. Also, by making the imaging faster and with higher resolution, it is hopeful that glaucoma treatments can be improved.



Alex A. Huang, MD, PhD imaging the fluid of the eye to understand each individual's and each eye's plumbing pattern to improve glaucoma treatments.

Myopia and Glaucoma: Common Challenging Scenario

In response to growing demand, the Shiley Eye Institute and Viterbi Family Department of Ophthalmology has launched a specialized clinic focusing on the intersection of glaucoma and myopia led by **Sasan Moghimi, MD**, Professor of Ophthalmology. This innovative clinic aims to enhance diagnostic accuracy and expand understanding of the physiology and disease progression in myopic patients with suspected glaucoma.

Myopia or nearsightedness (a refractive error where close objects appear clearly and distant objects are blurry) has reached epidemic levels, with its prevalence rising sharply in recent decades. Projections suggest that by 2050, half of the world's population could be affected by myopia. Myopia correction is not just an inconvenience of glasses or contact lenses. It predisposes a person to other eye conditions that can lead to blindness. Higher degrees of myopia are associated with eye conditions: premature cataracts, retinal tears and detachments, myopic macular degeneration, and glaucoma.

Myopic eyes have approximately double the risk of developing primary open-angle glaucoma (POAG) and a high degree of myopia increases the risk up to 7 fold in the patient. However, diagnosis of glaucoma presents significant challenges. The optic nerve head in myopic eyes often exhibits changes that resemble glaucomatous damage. Additionally, visual field defects are not uncommon in myopic patients, even without glaucoma. Frequently, our standard optical coherence tomography (OCT) imaging devices indicate that glaucoma is only myopic. These factors necessitate careful evaluation to differentiate between myopia-related changes and true glaucomatous damage.

The specialized clinic is equipped with cutting-edge technology to improve our diagnostic capabilities. Our suite of advanced research tools includes high-resolution and wide-field OCT, retinal texture optical analysis (ROTA), and AI-powered diagnostic tools. These advanced technologies allow better differentiation between the structural changes caused by myopia and those indicative of glaucoma.

The need for this specialized approach became evident as SEI physicians frequently encountered myopic patients misdiagnosed with glaucoma, when in

fact they only had nearsightedness. Conversely, they also identified individuals in which glaucoma was present in myopic patients but had been previously overlooked. This clinic enables us to provide more accurate diagnoses and appropriate treatments, whether that involves prescribing antiglaucoma drops, recommending laser therapy, or simply monitoring patients with myopia.

By focusing on this unique patient population, we are not only improving individual care but also contributing to the broader understanding of how these two conditions interact. An NIH-funded grant with Principal Investigator **Linda Zangwill, PhD**, Professor of Ophthalmology, is currently underway to help answer many unresolved questions in this field.

This myopia/glaucoma clinic is set for significant expansion with the upcoming opening of the second floor clinic of the Shiley Eye Institute.

Smoking and Neurodegenerative Disease

Smoking is recognized as a key modifiable risk factor for various systemic diseases, yet its damaging effect on ocular health is underestimated. Pathways in smoking and eye diseases share a common mechanism: the induction of oxidative stress and inflammation leading to neurovascular tissue damage. These highlight a clear association between smoking and ocular neurodegenerative diseases.

For the last 3 years, in conjunction with the Tobacco Related Disease Research Program (TRDRP) Pilot award using our UC San Diego Shiley Eye Institute and Viterbi Family Department of Ophthalmology cohort, **Sasan Moghimi, MD**, Professor of Ophthalmology, and his team have demonstrated that the degree of smoking intensity plays a critical role and is associated with neurovascular loss in the retina, as well as the worsening of glaucoma. The Moghimi research team has shown that heavy smokers who quit smoking significantly reduced their risk of progressing glaucoma. This provided preliminary evidence that the harmful ocular effects of smoking could be partially reversible. This award seeks to expand upon these initial findings, delving into the potential of smoking cessation as a preventive measure against ocular neurodegenerative diseases. The project aims to investigate how quitting smoking reduces the risk of eye diseases, using national big datasets and UC San Diego longitudinal cohort.

Nixon Vision Foundation Update

In its third year, the PRPH2 Mutation Research Project is moving forward under the leadership of **Radha Ayyagari, PhD** and **Shyamanga Borooah, MD, PhD** with funding from the Nixon Visions Foundation led by philanthropists Janine and Brandon Nixon.

The research began in 2021 to study the PRPH2 gene linked to early macular degeneration and loss of central vision. This stem cell research aims to develop an early diagnosis and cure. The Nixon Visions Foundation is also partnering with the Foundation Fighting Blindness to build momentum and increase national and global research in this area.

PRPH2 is a gene which provides instructions for making a protein (peripherin 2) in the retina that plays a role in normal vision. The retina is the light sensitive part of the back of the eye. This protein is necessary for full function of specialized cells within the retina called photoreceptors that detect light and color. When mutations occur in this gene, damage to the retina causes vision to diminish progressively and possibly leads to vision loss.

Borooah's research aims to translate lab findings into clinical treatments. In recent clinical studies, using advanced imaging techniques to track disease progression, they discovered that patients had significantly thinner retinas and decreased retinal volume over a year – potential markers for future clinical trials.

In basic science studies, Borooah's team developed 'mini-retinas' from patient-derived stem cells, correcting the mutation in some cells. This model revealed that the mutation led to lower levels of the PRPH2 protein and fewer photoreceptors, providing a strong platform for testing potential treatments. They also tested a new CRISPR-based gene-editing approach, which successfully corrected the mutation in over a quarter of cells.

Ayyagari's lab team is investigating the mechanisms behind familial PRPH2 mutations and the associated phenotype-genotype relationships. They are focused on how these mutations affect different retinal cell types by using animal models with the familial mutation. Through detailed clinical and molecular analyses, they are identifying molecular changes in cells like rods, cones, and retinal pigment epithelial (RPE) cells, and the molecular events driving retinal pathology.

Radha Ayyagari, PhD and Shyamanga Borooah, MD, PhD

Her team is also collaborating globally, gathering clinical and genetic data from nearly 1,000 patients with PRPH2 mutations, helping to reveal the broad phenotypic variations of these mutations. Ayyagari's animal models provide a platform to explore disease mechanisms, evaluate patient-specific therapies, and develop broader treatment strategies for PRPH2-related retinal diseases, ultimately uncovering the molecular basis of these disorders and guiding targeted treatments.

The Ayyagari and Borooah collaborative research team's investigations are promising by potentially slowing disease progression and preserving vision in patients with PRPH2 genes.

Hanna and Mark Gleiberman Center for Glaucoma Research Update

In November 2022, Hanna and Mark Gleiberman made a transformational gift to the Viterbi Family Department of Ophthalmology and the Shiley Eye Institute (SEI) at UC San Diego in support of restoring vision loss from glaucoma.

Glaucoma is caused by damage to the optic nerve and can progressively lead to complete vision loss. It is the leading cause of irreversible blindness in people over 60 worldwide. SEI researchers are investigating multiple potential treatments including utilizing stem cells to promote optic nerve regeneration.

As part of the Gleiberman initiative, **Karl Wahlin, PhD**, Associate Professor of Ophthalmology, is investigating endogenous regeneration to restore optic nerve cells, also known as retinal ganglion cells (RGCs). RGCs are important because they send visual information from the retina to the brain. Wahlin and his team are creating RGCs in the eye by reprogramming other cells in the retina (the light-sensitive part of the eye).

The Wahlin team tracks Müller cells, a support cell in the retina. They want to find out when they mature in human eye tissue grown in the lab (called organoids). Utilizing CRISPR (a technology used to alter the DNA), they then attempt to make Müller cells turn into RGCs. The team's next step is to utilize adeno-associated viruses to deliver the factors that help reprogram the Müller cells into new RGCs.

This research is just the first step in turning Müller cells into new retinal ganglion cells that could help save and restore vision in the future.

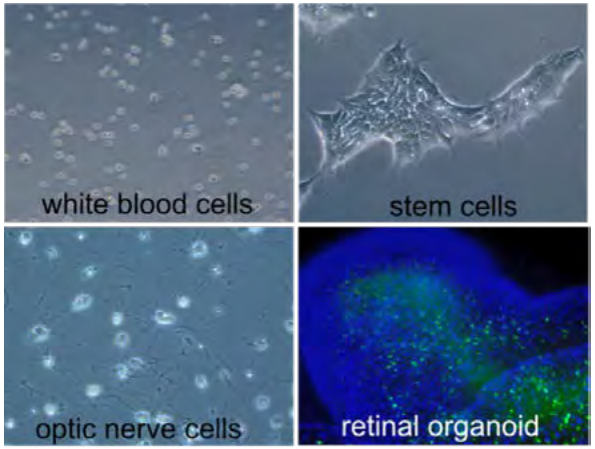


Figure 1: Images of retinal reprogramming. *Images of white blood cells, stem cells created from those white blood cells, RGCs created by cellular reprogramming of those stem cells, and gene-edited stem cell derived retinal organoids labelled with an optic nerve cell tracker (green).*

Distinguished Alumnus **Felipe Medeiros, MD, PhD**

Felipe A. Medeiros, MD, PhD, holds the Rodgers Endowed Chair in Ophthalmology and serves as Vice-Chair of Research at the University of Miami School of Medicine's Bascom Palmer Eye Institute. He was a 2004 glaucoma fellow and then became a faculty member at the UC San Diego Shiley Eye Institute (SEI).

Born in Fortaleza, Brazil, Medeiros began his journey at the University of São Paulo, where he earned his medical degree, completed his residency in ophthalmology, and became a senior clinical fellow, as well as obtaining a PhD in vision science.

Following his education in Brazil, Medeiros completed a glaucoma fellowship at SEI, where he was mentored by **Robert N. Weinreb, MD,** Chair and Director, Shiley Eye Institute.

"Under Dr. Weinreb's mentorship, I learned not only technical skills and the intricacies of glaucoma care but also the importance of asking bold, meaningful questions and embracing innovative approaches to solve complex problems. His guidance taught me to pursue research with both rigor and creativity, a philosophy that has shaped my work ever since. His influence continues to resonate in my career, and I am committed to passing on those lessons of curiosity, dedication, and innovation to my own trainees and fellows today," said Medeiros.

Upon completion of his glaucoma fellowship at SEI, Medeiros joined the faculty in 2005 and in 2011, he became a Professor. During his career at SEI, he held the Ben and Wanda Hildyard Chair in Ophthalmology and served as the Medical Director of the Hamilton Glaucoma Center.

At SEI, Medeiros often collaborated with **Robert N. Weinreb, MD**, **Linda Zangwill, PhD**, Pamela Sample, PhD, and **Christopher Bowd, PhD**. "Together, we

made strides in imaging techniques and developed models to better understand and track disease progression. These efforts have had a lasting impact on clinical practice and patient care in glaucoma worldwide," said Medeiros.

"My time at the Shiley Eye Institute at UC San Diego was pivotal. It offered me a unique environment for both clinical and research development. I had the privilege of working with pioneering experts, which fueled my interest in glaucoma. The focus on collaboration and innovation inspired my approach to research and this foundation has been invaluable throughout my career, helping me merge patient care with cutting-edge research," said Medeiros.

In 2017, Medeiros went on to join Duke University in North Carolina as a distinguished professor and held the Joseph AC Wadsworth Endowed Chair. As Vice Chair for Technology and Data Science, he expanded the department's research initiatives to incorporate cutting-edge data science and AI applications. This role allowed him to integrate technology and ophthalmology in ways that advanced diagnostic accuracy and personalized treatment approaches.

Following his time at Duke, Medeiros went on to his current position as the Rodgers Endowed Chair in Ophthalmology and Vice-Chair of Research at Bascom Palmer in 2023. His goal at BPEI is to drive innovations that blend clinical care with groundbreaking research, ultimately improving outcomes for patients with glaucoma and other vision-threatening conditions.

"Today, I'm honored to contribute to this field, blending traditional patient care with innovative research that leverages technology to improve diagnostic and treatment options," said Medeiros.

When Medeiros is not working, he loves traveling with his family, making it a tradition to plan an "adventurous trip" each year. He is an avid tennis player and fan, going to watch matches around the world. In his free time, he loves to play the drums.

Faculty Spotlight **William R. Freeman, MD**

William R. Freeman, MD is a Vice Chair and Distinguished Professor in the Viterbi Family Department of Ophthalmology, as well as Co-Director of the Retina Division and Director of the Joan and Irwin Jacobs Retina Center.

Freeman's clinical and research interests include complicated retinal detachment, diabetic retinopathy, macular holes and age-related macular degeneration. He has published over 600 peer reviewed scientific papers.

He earned his graduate degree at Mount Sinai School of Medicine in New York City before completing his Residency at Lenox Hill Hospital in Manhattan and Fellowships at the UC San Francisco and the University of Southern California.

WHY DID YOU GO INTO MEDICINE?

I was always interested in bettering mankind through science. I found that mathematics and physics and chemistry were too rigid for me and was attracted to biology and medicine.

DESCRIBE YOUR JOB AND WHAT YOU DO.

I care for patients, do complicated surgery and work with wonderful colleagues in a cutting-edge environment. I am also heavily involved in research including laboratory work and clinical trials. I help translate basic scientific and engineering advances into clinical care. I am also at an outstanding research and teaching institution with dedicated colleagues.

HAVE ANY OF YOUR PATIENTS AFFECTED YOU SIGNIFICANTLY?

Without a doubt Joan Jacobs and her family. She had a retina problem that I treated and then her family and mine became close. She was an amazing woman! I recall when first seeing her, she was worried if I had a good lunch that day - as at Shiley we tend to be busy. She put my needs ahead of hers which is a wonderful lesson in life. This is truly the sign of a highly advanced soul.

WHAT CAME BEFORE UC SAN DIEGO?

After completing two post-residency fellowships – first in uveitis at UC San Francisco and then in retinal disease with Dr. Steven Ryan – I joined UC San Diego as an Assistant Professor of Ophthalmology, marking my first and

only faculty position. I chose UC San Diego for its strong emphasis on clinical and basic science research. Initially, we operated in a small temporary building on the La Jolla campus, as there was no dedicated eye center at the time. I appreciate the collaborative environment at UC San Diego, which allows me to work with leading experts and stay at the forefront of the field.

HOW DO COLLABORATIONS AND PARTNERSHIPS FIT INTO YOUR ROLE AS A RESEARCHER?

Collaborations are essential for advancing patient care and research. Working with top specialists, like Dr. Michael Sailor at UC San Diego in Chemistry and Dr. Truong Nguyen in the Jacobs School of Engineering, I am involved in NIH-funded projects aimed at improving drug delivery to retinal cells and using AI to interpret retinal images. Major progress in my field requires teamwork, as no one can achieve significant advancements alone. Additionally, grateful patients contribute to our research funding, supplementing federal support. The dedicated staff at the Joan and Irwin Jacobs Retina Center and the Shiley Eye Institute play crucial roles in our progress as well.

WHAT DO YOU SEE AS THE NEXT BIG ADVANCES IN YOUR FIELD?

Improved medications and surgical treatments for all retinal diseases are being developed; in the next 3-5 years we will have genetic therapies for certain retinal diseases that were considered untreatable in the past.

WHAT ARE SOME CHALLENGES OR OPPORTUNITIES YOU SEE IN THE FUTURE?

Medical research is advancing rapidly! The opportunities to develop new and more effective treatments are linked to partnerships between academic researchers who are also clinicians, and the biotechnology industry. I am confident that progress will continue to be made rapidly. Biotechnology is integral to medical progress, but it is important to integrate this in an ethical manner and not only focus on profit.

WHAT ARE YOUR MOST IMPORTANT/ SIGNIFICANT TEACHING OR RESEARCH CONTRIBUTIONS?

Without a doubt my most productive and satisfying teaching experience is with residents and fellows. During clinic and operating room time, we discuss unusual cases or surprising outcomes plus we also review complex cases at our weekly Tuesday retina Zoom international conference which includes SEI retina alumni. This is highly satisfying.

WHAT DO YOU DO IN YOUR FREE TIME?

My family has always come first. I have taught all my children how to ski, surf, and windsurf - as those are my passions. My wife, Dr. Laura Gomez also participates in these activities. We always have dinner at home together and even though my youngest are in college or recent college graduates, when they are at home, we always eat dinner together and discuss the trials and tribulations as well as the exciting things in life.

Faculty Spotlight **Bobby S. Korn, MD, PhD**

Bobby S. Korn, MD, PhD, is a Professor of Ophthalmology and Plastic Surgery in the Division of Oculofacial Plastic and Reconstructive Surgery at the UC San Diego Shiley Eye Institute (SEI) and the Viterbi Family Department of Ophthalmology.

As an oculofacial plastic and reconstructive surgeon, Korn focuses on both functional and cosmetic conditions of the eyelids, face, and surrounding structures. His work encompasses a wide range of treatments, from addressing tear drainage issues to treating diseases of the orbit (eye socket) and performing surgeries for aging eyelids and facial features. Essentially, his practice deals with "everything outside of the eye." Whether restoring function to a damaged eyelid or performing delicate reconstructive surgery, his work has both medical and aesthetic dimensions, making it both challenging and deeply rewarding.

WHAT CAME BEFORE UC SAN DIEGO?

I grew up in a small town in East Texas and from there I went on to attend MIT, where I studied mechanical engineering and biology. I have a passion for both science and problem-solving, so this combination was a perfect fit. After MIT, I pursued my MD/PhD at University of Texas Southwestern. I had the privilege of studying under two Nobel Laureates, an experience that had a profound impact on my approach to research and medicine. In 2002, I came to UC San Diego to start my residency at the Shiley Eye Institute, eventually joining the faculty. That journey, from small-town roots to these prestigious academic institutions, has shaped who I am today.

WHY DID YOU GO INTO MEDICINE?

My decision to go into medicine was deeply influenced by my family. My grandfather practiced Eastern medicine in Thailand, and my father, after graduating from medical school, emigrated to the US and trained as a pediatrician. Growing up, I saw firsthand the dedication and sacrifices my father made in caring for others. Medicine was not just a profession in our household, it was a passion. Watching my father's impact on his patients inspired me to follow the same path, continuing our family's tradition of making a difference in people's lives through medicine.

HAVE ANY OF YOUR PATIENTS AFFECTED YOU SIGNIFICANTLY?

Many of my patients have left a lasting impact on me, but one case that stands out is a young boy who came to me when he was just four years old with a drooping eyelid. What seemed like a simple case of ptosis turned into something much more serious – a malignant tumor in his eye socket. To save his life, we had to remove

his eye, a decision no one takes lightly. What struck me most was his family's unwavering support during his chemotherapy and radiation treatments. His father and brothers even shaved their heads in solidarity. Now, years later, that same boy is thriving and about to enter his junior year of high school. His resilience and the strength of his family have stayed with me throughout my career.

I have also been fortunate to treat many young children who travel from across the US for congenital ptosis repair with a technique that few surgeons perform globally. Watching these children grow, thrive, and regain both function and confidence in their appearance is one of the most meaningful parts of my work.

HOW DO COLLABORATIONS AND PARTNERSHIPS FIT INTO YOUR ROLE?

Collaboration is central to my approach as a researcher. Working with experts from different fields expands the impact of our work, and my long-standing partnership with Dr. Don Kikkawa is a prime example. Over two decades, our collaboration has been invaluable in growing our division into one of the top oculoplastics programs in the country.

WHAT DO YOU SEE AS THE NEXT BIG ADVANCES IN YOUR FIELD?

Looking ahead, I see the future of oculofacial plastic surgery shaped by technological advancements, particularly AI and machine learning. These innovations, especially in augmented reality, will revolutionize surgical training and patient care, offering more precision and personalization.

WHAT ARE YOUR MOST IMPORTANT/ SIGNIFICANT TEACHING OR RESEARCH CONTRIBUTIONS?

Teaching has been one of the most fulfilling aspects of my career, particularly training fellows who go on to succeed in academia and practice. Seeing their professional and personal growth is incredibly rewarding. My research on stem cells in the orbit, which earned the Marvin Quickert Award, has also contributed to a deeper understanding of orbital diseases and opened new avenues for treatment.

WHAT DO YOU DO IN YOUR FREE TIME?

These days, my family and I love to travel. We're always on the lookout for new culinary experiences, from hidden local gems to three-star Michelin restaurants. Exploring new places through food is one of my favorite ways to relax and unwind. It's a great balance to the intensity of my work and a wonderful way to connect with different cultures. In my free time, I used to be an avid saltwater aquarist and hope to rekindle this hobby again soon!

Faculty Spotlight **Radha Ayyagari, PhD**

Radha Ayyagari, PhD, Professor of Ophthalmology and Pathology, and Chief of Ophthalmic Molecular Genetics Laboratory (CLIA certified) at the Shiley Eye Institute and Viterbi Family Department of Ophthalmology at UC San Diego. Additionally, she also holds The Viterbi Chair III in Ophthalmic Genetics.

She completed her undergraduate studies at Andhra University in Vizag, India, her graduate studies at Osmania University in Hyderabad, India and went on to complete a fellowship in Ophthalmic Molecular Genetics at the NEI, NIH, Bethesda, Maryland. Her research interests include molecular genetics of macular and retinal dystrophy and glaucoma, biological mechanisms underlying retinal diseases, age-related macular degeneration and diabetic retinopathy.

WHY DID YOU GO INTO MEDICINE/ RESEARCH?

My father was a veterinarian, and he had diabetes with retinal problems. When I was young, he used to tell me how insulin controls the amount of sugar/ energy delivered to cells and how the food we eat gets converted to energy. I was fascinated by how the cells in our body work which sparked my interest in exploring the molecular events that occur in both normal physiology and disease conditions.

WHAT CAME BEFORE UC SAN DIEGO?

I grew up in India, surrounded by a close-knit extended family spanning three generations. I attended school in Andhra Pradesh and completed my PhD in biochemistry at the National Institute of Nutrition, India. Immediately after my PhD, I pursued a fellowship at the National Eye Institute, Bethesda, in Ophthalmic Genetics, where I was first introduced to retinal genetics. Following my fellowship, I was fortunate to be recruited as a junior faculty member by Dr. Paul Sieving at the University of Michigan, where I established my research program in genetics as an Assistant Professor.

WHAT DOES YOUR RESEARCH ROLE INVOLVE?

As a Professor of Ophthalmology and Pathology, I focus on the molecular biology of eye diseases, particularly retinal disorders that cause irreversible blindness. My research seeks to unravel how genetic mutations, especially those inherited within families, contribute to these conditions. My team and I investigate the normal genomic and epigenomic organization of individual retinal cell types, examining how even subtle modifications can influence disease progression. We go beyond genome analysis, utilizing patient-derived stem cells to create “retinas in a dish” and develop genetically engineered models that serve as vital tools to mimic the conditions in patients’ retinal cells, allowing us to understand disease mechanisms and explore genome-based therapies that could correct these abnormalities and preserve vision.

HAVE ANY OF YOUR PATIENTS AFFECTED YOU SIGNIFICANTLY?

Several experiences have profoundly shaped my approach to eye disease research, with one particularly impactful moment early in my career. I worked with a woman deeply worried about passing on a family history of X-linked blindness to her son. Despite limited knowledge of the responsible gene, our team successfully determined that her son likely hadn't inherited the condition, offering the family hope. Nearly 20 years later, I learned that the boy had grown into a healthy young man pursuing science, validating our work and its lasting impact. For me, uncovering the causes of complex diseases is deeply rewarding. Our research not only helps individual patients but also benefits their families and others with similar conditions globally.

HOW DO COLLABORATIONS AND PARTNERSHIPS FIT INTO YOUR ROLE AS A RESEARCHER?

Rapid advancements in genomic technology enable in-depth exploration of the genome and epigenome, and partnerships with both academia and industry enhance the ability to tackle complex cases. UC San Diego and SEI offer an exceptional collaborative environment for genetic research, with supportive colleagues, valuable resources, and enthusiastic students eager to contribute to projects. The local genomics community also provides numerous opportunities for collaboration and inspires further research growth.

WHAT DO YOU SEE AS THE NEXT BIG ADVANCES IN YOUR FIELD?

We are witnessing significant progress in genetics, with advancements in understanding how factors like environment, diet, and pathogens influence cellular processes. The ability to modulate the genome and epigenome, along with precise genome-editing tools, offers the potential to treat diseases while minimizing impact on surrounding cells. Additionally, AI is improving our ability to analyze complex datasets, accelerating research and enabling faster progress. These innovations are poised to enhance our understanding of disease pathology and improve prevention and treatment of both childhood-onset and age-related diseases.

WHAT DO YOU DO IN YOUR FREE TIME?

My husband, Siradanahalli Guru, an RNA vaccine specialist in the industry, and our son, Aditya, a biotech and healthcare consultant, both share a deep passion for science. This common interest often sparks vibrant discussions at home, where strong opinions and lively debates are common! During our free time, we enjoy exploring the beautiful hiking trails as a family. I also have a passion for reading and painting, although I don't always find enough time to indulge in those activities.

Distinguished International Alumnus
Ivan M. Tavares, MD, PhD, MBA

Ivan Maynart Tavares, MD, PhD, MBA, a 2005 alumnus of the Shiley Eye Institute (SEI), glaucoma fellowship and 2013 visiting professor, now serves as Professor and Chair of the Department of Ophthalmology and Visual Sciences at the Paulista School of Medicine, Universidade Federal de São Paulo (UNIFESP), in Brazil. In addition to his academic role, he leads a thriving private practice in São Paulo Brazil.

Born and raised in Aracaju, Sergipe – a coastal state in northeastern Brazil – Tavares' medical journey has taken him across Brazil and around the world. He completed his residency in Rio de Janeiro and pursued his first fellowship and clinical PhD in São Paulo, where he now resides.

Tavares' career achievements include leading UNIFESP's Glaucoma Division, serving as Residency Director, and now, taking on the role of Department Chair for the second time.

"My time as head of the Glaucoma Division, the Residency Director and now, for the second time, as Chair has been the opportunity to change the way we train ophthalmologists and glaucoma specialists in our country. It consolidates decades of hard work of my predecessors. UNIFESP Ophthalmology is recognized as the best in Latin America, with our alumni acting as leaders in their fields, heads of divisions and chairs in many universities in Brazil and even abroad," said Tavares.

> *Reflecting on his time at SEI, Tavares credits his mentors, Robert N. Weinreb, MD, Chair and Director, Shiley Eye Institute and Felipe Medeiros, MD, PhD, for shaping his career development. "My time at Shiley was pivotal for my career as a physician-scientist and professor. Not only the medical training, but also the personal development and international networking I acquired. It paved the way for my professional life," said Tavares.*

Tavares' passion for ophthalmology began early, inspired by his mother's career as a physician and his love of biology. During medical school, a fascination with the eye and its diseases

Robert N. Weinreb, MD with Ivan Maynart Tavares, MD, PhD, MBA

took root. An invaluable opportunity to observe clinical and surgical practices solidified his decision to specialize in ophthalmology.

Looking ahead, Tavares is excited about the future of glaucoma research. “We are always expecting new materials and anti-scarring drugs for glaucoma surgery. Further, AI for evaluating the risk of developing glaucoma, as well to detect disease progression will be game changing. Slow-release intraocular anti-glaucomatous drugs, and also neuroprotective and regenerative therapies have been studied and are expected by physicians and patients,” said Tavares.

Tavares’ commitment to excellence extends to all areas. He shared a memorable and personal moment in his career, recalling the challenge of operating on the close relative of a respected professor and friend, earning their trust – serves as reminder of the personal and professional connections that shape his work.

Tavares also offered words of wisdom for the next generation of medical professionals. “Medicine requires a combination of professional competence, emotional intelligence, social maturity, conflict moderation, and communication skills. However, more than that, we need to know how to cultivate and preserve our personal life, as well as our physical and mental health.”

When he's not working, Tavares enjoys unwinding at Ibirapuera Park, catching a movie, spending time with family and friends, and, whenever possible, visiting the beach. He also stays active by running and going to the gym.

Creating Change To Build A Healthier Future

The Shiley Eye Institute (SEI) and the Viterbi Family Department of Ophthalmology strive to promote diversity, equity and inclusion in all aspects of our mission: clinical activities, research, education, and community service. Our Diversity, Equity, and Inclusion (DEI) Committee, co-chaired by Riley L. Thomas, MBA, **Sally Baxter, MD, MSc**, and **Nathan Scott, MD, MPP**, led our efforts throughout this past year. SEI also collaborates with the UC San Diego Health Department of Health Justice, Equity, Diversity and Inclusion around campus.

Minority Ophthalmology Mentoring (MOM)

SEI faculty, **Jolene Rudell, MD, PhD**, **Derek S. Welsbie, MD, PhD**, **Shira L. Robbins, MD**, Baxter, and Scott all served as mentors for the MOM program. MOM is an American Academy of Ophthalmology program in partnership with the Association of University Professors of Ophthalmology that helps underrepresented students in medicine pursue careers in ophthalmology through mentorship.

Riley L. Thomas, MBA

Sally Baxter, MD, MSc

Nathan Scott, MD, MPP

Rabb-Venable

Scott was a mentor through the Rabb-Venable organization, and SEI Graduate Student Researcher Kaela Acuff was a participant. The Rabb-Venable organization works to support medical students, residents, and fellows in ophthalmology who are underrepresented or those who desire to work in underserved communities. Acuff was awarded an Honorable Mention at the Rabb-Venable Excellence in Ophthalmology Research Symposium, and a travel grant to attend and present at the National Medical Association Annual Convention & Scientific Assembly, where Scott gave multiple presentations.

NIH T35 Grant

For the third consecutive year SEI was awarded a National Eye Institute (NEI) T35 short-term research training grant. This initiative facilitated the recruitment of four medical students from universities across the country, including those from underrepresented minority groups, providing them financial support to complete mentored research in ophthalmology and vision science over the summer at SEI.

NIH Bridge2AI Grant

In 2022, SEI was awarded a prestigious trans-NIH Bridge2AI award, which continues to support yearlong internship programs designed to train individuals from diverse backgrounds in artificial intelligence (AI), machine learning, and biomedical research. The latest class of interns included a substantial proportion of women and underrepresented minority trainees. DEI co-chair Baxter and committee member **Linda Zangwill, PhD**, will continue to lead the Skills and Workforce Development Module as co-Principal Investigators.

Eye-Español

SEI faculty, residents, and fellows participated in Eye-Español, an outreach event organized by the UC San Diego School of Medicine, that aimed to teach ophthalmology-related terms in Spanish to participants.

San Diego Community

This year SEI faculty, staff and trainees engaged in local outreach activities including seminars for students, providing care to underserved individuals through the UC San Diego Free Clinic, our SEI EyeMobile programs, and contributing to broader diversity-related initiatives at UC San Diego Health Sciences, medical school and the campus.

Cultural Cookbook

This year the Shiley DEI Committee continued the tradition of creating a cultural cookbook. Employees were invited to contribute recipes from their respective cultures to be shared in the book with all SEI employees.

SEI In The News

GLOBAL RECOGNITION FOR ADVANCING EQUITY IN EDUCATION

The UC San Diego Shiley Eye Institute (SEI) and Viterbi Family Department of Ophthalmology has been honored as one of only six institutions worldwide to be recognized on the Global Education Impact List from "The Ophthalmologist." This recognition celebrates SEI's unwavering commitment to making vision care and ophthalmology education more accessible, equitable, affordable, and inclusive on a global scale.

The Department is committed to inspiring new generations of ophthalmologists from diverse backgrounds, bringing fresh perspectives and fostering groundbreaking innovations. Our mission is to deliver the latest advancements in the treatment to underserved communities worldwide, closing gaps in access to essential eye care.

"Our inclusion on this list underscores SEI's dedication to expanding access to high-quality eye care for those who need it most," says **Robert N. Weinreb, MD**, Chair and Director, Shiley Eye Institute. "By fostering innovation and inclusivity in ophthalmology, we aim to break down barriers and improve sight for communities across the globe."

EXPERTS GUIDE SAN DIEGO THROUGH SAFE ECLIPSE VIEWING

The solar eclipse on April 8, 2024, was a historic moment for many people across the United States. SEI and the Viterbi Family Department of Ophthalmology provided timely advice on safely observing the event through various San Diego media outlets.

On April 2, SEI optometrist Esmeralda McClean, OD, appeared live on Fox 5 San Diego to discuss "Protecting Your Eyes During the Eclipse."

On April 3, SEI faculty member **Natalie A. Afshari, MD** joined CBS 8 San Diego to share tips on safely watching the eclipse. Her segment, "What You Need to Know to Protect Your Eyes During the Solar Eclipse," highlighted the dangers of viewing the event without proper eye protection.

On April 4, SEI faculty member **David B. Granet, MD, MHCM** spoke with KUSI San Diego about "Safe Eclipse Viewing." He returned to KUSI on April 7, for a follow-up interview, offering additional guidance just one day before the eclipse.

Welcome New Faculty

Christopher Girkin, MD, MSPH

The Viterbi Family Department of Ophthalmology and the Shiley Eye Institute (SEI) welcomes **Christopher Girkin, MD, MSPH**, as a Professor of Ophthalmology. Girkin has an active medical and surgical practice at SEI and specializes in glaucoma and complex cataracts.

Girkin has returned to SEI, where he completed his glaucoma fellowship under **Robert N. Weinreb, MD,** Chair and Director, Shiley Eye Institute, in 1999. His training also includes a medical degree from the University of Arkansas, residency in ophthalmology at the University of Alabama at Birmingham (UAB), and a fellowship at the Wilmer Eye Institute, Johns Hopkins University in neuro-ophthalmology.

Before rejoining the Shiley Eye Institute, Girkin was at UAB, where he served as chair of the department from 2012-2022. While chair, UAB became ranked in the top five of the National Institutes of Health research funding. He also founded the Glaucoma Service and fellowship program at UAB.

Girkin's research focuses on the mechanisms underlying individual variation in susceptibility to the development of glaucomatous optic neuropathy, along with the development of biomarkers and health services programs to improve patient outcomes. He authored or coauthored over 280 peer-reviewed articles as well as delivered over 300 lectures to practitioners and researchers throughout the world.

In recognition of his contributions to the field, Girkin has received numerous awards, including the Visionary Award from the EyeSight Foundation of Alabama, Distinguished Alumni Award from the UAB Department of Ophthalmology, and he was inducted into the Glaucoma Research Society. He also served from 2022-2023 as the President of the American Glaucoma Society.

"In addition to being an outstanding clinician and surgeon, Dr. Girkin is an innovative researcher and demonstrated leader in glaucoma. We are thrilled to welcome him back to the SEI team," said Weinreb.

Prominent Publications

NEW INSIGHTS INTO GLAUCOMA & ELVIS PRESLEY'S OCULAR HEALTH

Glaucoma impacts millions worldwide,

and two studies co-authored by Chair and Director **Robert N. Weinreb, MD**, Chair and Director, Shiley Eye Institute, "Burning eyes – a medical explanation for Elvis's iconic sunglasses" and "Suspicious eyes - Elvis's glaucoma battle," shed light on glaucoma's influence in unexpected areas.

Zegers RH, Liu KC, Heutink J, Tennant F, Weinreb RN. Burning eyes - a medical explanation for Elvis's iconic sunglasses. Clin Exp Optom. 2024 Aug 8:1-2. doi: 10.1080/08164622.2024.2385134. Epub ahead of print. PMID: 39115009.)

Zegers RH, Liu KC, Heutink J, Tennant F, Weinreb RN. Suspicious eyes - Elvis's glaucoma battle. J Med Biogr. 2024 Aug 16:9677720241273624. doi: 10.1177/09677720241273624. Epub ahead of print. PMID: 39150457.

AI IN OPHTHALMOLOGY

Sally L. Baxter, MD, MSc spearheaded research on integrating Artificial Intelligence (AI) into ophthalmology. This year, her work has contributed to several groundbreaking studies:

- "A Review of Ophthalmology Education in the Era of Generative Artificial Intelligence"

  Heinke A, Radgoudarzi N, Huang BB, Baxter SL. A review of ophthalmology education in the era of generative artificial intelligence. Asia Pac J Ophthalmol (Phila). 2024 Jul-Aug;13(4):100089. doi: 10.1016/j.apjo.2024.100089. Epub 2024 Aug 10. PMID: 39134176.

- "AI-Generated Draft Replies Integrated into Health Records and Physicians' Electronic Communication"

  Jin Q, Chen F, Zhou Y, Xu Z, Cheung JM, Chen R, Summers RM, Rousseau JF, Ni P, Landsman MJ, Baxter SL, Al'Aref SJ, Li Y, Chen A, Brejt JA, Chiang MF, Peng Y, Lu Z. Hidden flaws behind expert-level accuracy of multimodal GPT-4 vision in medicine. NPJ Digit Med. 2024 Jul 23;7(1):190. doi: 10.1038/s41746-024- 01185-7. PMID: 39043988; PMCID: PMC11266508.

- "Hidden Flaws Behind Expert- Level Accuracy of Multimodal GPT- 4 Vision in Medicine"

  Jin, Q., Chen, F., Zhou, Y. et al. Hidden flaws behind expert-level accuracy of multimodal GPT-4 vision in medicine. npj Digit. Med. 7, 190 (2024). https://doi.org/10.1038/s41746-024-01185-7

GLOBAL PARTNERSHIP ADVANCES RESEARCH ON GLAUCOMA

Robert N. Weinreb, MD, Chair and Director, Shiley Eye Institute, led SEI clinician-scientists, in collaboration with Christopher Leung, MD, Chair of the Department of Ophthalmology at the University of Hong Kong (and former UC San Diego glaucoma fellow), on the study "Retinal Nerve Fiber Layer Optical Texture Analysis and 10-2 Visual Field Assessment in Glaucoma," how damaged nerve fibers in the eye affect vision in people with glaucoma.

Other SEI faculty collaborators include **Alireza Kamalipour, MD, MPH** (resident in ophthalmology), **Cristiana Vasile, MD, MAS, Sasan Moghimi, MD**, and **Linda M. Zangwill, PhD**.

Kamalipour A, Moghimi S, Khosravi P, Tansuebchueasai N, Vasile C, Adelpour M, Gunasegaran G, Nishida T, Zangwill LM, Lam AKN, Leung CKS, Weinreb RN. Retinal Nerve Fiber Layer Optical Texture Analysis and 10-2 Visual Field Assessment in Glaucoma. Am J Ophthalmol. 2024 Oct;266:118-134. doi: 10.1016/j.ajo.2024.05.013. Epub 2024 May 23. PMID: 38795748.

ASSESSING CHATGPT'S ROLE IN OPHTHALMOLOGY CLINICAL DISCUSSIONS

In the study "Analysis of ChatGPT Responses to Ophthalmic Cases: Can ChatGPT Think like an Ophthalmologist," SEI faculty and researchers evaluated the accuracy of large language models (LLMs) like ChatGPT in generating clinical assessments and discussions in ophthalmology. The cross-sectional study also evaluated the ability of 16 ophthalmologists to distinguish between human and ChatGPT-generated responses. Results showed that ChatGPT accurately identified diagnoses in 88.2% of cases, while ophthalmologists identified authors with 77.9%± 26.6% accuracy. While ChatGPT showed promise in synthesizing clinical data, its responses were often generic, included irrelevant information, and occasionally fabricated data, highlighting the need for further evaluation before clinical use.

Chen JS, Reddy AJ, Al-Sharif E, Shoji MK, Kalaw FGP, Eslani M, Lang PZ, Arya M, Koretz ZA, Bolo KA, Arnett JJ, Roginiel AC, Do JL, Robbins SL, Camp AS, Scott NL, Rudell JC, Weinreb RN, Baxter SL, Granet DB. Analysis of ChatGPT Responses to Ophthalmic Cases: Can ChatGPT Think like an Ophthalmologist? Ophthalmol Sci. 2024 Aug 23;5(1):100600. doi: 10.1016/j.xops.2024.100600. PMID: 39346575; PMCID: PMC11437840.

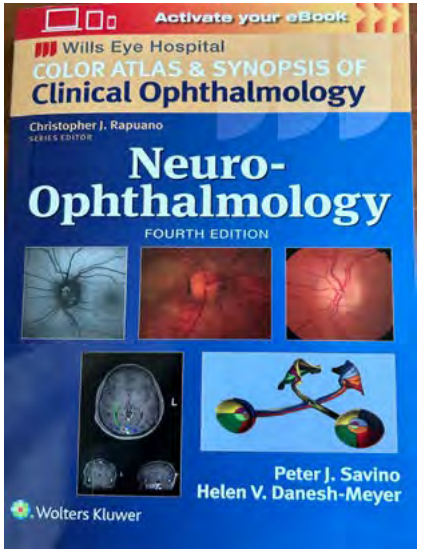
NEW GENETIC FINDINGS COULD SHAPE FUTURE RETINITIS PIGMENTOSA TREATMENTS FOR AFRICAN AND PAKISTANI POPULATIONS

The study "Substitution of a single non-coding nucleotide upstream of TMEM216 causes non-syndromic retinitis pigmentosa and is associated with reduced TMEM216 expression," led in part by **Radha Ayyagari, PhD**, has identified genetic mutations linked to Retinitis Pigmentosa (RP) in African and Pakistani populations. Published in The American Journal of Human Genetics on August 26, 2024, this research is the first to pinpoint these specific genetic variations, which could explain up to 20% of RP cases in individuals of African descent. The study highlights the potential for tailored treatments, improving outcomes for patients with RP by advancing genetic understanding in these historically underrepresented groups.

Malka S, Biswas P, Berry AM, Sangermano R, Ullah M, Lin S, D'Antonio M, Jestin A, Jiao X, Quinodoz M, Sullivan L, Gardner JC, Place EM, Michaelides M, Kaminska K, Mahroo OA, Schiff E, Wright G, Cancellieri F, Vaclavik V, Santos C, Rehman AU, Mehrotra S, Azhar Baig HM, Iqbal M, Ansar M, Santos LC, Sousa AB, Tran VH, Matsui H, Bhatia A, Naeem MA, Akram SJ, Akram J, Riazuddin S, Ayuso C, Pierce EA, Hardcastle AJ, Riazuddin SA, Frazer KA, Hejtmancik JF, Rivolta C, Bujakowska KM, Arno G, Webster AR, Ayyagari R. Substitution of a single non-coding nucleotide upstream of TMEM216 causes non-syndromic retinitis pigmentosa and is associated with reduced TMEM216 expression. Am J Hum Genet. 2024 Sep 5;111(9):2012-2030. doi: 10.1016/j.ajhg.2024.07.020. Epub 2024 Aug 26. PMID: 39191256; PMCID: PMC11393691.

FACULTY PUBLISHES BOOK

Peter J. Savino, MD co-authored the fourth edition of the "Color Atlas & Synopsis of Clinical Ophthalmology: Neuro-Ophthalmology," a comprehensive resource for clinicians and trainees in the field.



SEI Accolades

Natalie A. Afshari, MD, Professor of Ophthalmology, was elected to the UC San Diego Health Board of Governors, and was recipient of a UC San Diego Health Physician Professionalism Award for being a respectful, team-oriented and quality-driven physician leader.

Sally L. Baxter, MD, MSc, Associate Professor of Ophthalmology, was awarded the American Academy of Ophthalmology Secretariat Award for being a Top 5 Reviewer for Ophthalmology Science.

Napoleone Ferrara, MD, Professor of Ophthalmology and Pathology, was recipient of the 2023 Prince Mahidol Award in Medicine, from the Prince Mahidol Award Foundation for demonstrating significant contributions and leadership in the field of medicine over an extended period.

David B. Granet, MD, Professor of Ophthalmology & Pediatrics, received recognition from the "Recognize a Colleague" program from UC San Diego Health, for advancing the culture of physician wellness at UC San Diego Health.

Lingling Huang, MD, PhD, Assistant Professor of Ophthalmology, was a 2024-2025 UC San Diego Altman Clinical and Translational Research Institute (ACTRI) Pilots Projects Award recipient.

Wonkyu Ju, PhD, Professor of Ophthalmology and Bioengineering, was the recipient of the UC San Diego Gene Therapy Initiative (GTI) Seed Grant Award for his glaucoma research.

Jeffrey E. Lee, MD, Associate Professor of Ophthalmology, and **Bobby S. Korn, MD, PhD**, Professor of Ophthalmology and Plastic Surgery, were recognized on the "2024 Top Doctors" list by San Diego Magazine in the ophthalmology specialty.

Catherine Y. Liu, MD, PhD, Associate Professor of Ophthalmology, has been named the recipient of the Exemplary Professionalism in the Clinical Learning Environment Award from the UC San Diego School of Medicine. She was selected for this award based on her dedication to creating a positive, supportive, and respectful space for learners, colleagues, and patients. "I like to approach our residents and fellows as future colleagues, recognizing that we're all on the same professional journey, just at different stages," said Liu. The ceremony will take place on February 5, 2025.

Jolene Rudell, MD, PhD, Assistant Professor of Ophthalmology, was the recipient of the UC San Diego Academic Senate Health Sciences Research Award. She also won Best in Show for her scientific poster at the American Academy of Pediatric Ophthalmology and Strabismus and was a Guest Editorial Board Member for Translational Vision Science and Technology.

Nathan L. Scott, MD, MPP, Assistant Professor of Ophthalmology, was accepted as an inaugural fellow with the National Medical Association and Association of University Professors of Ophthalmology (AUPO) Intrepid Academic Leadership Development Program, and he was as an inaugural fellow for the National Eye Institute (NEI) of Vision Editors Fellowship Program. He also was recipient the Robert A. Winn Diversity in Clinical Trials Career Development Award.

Christopher Toomey, MD, PhD received 3 Prestigious Career Development Awards from National Eye Institute, Larry L. Hillblom Foundation and Foundation for Fighting Blindness.

Robert N. Weinreb, MD, Chair and Director, Shiley Eye Institute, was the recipient of the 2024 Bietti Medal in Vancouver, Canada at the World Ophthalmology Congress from the International Council of Ophthalmology. This medal is awarded every four years to a distinguished ophthalmologist in recognition of scientific and educational contributions in ophthalmology and for facilitating international communications in the ophthalmic community.

Weinreb also received the EyeCon award from the Asian Pacific Academy of Ophthalmology. The award recognizes the most influential ophthalmologists globally, highlighting their contributions in research, clinical practice, innovation, publications, and international leadership. And he was also the recipient of the 2024 ANAGNOSTAKIS - TRANTIS Medal from the 28th Glaucoma Congress of the Greek Glaucoma Society in Athens, Greece.

He was also ranked number one on the 2024 Expertscape Global Glaucoma Impact list.

Bietti Medal Recipient Robert N. Weinreb, MD with Neeru Gupta, MD, PhD

FACULTY

Every year, Shiley Eye Institute specialists are honored to be named as being “the best” by major national and local organizations.

The Ophthalmologist
Expertscape
Castle Connolly
San Diego Magazine TOP Doctors
Healthgrades
U.S. News & World Report
Best Doctors
SuperDoctors
Newsweek
WebMD

Glaucoma

Robert N. Weinreb, MD

Chair & Distinguished Professor, Viterbi Family Department of Ophthalmology

Director, Shiley Eye Institute

Division Chief, Glaucoma

Director, Hamilton Glaucoma Center

Distinguished Professor of Bioengineering

Morris Gleich, MD Chair in Glaucoma

Robert N. Weinreb, MD

Christopher Bowd, PhD

Research Scientist of Ophthalmology

Director of the Hamilton Glaucoma Center-based Visual Field Assessment Center

Co-Director of the Hamilton Glaucoma Center-based Imaging Data Evaluation and Analysis (IDEA) Center

Christopher Bowd, PhD

Andrew S. Camp, MD

Associate Professor of Ophthalmology

Acting Chief of the Ophthalmology Section at the Veterans Administration Medical Center

Andrew S. Camp, MD

Mark Christopher, PhD

Assistant Adjunct Professor

Mark Christopher, PhD

Christopher Girkin, MD, MSPH

Professor of Ophthalmology

Christopher Girkin, MD, MSPH

Glaucoma

Alex A. Huang, MD, PhD

Associate Professor of Ophthalmology

Alfred Vogt Chair in Ophthalmology

Won-Kyu “Daniel” Ju, PhD

Professor of Ophthalmology and Bioengineering

John H. K. Liu, PhD

Professor of Ophthalmology

Director, Glaucoma Sleep Laboratory

Sasan Moghimi, MD

Professor of Ophthalmology

Medical Director, Hamilton Glaucoma Center

Cristiana Vasile, MD

Associate Professor of Ophthalmology

Derek Welsbie, MD, PhD

Associate Professor of Ophthalmology

Alex A. Huang, MD, PhD

Won-Kyu “Daniel” Ju, PhD

John H. K. Liu, PhD

Sasan Moghimi, MD

Cristiana Vasile, MD

Derek Welsbie, MD, PhD

Glaucoma

Linda Zangwill, PhD

Professor of Ophthalmology

Interim Director, Research

Director, Hamilton Glaucoma Center, Data Coordinating Center

Richard K. Lansche, MD & Tatiana A. Lansche Chair in Ophthalmology

Linda Zangwill, PhD

Comprehensive Ophthalmology

Jeffrey E. Lee, MD

Associate Professor of Ophthalmology

Program Director, Ophthalmology Residency

Jeffrey E. Lee, MD

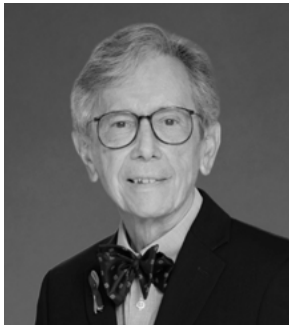
Thao P. Nguyen, MD

Assistant Professor of Ophthalmology

Thao P. Nguyen, MD

Manuel Puig-Llano, MD

Professor of Ophthalmology



Manuel Puig-Llano, MD

Cornea

Natalie A. Afshari, MD

Professor of Ophthalmology

Vice Chair for Education, Department of Ophthalmology

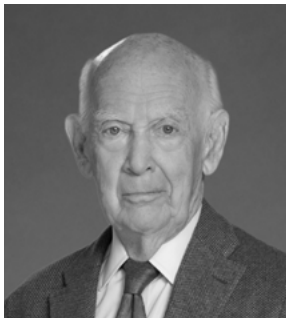
Division Chief, Cornea and Refractive Surgery

Stuart I. Brown MD Chair in Ophthalmology in Memory of Donald P. Shiley

Natalie A. Afshari, MD

Stuart I. Brown, MD

Professor of Ophthalmology, Emeritus



Stuart I. Brown, MD

Weldon W. Haw, MD

Professor of Ophthalmology

Weldow W. Haw, MD

Christopher W. Heichel, MD

Professor of Ophthalmology

Christopher W. Heichel, MD

Neuro-Ophthalmology

Lanning B. Kline, MD

Professor of Ophthalmology

Lanning B. Kline, MD

Peter J. Savino, MD

Professor of Ophthalmology & Neurosciences

Peter J. Savino, MD

Oncular Oncology

Nathan Scott, MD, MPP

Assistant Professor of Ophthalmology

Division Chief, Ocular Oncology

Associate Member, Solid Tumor Therapeutics, UC San Diego Health Moores Cancer Center

Ocular Pathology

Napoleone Ferrara, MD

Distinguished Professor of Ophthalmology and Pathology

Senior Deputy Director for Basic Sciences, UC San Diego Moores Cancer Center

Ben and Wanda Hildyard Chair for Diseases of the Eye

Nathan Scott, MD, MPP

Napoleone Ferrara, MD

Oculofacial Plastic & Reconstructive Surgery

Don O. Kikkawa, MD

Distinguished Professor of Ophthalmology and Plastic Surgery

Vice Chair for Clinical Services, Department of Ophthalmology

Division Chief, Oculofacial Plastic and Reconstructive Surgery

Dr. Trude Kahn Hollander Chair in Ophthalmology

Bobby S. Korn, MD, PhD

Professor of Ophthalmology and Plastic Surgery

Catherine Y. Liu, MD, PhD

Associate Professor of Ophthalmology

Director, Medical Student Education

Ophthalmology Informatics & Data Science

Sally L. Baxter, MD, MSc

Associate Professor of Ophthalmology

Division Chief, Ophthalmology Informatics and Data Science

Don O. Kikkawa, MD

Bobby S. Korn, MD, PhD

Catherine Y. Liu, MD, PhD

Sally Baxter, MD, MSc

Pediatric Ophthalmology & Strabismus

David B. Granet, MD

Professor of Ophthalmology & Pediatrics

Vice Chair, Dept. of Ophthalmology

Anne Ratner Chair of Pediatric Ophthalmology

Director, Anne F. and Abraham Ratner Children's Eye Center

Division Chief, Pediatric Ophthalmology and Eye Alignment

Lauren Hennein, MD

Assistant Professor of Ophthalmology

Mansoor Movaghar, MD

Associate Professor of Ophthalmology

Shira L. Robbins, MD

Professor of Ophthalmology

Educational Director of Pediatric Ophthalmology/Strabismus Division

President, Medical Staff UC San Diego Health System

Jolene Rudell, MD, PhD

Assistant Professor of Ophthalmology

David B. Granet, MD

Lauren Hennein, MD

Mansoor Movaghar, MD

Shira L. Robbins, MD

Jolene Rudell, MD, PhD

Regenerative Ophthalmology

Karl J. Wahlin, PhD

Associate Professor of Ophthalmology

Director, Richard C. Atkinson Laboratory for Regenerative Ophthalmology

Karl J. Wahlin, PhD

Retina & Vitreous

Radha Ayyagari, PhD

Professor of Ophthalmology & Pathology

Chief of Ophthalmic Molecular Diagnostic Laboratory

Director of Downtown San Diego Lions Club BioBank for Vision

Viterbi Family Chair of Ophthalmic Genetics

Radha Ayyagari, PhD

Dirk-Uwe G. Bartsch, PhD

Adjunct Professor of Ophthalmology

Dirk-Uwe G. Bartsch, PhD

Shyamanga Borooah, MD, PhD

Assistant Professor of Ophthalmology

Shyamanga Borooah, MD, PhD

Lingyun Cheng, MD

Adjunct Professor

Lingyun Cheng, MD

Retina & Vitreous

Henry A. Ferreyra, MD

Professor of Ophthalmology

William R. Freeman, MD

Distinguished Professor of Ophthalmology

Vice Chair, Department of Ophthalmology

Director, Jacobs Retina Center

Division Co-Chief, Retina

Michael H. Goldbaum, MD

Professor of Ophthalmology in Residence, Emeritus

Eric Nudleman, MD, PhD

Associate Professor of Ophthalmology

Division Co-Chief, Retina

Viterbi Family Chair for Retinal Vascular Diseases

Peter Shaw, PhD

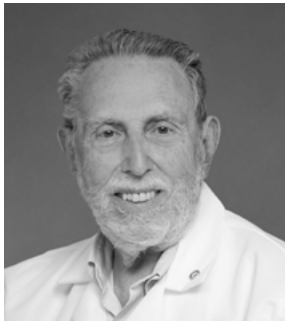
Associate Adjunct Professor of Ophthalmology

Christopher Toomey, MD, PhD

Assistant Professor of Ophthalmology

Henry A. Ferreyra, MD

William R. Freeman, MD



Michael H. Goldbaum, MD

Eric Nudleman, MD, PhD

Peter Shaw, PhD

Christopher Toomey, MD, PhD

Uveitis

Lingling Huang, MD, PhD
Assistant Professor of Ophthalmology

Doran Spencer, MD, PhD
Assistant Professor of Ophthalmology

Lingling Huang, MD, PhD

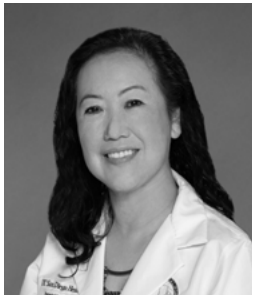
Doran Spencer, MD, PhD

Optometry, Dry Eye and Low Vision

John F. Kulischak, OD
OPTOMETRY SUPERVISOR

Maria Laura Gomez, MD, OD

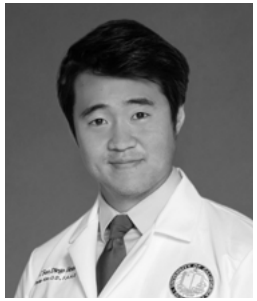
Amiee Ho, OD



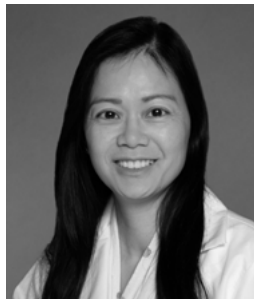
Pamela A. Hoo, OD

Lara D. Hustana, OD

Caitlin Jomoc, OD



Philip Kim, OD



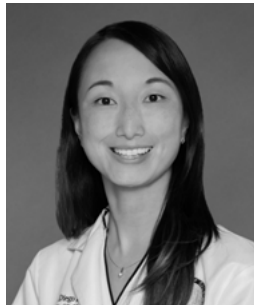
Anne B. Lam, OD

Esmeralda McClean, OD

Lianne Mizoguchi, OD

Tracy Moor, OD

Andrew Vo, OD



Carol Yu, OD

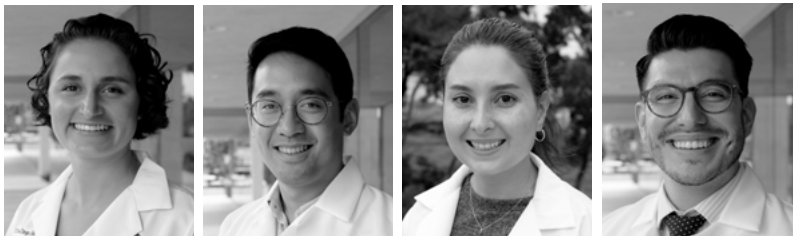
Residents

Our highly selective Ophthalmology Residency Program annually attracts over 600 applications from across the country, with only four positions available. This demand highlights the program's exceptional reputation for delivering comprehensive clinical and surgical training, as well as fostering a commitment to compassionate patient care and scholarly excellence.

We are proud to mentor some of the brightest and most driven students, who consistently excel both during and after their training. As a testament to their skills and dedication, our graduates frequently secure coveted fellowship positions in Ophthalmology subspecialties, including Cornea, Glaucoma, Ophthalmic Plastic and Reconstructive Surgery, and Retina at the Shiley Eye Institute and beyond.

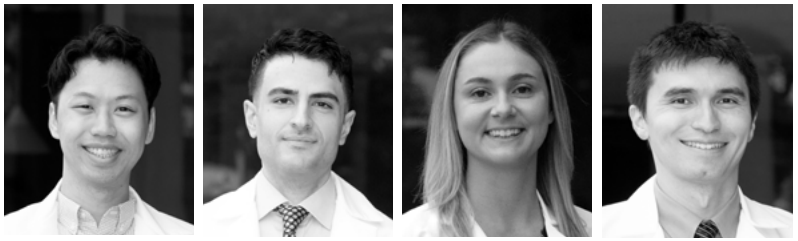
Under the mentorship of our distinguished faculty, residents gain hands-on experience treating a wide spectrum of eye conditions, from routine cases to the rarest diseases. They are also encouraged to pursue research opportunities with many presenting their innovative work at prestigious national conferences, including the American Academy of Ophthalmology and the Association for Research in Vision and Ophthalmology.

The UC San Diego Ophthalmology Residency Training Program has been recognized by the national accrediting body, the Accreditation Council for Graduate Medical Education, with a commendation on the excellence of the Residency Program and its faculty.



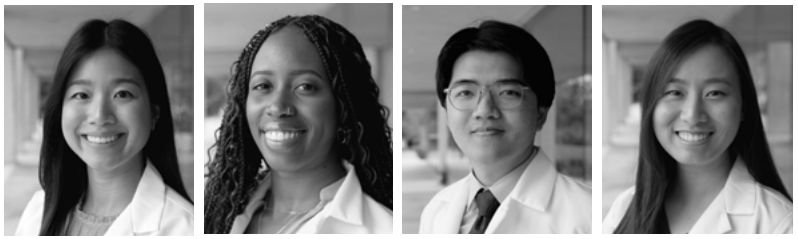
PGY-4 Residents

Helena Gali, MD
Andrew Lin, MD
Rafaella Penteado, MD
George Villatoro, MD



PGY-3 Residents

Jimmy S. Chen, MD
Michael Saheb Kashaf, MD, MSc
Rebecca Lian, MD
Alexander Svoronos, MD, PhD



PGY-2 Residents

Alison Chan, MD
Skenda Jean-Charles, MD
Justin Ma, MD
Elaine Tran, MD

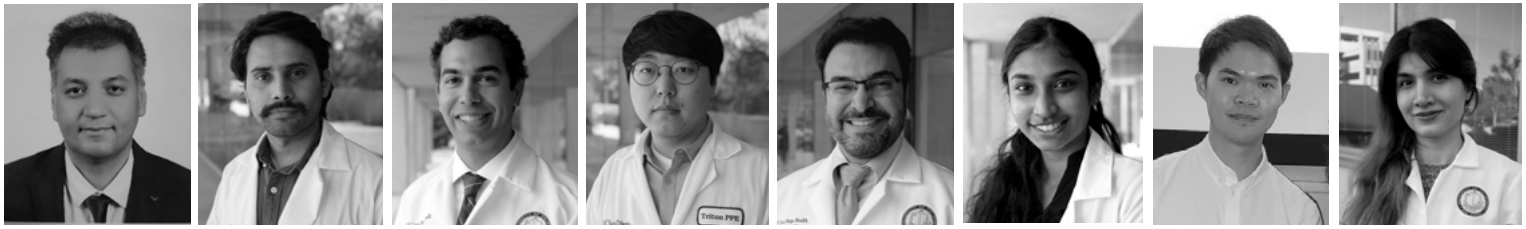
PGY-1 Residents

Jennifer Bu, MD
Alireza Kamalipour, MD, MPH
Tonya Lee, MD
Kyle Marra, MD, PhD

Fellows

The UC San Diego Shiley Eye Institute and Viterbi Family Department of Ophthalmology offers world-class fellowships in cornea, glaucoma, ophthalmic plastic and reconstructive surgery, pediatric ophthalmology, and retina. Our post-doctoral fellows receive expert training in both clinical and research settings, preparing them to excel in their fields. Many go on to assume prominent academic positions worldwide, while others become leading clinicians in the global ophthalmic community.

GLAUCOMA



GLAUCOMA

CORNEA

INFORMATICS

RETINA

RETINA

OCULOPLASTICS

PEDIATRICS

Glaucoma
Mohsen Adelpour, MD
Tonking Bastola, PhD
Kyle Bolo, MD
Seunghwan Choi, PhD
Medi Eslani, MD
"Gopika" Gopikasree Gunasegaran, MD
Anuwat Jiravarnsirikul, MD
Golnoush Mahmoudi Nezhad, MD, MPH
Takashi Nishida, MD, PhD
Natchada "Ing" Tansuebchueasai, MD
Daniel Wanderer, DVM
Jo-Hsuan (Sandy) Wu, MD

Cornea
Paul Lang, MD
Bao han (Allison) Le, MD

Informatics
Byoungyoung Gu, MD
Kiana Tavakoli, MD

Retina
Akshay Agnihotri, MS
Justin Arnett, MD
Malvika Arya, MD
Manisha Dagar, PhD
Anna Heinke, MD, PhD
Fritz Kalaw, MD
Zachary Koretz, MD
Ines Nagel, MD
Alexandra Warter, MD
Danae Woodard, PhD
Shaden Handy Fathy Yassin, PhD

Oculoplastics
Mahmoud Abouelatta, MBChB
Eman Al-Sharif, MBBS
Marissa Shoji, MD

Pediatrics
Aliya Roginiel, MD

NOT PICTURED
Glaucoma
Maria Paula Garcia, MD
Jalil Jalili, MD

Informatics
Shahin Hallaj, MD

Graduation

GRADUATION OF RESIDENTS & FELLOWS

On June 12, 2024, the Viterbi Family Department of Ophthalmology and Shiley Eye Institute graduated outstanding residents and fellows with an in-person ceremony at the UC San Diego Moores Cancer Center Goldberg Auditorium.

Graduating Residents
George Villatoro, MD (Chief Resident 2023-2024)
Rafaella Cleto Penteado, MD
Helena Gali, MD
Andrew C. H. Lin, MD

Graduating Fellows
Jong-Hwa Jun, MD (Cornea)
Paul Lang, MD (Cornea)
Bao han “Allison” Le, MD (Cornea)

Kyle Bolo, MD (Glaucoma)
Medi Eslani, MD (Glaucoma)
Anuwat Jiravarnsirikul, MD (Glaucoma)
Golnoush Mahmoudinezhad, MD, MPH (Glaucoma)
Jo-Hsuan Wu, MD (Glaucoma)

Eman Al-Sharif, MD (Oculoplastics)

Aliya Roginiel, MD, MPH (Pediatric Ophthalmology)

Fritz Gerald Kalaw, MD (Retina)
Zachary Koretz, MD, MPH (Retina)

GRADUATION AWARDS

The tenth annual Lamont Ericson, MD Award for Outstanding Patient Care by a Resident was awarded to George Villatoro, MD by Residency Director **Jeffrey Lee, MD**. Dr. Ericson was an outstanding former resident in the department who passed away in 2007 at a young age. The department is grateful that Dr. Ericson’s family has supported his memory in this special way.

The Lanna Cheng Ophthalmology Innovation Award in recognition of outstanding Innovation in Research in Retina, was given to **Shyamanga Borooah, MD, PhD**.

The Lanna Cheng Ophthalmology Innovation Award in recognition of outstanding Innovation in Research in Ophthalmic Reconstructive and Oculofacial Plastic Surgery, was given to Marissa Shoji, MD.

The Whitehill Prize for Excellence from the UC San Diego Health Sciences Academy of Clinical Scholars was given to **Catherine Liu, MD, PhD**. The recipient is chosen by the Chief Residents and given to an Assistant or Associate level faculty member who best exemplifies compassionate bedside manner for learners to emulate, serves as an advocate for trainees, and encourages and facilitates clinical, translation or basic science research projects.

Education: Patients

GRADUATION AWARDS

Award for Outstanding Teaching – Surgical
Jeffrey Lee, MD

Award for Outstanding Teaching - Clinical
Catherine Liu, MD, PhD

Award for Teaching by a Fellow
Marissa Shoji, MD

Award for Outstanding Didactic Teaching - Faculty
Peter J. Savino, MD
Andrew S. Camp, MD

Award for Outstanding Clinical Teaching - Resident
George Villatoro, MD

Award for Academic Excellence
George A. Villatoro, MD
Jimmy S. Chen, MD

Award for Outstanding OKAP Teaching
Natalie Afshari, MD

Award for Outstanding Teaching
Erika Acera, OC(O)

2024 GLAUCOMA UPDATE

Every October, starting in 1983, **Robert N. Weinreb, MD,** Chair and Director, Shiley Eye Institute, hosts a “Glaucoma Update” featuring presentations showcasing the latest innovation and progress in worldleading glaucoma research at the Shiley Eye Institute. This event was held on October 15, 2024 highlighting speakers **Christopher Girkin, MD, MSPH**, **Sally Baxter, MD, MSc**, and **Derek Welsbie, MD, PhD**.

AMERICAN ACADEMY OF OPHTHALMOLOGY CHICAGO 2024

On Saturday, October 19, 2024, the Shiley Eye Institute (SEI) hosted an alumni event during the 2024 American Academy of Ophthalmology global conference in Chicago. It was a great opportunity to reconnect with our extended SEI community from around the world!

Photo 1

Photo 2

Photo 3

Photo 4

Photo 1 (L to R)
Richard Scawn, MD, Alumnus 2014, London, UK
Brenda and Michael Goldbaum, MD,
Professor of Ophthalmology at SEI
Alex Huang, MD, PhD,
Alumnus 2013 and Associate Professor at SEI
Sasan Moghimi, MD,
Alumnus 2019 and Professor at SEI
Kaweh Mansouri, MD, MPH,
Alumnus 2012, Geneva, Switzerland

Photo 2 (L to R)
Andrea Yonge, MD, Alumnus 2022, Portland, Oregon
Kyle Godfrey, MD, Alumnus 2017, New York, New York
Don Kikkawa, MD, Distinguished Professor of
Ophthalmology and Plastic Surgery at SEI
Steve Mansberger, MD,
Alumnus 1999, Portland, Oregon
Christopher Girkin, MD, MSPH, Alumnus 1999 and
Professor of Ophthalmology at SEI
Robert N. Weinreb, MD, Chair and Distinguished
Professor, Ophthalmology, Director at SEI
Sasan Moghimi, MD,
Alumnus 2019 and Professor at SEI
Richard Scawn, MD, Alumnus 2014, London, UK

Photo 3 (L to R)
Benjamin Xu, MD, PhD,
Alumnus 2017, Pasadena, California
Arthur Sit, MD, MS,
Alumnus 2005, Rochester, Minnesota

Photo 4 (L to R)
Nickisa Hodgson, MD, MAS,
Alumnus 2017, San Francisco, California
David Granet, MD,
Professor of Ophthalmology & Pediatrics at SEI
Inci Irak Dersu, MD, MPH,
Alumnus 1996, Brooklyn, New York
Talya Dersu, daughter of Inci

Education: Physicians

GRAND ROUNDS

SEI faculty, ophthalmology trainees, medical students, and staff as well as SEI alumni and community ophthalmologists and optometrists are invited to the departmental weekly Grand Rounds on Monday evenings in person and via Zoom. The Grand Rounds consist of a featured lecture from a prominent physician scientist and case presentations with moderated discussion. Interesting eye diseases, treatment dilemmas, and surgical challenges are often the theme. Monthly guest lecturers attend and present the Grand Rounds throughout the year.

September 18, 2023
Hosted by Robert N. Weinreb, MD
Moderated by David B. Granet, MD and Sally Baxter, MD, MSc
Guest Lecturer: ChatGPT, Llama, Claude

October 30, 2023
Hosted by Robert N. Weinreb, MD
Moderated by Doran Spencer, MD and Lingling Huang, MD, PhD
Guest Lecturer: Eric B. Suhler, MD, MPH, Professor of Ophthalmology and Public Health at OHSU, Division Director and Fellowship Director, Uveitis Division, Casey Eye Institute, and Chief of Ophthalmology, Portland VA Medical Center
Title: “Biologic Warfare in Uveitis”

November 13, 2023
Hosted by Robert N. Weinreb, MD
Moderated by Don O. Kikkawa, MD
Guest Lecturer: Wendy Lee, MD, Professor of Clinical Ophthalmology and Dermatology
Oculofacial Plastic & Reconstructive Surgery, Orbit and Oncology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine
Title: “Expect the Unexpected”

January 29, 2024
Hosted by Robert N. Weinreb, MD
Moderated by William Freeman, MD
Guest Lecturer: Joshua Duanief, MD, PhD, Adele Niessen Professor of Ophthalmology, Vice Chair for Research, Scheie Eye Institute, University of Pennsylvania
Title: “Heavy Lipids for Protection Against Heavy Metals in Eye Disease”

April 15, 2024
Hosted by Robert N. Weinreb, MD
Moderated by Peter Savino, MD
Guest Lecturer: Rod Foroozan, MD, Professor of Ophthalmology and Neurology, Baylor College of Medicine
Moderated by: Reappraisal of Optic Neuropathy

May 13, 2024
Hosted by Robert N. Weinreb, MD
Moderated by Robert N. Weinreb, MD
Guest Lecturer: Carla Siegfried, MD, Jacquelyn E. and Allan E. Kolker, MD, Distinguished Professor of Ophthalmology, Vice Chair of Diversity, Equity, and Professionalism, John F. Hardesty, MD Department of Ophthalmology and Visual Sciences, Washington University School of Medicine in St. Louis
Title: “Trabeculectomy: Eyeing Extinction”

May 20, 2024
Hosted by Robert N. Weinreb, MD
Moderated by: David Granet and Shira Robbins, MD
Guest Lecturer: Stacy L. Pineles, MD, MS, Professor of Ophthalmology and Residency Program Director, Stein Eye Institute, David Geffen School of Medicine at the University of California, Los Angeles (UCLA)
Title: “Update on Pedig”

Education: Physicians

VISION RESEARCH LECTURES

The Vision Research Lecture Series addresses the latest advances in vision science and clinical ophthalmology. Each presentation features UC San Diego Department of Ophthalmology's faculty, as well as a selection of leading vision scientists from around the globe.

July 12, 2023
Hosted by Radha Ayyagari, PhD
Guest Lecturer: Peter Quinn, PhD, Columbia University Irving Medical Center, New York, NY
Title: "Advancing Precision Medicine to Treat Inherited Retinal Diseases"

August 28, 2023
Hosted by Sally Baxter, MD, MSc and Linda Zangwill, PhD
Guest Lecturers: STRIVE students, Senior Medical students, UC San Diego
Title: "Shiley Summer Student Research Symposium"

September 14, 2023
Hosted by Sally Baxter, MD, MSc
Guest Lecturer: Cathy Sun, MD, UC San Francisco
Title: "Real-World Outcomes in Diabetic Retinopathy and Glaucoma"

October 12, 2023
Hosted by Sally Baxter, MD, MSc
Guest Lecturer: Swarup Swaminathan, MD, University of Miami Miller School of Medicine, Miami, FL
Title: "Developing HER Data Repositories in Studying Glaucomatous Populations"

November 1, 2023
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Christopher Leung, MD, University of Hong Kong
Title: "RNFL Assessment with ROTA"

December 14, 2023
Hosted by Sally Baxter, MD, MSc
Guest Lecturer: Brian Stagg, MD, MS, University of Utah

February 8, 2024
Hosted by Sally Baxter, MD, MSc
Guest Lecturer: Benjamin Xu, MD, PhD, USC Roski Eye Institute, Los Angeles, CA
Title: "Big Data in Angle Closure Glaucoma"

March 13, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Emma Lessieur, PhD, University of California, Irvine
Title: "Retina-derived Extracellular Vesicles in Diabetic Retinopathy: Their Potential Role in Pathogenesis and Therapy"

March 14, 2024
Hosted by Sally Baxter, MD, MSc
Guest Lecturer: Felipe A. Medeiros, MD, Duke University

March 14, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Sunny Lee, MD, University of Southern California, Los Angeles, CA
Title: "Extracellular Vesicle Therapies: Pioneering Opportunities in the Fight Against Retinal Diseases"

March 19, 2024
Hosted by Pharmacology/Ophthalmology
Guest Lecturer: Krzysztof Palczewski, PhD, University of California, Irvine
Title: "Eye on Genome Editing"

March 29, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Kimberly Gokoffski, MD, PhD, University of Southern California,
Title: "Optic Nerve Regeneration, is there a Role for Electric Fields?"

April 11, 2024
Hosted by Sally Baxter, MD, MSc
Guest Lecturer: Brian Stagg, MD, MS, University of Utah
Title: "Laying the Groundwork for Glaucoma Clinical Decision Support"

April 24, 2024
Guest Lecturer: Alejandro Arboleda, MD, Bascom Palmer Eye Institute, Miami, FL
Title: “Everything but the Kitchen Sink”

May 11, 2024
Hosted by Linda Zangwill, PhD and Sally Baxter, MD, MSc
Guest Lecturer: Jennifer K. Sun, MD, MPH, Beetham Eye Institute, Joslin Diabetes Center, Boston, MA
Title: “DRCR Retina Network Approach for Data Sharing and Management”

May 15, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Yang Hu, MD, PhD, Stanford University, Palo Alto, CA
Title: “Neural Repair of the CNS: Viewing through RGC and Optic Nerve”

June 13, 2024
Hosted by Sally Baxter, MD, MSc
Guest Lecturer: Cindy Cai, MD, Johns Hopkin, Baltimore, MD

July 24, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Vivien Coulson-Thomas, PhD, University of Houston, TX
Title: “Hyaluronan Regulates Homeostasis and Pathogenesis of the Ocular Surface”

August 1, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Daniel Balikov, MD, PhD, Bascom Palmer Eye Institute , Miami, FL
Title: “In a Materials State of Mind: Engineering Cell-Matrix Interfaces”

August 8, 2024
Hosted by: Robert N. Weinreb, MD
Guest Lecturer: Alexander Marneros, MD, PhD, Harvard Medical School, Cambridge, MA
Title: “Mechanisms in Neovascular Age-Related Macular Degeneration”

August 12, 2024
Hosted by: Sally Baxter, MD, MSc and Linda Zangwill, PhD
Title: “Shiley Summer Student Research Symposium”

August 29, 2024
Hosted by: Sally Baxter, MD, MSc and Linda Zangwill, PhD
Guest Lecturer: Kaveri Thakoor, PhD, Columbia University, New York, NY
Title: “Trustworthy AI for Eye Disease Detection Driven by Medical-Expert Gaze Data”

September 5, 2024
Hosted by: Robert N. Weinreb, MD
Guest Lecturer: Kimberly Alonge, PhD, University of Washington, Seattle, WA
Title: “Perineuronal Nets in Health and Disease”

October 24, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Sidney Gospe III, MD, PhD, Duke University School of Medicine, Durham, NC
Title: “Therapeutic Approaches in a Preclinical Mouse Model of Mitochondrial Optic Neuropathy”

October 30, 2024
Hosted by Robert N. Weinreb, MD
Guest Lecturer: Nazlee Zebardast, MD, Harvard Medical School, Cambridge, MA
Title: “Precision Medicine in Glaucoma Care”

2024 OPHTHALMOLOGY UPDATE

The Shiley Eye Institute (SEI) and Viterbi Family Department of Ophthalmology hosted the 2024 UC San Diego Ophthalmology Update on Friday, May 17 and Saturday, May 18 at the UC San Diego Moores Cancer Center. The program featured a poster viewing session by fellows, senior resident presentations, subspeciality update lectures from faculty, and alumni presentations. The update was chaired by SEI faculty **Robert N. Weinreb, MD**, **Don O. Kikkawa, MD**, and **Natalie A. Afshari, MD**.

The program was supported by a sponsorship from Genentech, a member of the Roche Group.

Summer Student Research Symposium

The Shiley Eye Institute and the Viterbi Family Department of Ophthalmology sponsored a UC San Diego student symposium on August 12, 2024, to showcase research from students attending schools across the country in our National Eye Institute funded T35 Short-Term Research in Vision & Eye Health (STRIVE) Program, as well as UC San Diego medical students applying for ophthalmology residency.

Led by **Sally L. Baxter, MD, MSc**, and **Linda M. Zangwill, PhD**, the SEI STRIVE program provides students with the opportunity to engage in innovative vision research under the mentorship of several SEI faculty members. STRIVE students concentrated their research on addressing underrepresented minority populations. The Summer Student Research Symposium underscores SEI's commitment to advancing the field through both education and research.

UC San Diego Medical Student Speakers

Kaela Acuff
Project Title
Utilizing the All of Us Research Program to Study Disparities in Glaucoma Diagnosis and Care
Faculty on Project
Sally Baxter MD, MSc and Robert N. Weinreb, MD

Kelvin Du
Project Title
MRI-Based 3D Reconstruction of Extraocular Muscles for In Vivo Geometric Quantification
Faculty on Project
Jolene Rudell, MD, PhD

Sophia Sidhu
Project Title
Association of Metformin Use with Primary Open-Angle Glaucoma Using Data from the National Institutes of Health All of Us Program
Faculty on Project
Sally Baxter MD, MSc, Jiun Do, MD, PhD, Eric Nudleman, MD, PhD, Sasan Moghimi, MD and Robert N. Weinreb, MD

Alexander Lieu
Project Title
Effects of High Glucose Environments on Human Lens Epithelial Cell Autophagy
Faculty on Project
Natalie A. Afshari, MD, FACS

Benton Chuter
Project Title
A New Foundation Model's Accuracy in Glaucoma Detection Using Ocular Coherence Tomography and Fundus Images
Faculty on Project
Linda M. Zangwill, PhD and Mark Christopher, PhD

STRIVE Students Speakers

Collin Else
Columbia University Vagelos College of Physicians & Surgeons
Project Title
Glycomics of the Human Trabecular Meshwork: Heparan Sulfate as a Mediator of Aqueous Outflow Resistance
Faculty on Project
Christopher Toomey, MD, PhD, and Alex Huang, MD, PhD

Patrick Akarapimand
University of Pennsylvania Perelman School of Medicine
Project Title
Associations Between Physical Activity and Glaucoma: Analysis of the National Institutes of Health All of Us Research Program
Faculty on Project
Sally Baxter, MD

Ashley Hong
Rush Medical College
Project Title
Resetting the Brow: A Small-Incision Frontalis Advancement Approach to Brow Ptosis
Faculty on Project
Don Kikkawa, MD

Marissa Stinnett
UC San Diego School of Medicine
Project Title
Association of Social Determinants of Health on Visual Outcomes in Pediatric Blepharokeratoconjunctivitis
Faculty on Project
Lauren Hennein, MD

Sally Baxter, MD, MSc, Kaela Acuff and Linda Zangwill, PhD

CONGRATULATIONS

Shiley Eye Institute research fellow Rolika Bansal, MD received the Joanne Angle Abstract of Distinction Award from the Women in Ophthalmology organization. This honor recognizes her outstanding work, chosen as the highest-scoring abstract at this year's Women in Ophthalmology Summer Symposium.

Kiana Tavakoli, MD, was selected to the All of Us Scholars nationwide National Institutes of Health program, which selects early career trainees to work with the database. She is featured in the 2024 January All of Us national newsletter.

Shahin Hallaj, MD's poster "Barriers to Automated Visual Field Perimetry Data Extraction, Harmonization, and Representation" was selected as 1 of the top 3 posters for the 2024 Virtual Collaborative Community on Ophthalmic Imaging Conference.

SEI Highlights from the Year

FACULTY SHARE EXPERTISE IN WEBINARS, PODCASTS, LECTURES & PUBLICATIONS

Sally L. Baxter, MD, MSc presented at UC San Diego's AI-focused Homecoming event, "Curiosity Ignited: Research that Sparks Change," on Saturday, November 9. Additionally, she moderated the discussion "The Many Eyes in Artificial Intelligence" at the Prevent Blindness Focus on Eye Health Summit on July 11. She was also featured in the "National Institutes of Health Voices of "All of Us" National Newsletter," where she shared her journey into medicine and her pursuit to advance glaucoma research.

Don O. Kikkawa, MD appeared on "The Oculofacial Podcast" in the episode titled "Journal Club: March/April Issue of OPRS," where he shared insights on three articles published in the field of oculofacial surgery.

Eric Nudleman, MD, PhD was featured on the "American Academy of Ophthalmology's Experts InSight Podcast" episode, "Stickler Syndrome and Preventive Treatment," discussing how to diagnose this condition and evidence for treatments intended to decrease the rate of retinal detachment.

Nathan L. Scott, MD, MPP moderated a "Virtual Journal Club" webinar hosted by the American Academy of Ophthalmology, focusing on the impact of delayed diagnosis on outcomes for patients with ocular melanoma.

Christopher B. Toomey, MD, PhD delivered a lecture on eye health and "dry" age-related macular degeneration at Belmont Village Senior Living on March 7.

Derek S. Welsbie, MD, PhD presented his latest advancements in restoring the vision of glaucoma patients at the Glaucoma Research Foundation "Catalyst for a Cure 3: Vision Restoration Research Update" webinar on September 9.

FACULTY SHARES RESEARCH ON STRABISMUS TREATMENT

Jolene Rudell, MD, PhD presented her research about the effects of bupivicaine (a local anesthetic) on extraocular muscles as a treatment for strabismus at the World Congress of Pediatric Ophthalmology and Strabismus on July 11th. Her research seeks to understand why this treatment works in patients, and if we can use this knowledge to find better treatments for patients. Her research is supported by The Strabismus Research Foundation (SRF) of San Francisco.

Clinical Trials

Division	Principal Investigator	Title	Project Period	Funding Agency
Cornea	Christopher Heichel, MD	A Thirteen-Year Study of the Indications and Visual Outcomes of Capsular Tension Ring Implantation in Cataract Surgery 2016	07/01/2016-06/30/2029	
Glaucoma	Andrew Camp, MD	The Efficacy and Safety of Bimatoprost SR in Patients With Open-Angle Glaucoma or Ocular Hypertension	04/01/2020-03/31/2023	
Glaucoma	Andrew Camp, MD	An Extension Trial to Evaluate the Long-Term Safety and Efficacy of Bimatoprost SR in Patients with Open Angle Glaucoma or Ocular Hypertension	09/08/2017-01/23/2024	Allergan
Glaucoma	Robert N. Weinreb, MD	Determining the Correlation Between Intraocular Pressures Measured by Self-Monitoring Rebound Tonometry and Glaucoma Development or Progression		
Glaucoma	Robert N. Weinreb, MD	Evaluate Clinical Big Data Provided by Topcon and Derived From OCT Devices	07/01/2022-06/30/2026	TOPCON
Glaucoma	Linda Zangwill, PhD	Multi-Center Study for a Reference Database of Optic Nerve Head, Retinal Nerve Fiber Layer, and Macula Parameters Measured with the Heidelberg Spectralis OCT within a Hispanic Population	02/27/2018-01/31/2023	Heidelberg Engineering
Glaucoma	Linda Zangwill, PhD	Multi-Center Study for a Reference Database of Optic Nerve Head, Retinal Nerve Fiber Layer, and Macula Parameters Measured with the Heidelberg Spectralis OCT within an African-American Population	02/27/2018-01/31/2023	Heidelberg Engineering
Glaucoma	Linda Zangwill, PhD	Grading the Ocular Images and Datasets for the B-2018-4 Study	06/15/2019-06/14/2023	Heidelberg Engineering
Oculoplastics	Catherine Liu, MD, PhD	A Phase 4, Randomized, Double-masked, Placebo-controlled, Multicenter Trial to Evaluate the Efficacy and Safety of TEPEZZA in Treating Patients with Chronic (Inactive) Thyroid Eye Disease	03/23/2021-03/22/2031	Horizon Therapeutics USA, Inc.
Ocular Oncology/Retina	Nathan Scott, MD, MPP	A Phase 3...Trial to Evaluate Efficacy and Safety of Belzupacap Sarotalocan (AU-011) Treatment Compared to Sham Control in Subjects with Primary Indeterminate Lesions or Small Choroidal Melanoma	05/14/2024-06/30/2030	AURA Biosciences, Inc.
Pediatrics	Shira Robbins, MD	A Multicenter, Double-Masked, Randomized, Placebo-Controlled, Phase 3 Study of the Safety and Efficacy of Atropine 0.1% and 0.01% Ophthalmic Solutions Administered with a Microdose Dispenser for the Reduction of Pediatric Myopia Progression [EYN-MYO-AT-31]	04/01/2020-12/31/2025	Eyenovia, Inc.

CLINICAL TRIALS

Division	Principal Investigator	Title	Project Period	Funding Agency
Retina	Shyamanga Borooah, MD, PhD	Natural History Study of Patients with X-linked Retinal Dystrophy Associated with Mutations in Retinitis Pigmentosa GTPase Regulator (RPGR)	03/03/2021-09/20/2025	Meiragtx UK II Limited
Retina	Shyamanga Borooah, MD, PhD	Phenotyping and Genotyping Patients with Achromatopsia in Preparation for Gene Therapy Trials	03/03/2021-03/02/2023	Meiragtx UK II Limited
Retina	Shyamanga Borooah, MD, PhD	A Phase 2 Randomized Placebo-Controlled Double-Masked Study to Assess Safety & Efficacy of Multiple Doses of IONIS-FB-LRX an Antisense Inhibitor of Complement FactorB in Patients w/GA 2nd to AMD	12/17/2019-12/31/2024	Ionis Pharmaceuticals, Inc.
Retina	Shyamanga Borooah, MD, PhD	"Open-Label, Single Ascending Dose Study to Evaluate the Safety, Tolerability, and Efficacy of EDIT-101 in Adult and Pediatric Participants with Leber Congenital Amaurosis Type 10 (LCA10), with Centrosomal Protein 290 (CEP290)-Related Retinal Degeneration Caused by a Compound Heterozygous or Homozygous Mutation Involving c.2991+1655A>G in Intron 26 (IVS26) of the CEP290 Gene ("LCA10-IVS26")"	01/21/2021-01/20/2026	Editas Medicine, Inc.
Retina	Shyamanga Borooah, MD, PhD	"Phase 3 Randomized, Controlled Study of AAV5-hRKp.RPGR for the Treatment of Xlinked Retinitis Pigmentosa Associated with Variants in the RPGR Gene"	07/30/2021-07/29/2031	Meiragtx UK II Limited
Retina	Shyamanga Borooah, MD, PhD	Phase 3 Follow-up Study of AAV5-hRKp.RPGR for the Treatment of X-linked Retinitis Pigmentosa Associated with Variants in the RPGR Gene	08/10/2021-08/09/2031	Meiragtx UK II Limited
Retina	Shyamanga Borooah, MD, PhD	A Phase 1/2 Study to Assess the Safety and Efficacy of OCU400 for Retinitis Pigmentosa Associated with NR2E3 and RHO Mutations	10/18/2022-10/18/2032	Ocugen, Inc.
Retina	Shyamanga Borooah, MD, PhD	A Double-Masked, Randomized, Controlled, Multiple-Dose Study to Evaluate the Efficacy, Safety and Tolerability of QR-421a in Subjects with Retinitis Pigmentosa (RP) due to Mutations in Exon 13 of the USH2A Gene with Advanced Vision Loss	06/06/2022-07/05/2032	PROQR THERAPEUTICS IV B.V.
Retina	William Freeman, MD	A Multicenter, Open-Label, Extension Study to Evaluate the Long-Term Safety and Tolerability of the Port Deliver System with Ranibizumab in Patients with Neovascular AMD [PORTAL]	02/14/2019-06/30/2024	Genentech, Inc.
Retina	William Freeman, MD	A Phase 3 Multicenter, Randomized, Double-Masked, Sham-Controlled Clinical Trial to Assess the Safety and Efficacy of Intravitreal Administration of ZIMURA™ (Complement C5 Inhibitor) in Patients with Geographic Atrophy Seondary to Dry Age-Related Macular Dengeneration [GATHER2]	06/18/2020-12/31/2023	IVERIC Biosciences
Retina	William Freeman, MD	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	08/10/2020-12/31/2023	AMGEN Pharmaceuticals
Retina	William Freeman, MD	Randomized, Double-Masked, Active-Controlled, Phase 3 Study of the Efficacy and Safety of High Dose Aflibercept in Patients With Neovascular Age-Related Macular Degeneration [PULSAR]	11/17/2020-12/31/2024	BAYER AG

Division	Principal Investigator	Title	Project Period	Funding Agency
Retina	William Freeman, MD	A Phase 2, Double-Masked, Placebo-Controlled, Dose Range Finding Study of Danicopan (ALXN2040) in Patients with Geographic Atrophy (GA) Secondary to Age-Related Macular Degeneration (AMD)	05/01/2022-12/31/2023	Alexion Pharma
Retina	William Freeman, MD	A Phase-3, Open-Label, Multicenter, Extension Study to Evaluate the Long-Term Safety and Efficacy of PEGCETACOPLAN in subjects with Geographic Atrophy 2nd to AMD [GALE]	07/01/2021-12/31/2025	Apellis Pharmaceuticals
Retina	William Freeman, MD	An Open-Label Extension Phase 3 Trial to Assess the Safety of Intravitreal Administration of Avacincaptad Pegol (complement C5 Inhibitor) in Patients with Geographic Atrophy who previously completed Phase 3 Study ISEE2008 [ISEE2009]	04/26/2023-12/31/2026	IVERIC Biosciences
Retina	William Freeman, MD	A Phase 2B, Randomized, Double-masked, Multicenter, Dose-ranging, Sham-controlled Clinical Trial to Evaluate Intravitreal JNJ-81201887 (AAVCAGsCD59) Compared to Sham Procedure for the Treatment of Geographic Atrophy (GA) Secondary to Age-related Macular Degeneration [PARASOL]	07/28/2023-12/31/2026	Janssen Research & Development LLC
Retina	William Freeman, MD	Phase 3, Multicenter, Randomized, Double-Masked, Placebo-Controlled Study of TInlarebant to Explore Safety and Efficacy in the Treatment of Geographic Atrophy [PHOENIX]	01/31/2024-12/31/2028	Belite Bio
Retina	Eric Nudleman, MD, PhD	"An Extension Study to Evaluate the Long-Term Outcomes of Patients Who Received Treatment for Retinopathy of Prematurity in the VGFTE-ROP-1920 Study" [BUTTERFLEYE]	04/20/2021-12/31/2026	Regeneron Pharmaceuticals
Retina	Eric Nudleman, MD, PhD	Testing Collagen Probes and Bispecific VEGF/Ang-2 Suppression	04/01/2022-04/30/2025	F. Hoffmann-La Roche LTD
Retina	Eric Nudleman, MD, PhD	A Randomized, Partially Masked, Controlled, Phase 3 Clinical Study to Evaluate the Efficacy and Safety of RGX-314 Gene Therapy in Participants with nAMD [ASCENT]	05/10/2022-12/31/2026	RegenxBio Inc.
Retina	Doran Spencer, MD, PhD	A Phase 3 Randomized, Active-Controlled, Double-Masked Study to Evaluate the Safety and Efficacy of TRS01 Eye Drops in the Treatment of Subjects with Active Non-infectious Anterior Uveitis including Subjects with Uveitic Glaucoma	12/01/2022-11/30/2023	Tarsier Pharma
Retina	Christopher Toomey, MD, PhD	A Phase 2, Double-masked, Randomized, Sham-controlled, Multiple-dose Study of the Efficacy and Safety of Intravitreal KUS121 in the Treatment of Non-Arteritic Central Retinal Artery Occlusion (CRAO) - GION	06/26/2024-12/31/2028	Kyoto Drug Discovery & Development Co., LTD

Grants

Division	Faculty	Title	Project Period	Funding Agency
Glaucoma	Jiun Do, MD, PhD	Optic Nerve Relays for Vision Restoration and Advancement Optic Nerve Regeneration Research	09/01/2024-08/31/2029	NIH/NEI
Glaucoma	Christopher Girkin, MD, MSPH	R01EY028284 - Determinants of the Biomechanical Behavior of the Human Lamina Cribrosa	4/1/2020-3/31/2025	NIH
Glaucoma	Christopher Girkin, MD, MSPH	R01EY035053 - The Mechanotranscriptome of the Optic Nerve Head Following Acute Experimental Ocular Hypertension in Living Human Eyes	6/1/2023-5/31/2028	NIH
Glaucoma	Alex Huang, MD, PhD	Dynamic Variable Aqueous Humor Outflow and Glaucoma Therapies in the Human Eye	05/01/2020-04/30/2025	NIH/NEI
Glaucoma	Alex Huang, MD, PhD	Exercise Countermeasure to Prevent Ocular Structural and Functional Changes in a Terrestrial Model of SANS	08/22/2022-08/21/2025	NASA
Glaucoma	Alex Huang, MD, PhD	iSAFE (Investigating Structure and Function of the Eye)	08/26/2022-09/30/2035	NASA
Glaucoma	Alex Huang, MD, PhD	Novel Ocular Imaging and Molecular Analysis of Anterior Eye Segment for Glaucoma	03/01/2023-02/29/2028	Northwestern University; NIH/NEI Prime
Glaucoma	Alex Huang, MD, PhD	Leveraging the Conjunctiva for Improved Glaucoma Treatments	01/01/2024-12/31/2025	Research to Prevent Blindness
Glaucoma	Wonkyu Ju, PhD	Mitochondrial Protection in Glaucomatous Optic Neuropathy	09/01/2020-06/30/2024	NIH/NEI
Glaucoma	Wonkyu Ju, PhD	AAV-AIBP Therapy for Alzheimer's Disease	09/30/2022-05/31/2024	NIH/NEI
Glaucoma	Wonkyu Ju, PhD	Neuroprotective Role of Sirt6 in Glaucoma	06/01/2020-05/31/2025	NIH/NEI
Glaucoma	Wonkyu Ju, PhD	CXCR3-Mediated Cell-Cell Communication During Glaucoma	09/01/2022-07/31/2027	NIH/NEI
Glaucoma	Wonkyu Ju, PhD	AIBP Mediated Neuroprotection in Glaucomatous Optic Neuropathy	09/01/2023-05/31/2027	NIH/NEI
Glaucoma	Wonkyu Ju, PhD	Development of AAV-AIBP for Neuroprotection in Glaucoma	09/01/2023-08/31/2028	NIH/NEI
Glaucoma	Wonkyu Ju, PhD	Reversing Microglial Inflammarafts and Mitochondrial Dysfunction in Alzheimer's	09/01/2022-08/31/2027	NIH/NEI
Glaucoma	Wonkyu Ju, PhD	<p;eci;ar ,ecjamos,s pf AOB{ om regi;atomg ,otpcjpmdroa; strictire amd fimctopm om retoma; degemeratpom	10/01/2024-09/30/2029	NIH/NEI
Glaucoma	Sasan Moghimi, MD	Monitoring of Glaucoma Patients in Advanced Disease	09/01/2022-08/31/2027	NIH/NEI

Division	Faculty	Title	Project Period	Funding Agency
Glaucoma	Robert N. Weinreb, MD	Ophthalmology and Visual Sciences Career Development K12 Program	04/01/2015-07/31/2026	NIH/NEI
Glaucoma	Robert N. Weinreb, MD	Unrestricted and Challenge Grant - Research to Prevent Blindness	01/01/2023-12/31/2027	Research to Prevent Blindness
Glaucoma	Robert N. Weinreb, MD	Diagnosis and Monitoring of Glaucoma with Optical Coherence Tomography Angiography	05/01/2018-04/30/2026	NIH/NEI
Glaucoma	Robert N. Weinreb, MD	iGLAMOUR Study: Innovations in Glaucoma Adherence and Monitoring Of Under-Represented Minorities	01/15/2021-12/31/2024	NIH/NEI
Glaucoma	Derek Welsbie, MD, PhD	Kinase Multitargeting for Glaucoma Neuroprotection	01/01/2024-12/31/2028	NIH/NEI
Glaucoma	Derek Welsbie, MD, PhD	High-Throughput Functional Genomic Screening in Retinal Ganglion Cells	02/01/2019-01/31/2025	Glaucoma Research Foundation
Glaucoma	Derek Welsbie, MD, PhD	Development Of Small Molecule And Gene Therapy Approaches To Inhibit Dual Leucine Zipper Kinase And Accessory Pathways For Retinal Ganglion Cell Neuroprotection	08/01/2020-07/31/2024	Perceive Biotherapeutics
Glaucoma	Linda Zangwill, PhD	OT2 Bridge to Artificial Intelligence (Bridge2AI) Program - Data Generation	09/01/2022-08/31/2027	NIH/NEI
Glaucoma	Linda Zangwill, PhD	Multimodal Artificial Intelligence to Predict Glaucomatous Progression and Surgical Intervention	09/01/2022-08/31/2026	NIH/NEI
Glaucoma	Linda Zangwill, PhD	Diagnostic Innovations in Glaucoma Study (DIGS): High Myopia and Advanced Diseases	09/01/2022-08/31/2027	NIH/NEI
Glaucoma	Linda Zangwill, PhD	Translational Vision Research Training at UCSD	04/01/2016-06/30/2026	NIH/NEI
Glaucoma	Linda Zangwill, PhD	P30 NEI Center Core Grant for Vision Research	09/01/2023-04/30/2028	NIH/NEI
Glaucoma	Linda Zangwill, PhD	A Randomized Clinical Trial Evaluating Fenofibrate for Prevention of Diabetic Retinopathy Worsening	10/01/2021-09/30/2026	NIH/DRCR
Glaucoma	Linda Zangwill, PhD	Forecasting Disease Progression using Artificial Intelligence	01/01/2022-12/31/2024	Glaucoma Research Foundation
Glaucoma	Linda Zangwill, PhD	Improve OCT Detection of Optic Nerve Head (ONH)	07/01/2020-12/31/2026	GMOPC
EyeMobile	Iliana Molina, MS	City Heights Partnership Price Foundation and UCSD Eyemobile for Children	01/01/2022-12/31/2025	Price Foundation
Informatics	Sally Baxter, MD, MSc	Multi-modal Health Information Technology Innovations for Precision Management of Glaucoma	09/10/2020-08/31/2025	NIH/NEI
Informatics	Sally Baxter, MD, MSc	FREEMIND: Focused Research Education and Experience using Multimodal and Interdisciplinary NIH Datasets	12/01/2024-11/30/2027	NIH/NEI
Informatics	Sally Baxter, MD, MSc	PAGE-G: Precision Approach Combining Genes and Environment in Glaucoma	09/30/2023-08/31/2025	NIH/NEI

GRANTS

Division	Faculty	Title	Project Period	Funding Agency
Informatics	Sally Baxter, MD, MSc	OT2 Bridge to Artificial Intelligence (Bridge2AI) Program - Skills Development	09/01/2022-08/31/2027	NIH/NEI
Oculoplastics	Catherine Liu, MD, PhD	Genetic Susceptibility For Thyroid Eye Disease: Evaluation Of The Insulin-Like Growth Factor-1 Receptor Pathway	02/21/2024-02/28/2025	UCSD Academic Senate
Pediatrics	Jolene Rudell, MD, PhD	The Effects of Bupivacaine on Extraocular Muscles as a Treatment for Strabismus	12/01/2022-11/30/2024	UCSD/ACTRI
Pediatrics	Jolene Rudell, MD, PhD	Role of Fibroblast Growth Factor Signaling in a Genetic Model of Strabismus	12/01/2022-11/30/2024	Strabismus Research Foundation
Pediatrics	Jolene Rudell, MD, PhD	Role of a Craniosynostosis Associated Fibroblast Growth Factor Receptor Mutation in Extraocular Muscles	06/01/2023-05/31/2028	NIH/NEI
Retina	Radha Ayyagari, PhD	Identification of the Elusive Genetic Causality of Inherited Retinal Degenerations (IRDs)	12/01/2018-11/30/2023	The Foundation Fighting Blindness
Retina	Radha Ayyagari, PhD	Molecular Mechanism Underlying Late-Onset Retinal/ Macular Degeneration	09/01/2020-06/30/2024	NIH/NEI
Retina	Radha Ayyagari, PhD	Unraveling The Molecular Pathology Of Retinal Degeneration Through Single Cell Genomics	06/01/2021-05/31/2026	NIH/NEI
Retina	Napoleone Ferrara, PhD	Novel Long-Acting Inhibitors of Vascular Endothelial Growth Factor (VEGF) for Treatment of Intraocular Vascular Disorders	04/01/2020-03/31/2025	NIH/NEI
Retina	William Freeman, MD	Intracellular RNA Nanoparticle Therapeutics to Treat Retinal Neovascularization	09/01/2023-05/31/2027	NIH/NEI
Retina	William Freeman, MD	SCH: Multimodal Retina Image Alignment and Applications	09/01/2021-08/31/2025	NIH/NEI
Retina	Eric Nudleman, MD, PhD	Cellular and Molecular Mechanisms of Retinal Fibrosis	06/01/2023-05/31/2024	NIH/NEI
Retina	Eric Nudleman, MD, PhD	RPB Stein Innovation Award	01/01/2022-12/31/2024	Research to Prevent Blindness
Retina	Nichlas Oesch, PhD	Computing Luminance and Contrast in Prosthetically Driven Retina	09/30/2018-06/30/2024	NIH/NEI
Retina	Christopher Toomey, MD, PhD	RPB Career Development Award	07/01/2023-12/31/2027	Research to Prevent Blindness
Retina	Christopher Toomey, MD, PhD	Robert Machemer MD and International Retinal Research Foundation Fellowship	10/01/2022-09/31/2024	Robert Machemer Foundation
Retina	Christopher Toomey, MD, PhD	Retinal Research	01/01/2024-12/31/2024	UCSD Academic Senate
Retina	Christopher Toomey, MD, PhD	Characterization and Binding Properties of Lipoprotein Particles in Bruchs Membrane in Age-related Macular Degeneration	06/03/2024-06/02/2025	Alcon Research LLC

Division	Faculty	Title	Project Period	Funding Agency
Retina	Christopher Toomey, MD, PhD	Role of Bruch Membrane Heparan Sulfate in Drusenogenesis in Age-Related Macular Degeneration	07/01/2024-06/30/2029	NIH/NEI
Retina	Christopher Toomey, MD, PhD	Heparan Sulfate and Lipoprotein Interactions in Bruch's Membrane in Early Stages of AMD	07/01/2024-07/31/2029	Foundation Fighting Blindness
Retina	Christopher Toomey, MD, PhD	Role of High-Density Lipoprotein Particles in Early Age-Related Macular Degeneration	08/01/2024-06/30/2027	Larry L. Hillblom Foundation
Stem Cell	Karl Wahlin, PhD	Endogenous Generation of Cone Photoreceptors to Increase Light Responses in Foveal Hypoplasia	07/01/2020-06/30/2026	Vision of Children
Stem Cell	Karl Wahlin, PhD	Pluripotent Stem Cell Derived 3D Retinas for Studies of Early Onset Retinal Degeneration.	04/01/2020-03/31/2025	NIH/NEI
Stem Cell	Karl Wahlin, PhD	Correlating Genomic AMD Risk Variants with Lipid Composition and Phagocytic Function of Patient-Derived Induced Pluripotent Stem Cell (iPSC)-derived Retinal Pigment Epithelium (RPE)	09/30/2022-08/31/2025	UCI; NIH/NEI as Prime
Stem Cell	Karl Wahlin, PhD	Endogenous Repair in a Human 3D Retinal Organoid Model of Leber Congenital Amaurosis	07/01/2022-06/30/2025	The Foundation Fighting Blindness
Stem Cell	Karl Wahlin, PhD	Morphogenetic Signaling from the Cell Surface to the Nucleus During Vertebrate Eye Development	07/01/2024-06/30/2025	University of Utah; NIH/NEI as Prime

CONGRATULATIONS!
Staff members Juan Arias, MBA and Chris Oeinck's poster titled "Optimizing Optical Coherent Tomography (OCT) Images: A Quality Improvement Initiative" won first place at the UC San Diego Health Improvement Excellence Awards Poster Session.

The Improvement Excellence Awards recognize and celebrate the hard work of individuals and teams for process improvement projects and acknowledge the positive impact they have on UC San Diego Health's Strategic Goals.

Giving Opportunities

For 33 years, the philanthropic support from generous individuals, foundations and corporations has provided the Shiley Eye Institute (SEI) and the Viterbi Family Department of Ophthalmology with valuable resources for patient care, research, education and community service. As a friend of the Department of Ophthalmology, there are several giving options for those who wish to contribute to our tradition of excellence.

Our Goal: Curing Blindness & Saving Sight

Outright Gifts – Immediate Impact

Your support in the form of cash, check, credit card, marketable securities or wire transfers provides immediate impact to our faculty, research and clinical facility. Donating appreciated assets, such as stocks or real estate, can provide additional tax benefits for you.

If writing a check, please make payable to the "UC San Diego Foundation" and put the *Shiley Eye Institute Fund 1935* in the memo section. The check should be accompanied with a letter stating the focus of your donation and mailed to:

UC San Diego Shiley Eye Institute
9415 Campus Point Drive, MC0946
La Jolla, CA, 92093-0946
(Attention: Karen Anisko Ryan)

Planned/Estate Gifts – Your Vision for Tomorrow

Please consider a charitable bequest in your estate plan (will or trust), naming SEI as a beneficiary of your retirement plan assets, life insurance policy or Donor Advised Fund (DAF). This contribution will ensure the future work of the Shiley Eye Institute and provide direct support to the Viterbi Family Department of Ophthalmology.

We are happy to assist you, your attorney, accountant, or tax advisor with the specific bequest language for your will, trust, or retirement account beneficiary designation. This can help reduce the tax impact on your heirs or provide assurance that your assets will benefit those you care about.

Tribute Gifts – Acknowledge Someone Special

Contributions can be made in memory, honor or in celebration of a loved one or to mark a special occasion. Consider honoring a particular physician who played a significant role in your eye health.

Matching Gifts – Double your Gift

Your donations can have an even greater impact as many employers have a matching gift program. Simply obtain a Matching Gift Form from your employer.

Endowments – Gifts in Perpetuity

A gift of endowment shows your lasting dedication to the Viterbi Family Department of Ophthalmology, as the fund is maintained in perpetuity. This contribution can fund programs, lectures, awards, fellowships, research, laboratories and Chairs. Endowments create a lasting legacy, often carrying the name of the donor or a loved one.

Gifts of Real Estate

Donating real estate is a generous and financially beneficial way to support the SEI. If you have residential rental units, vacation homes, or other properties that no longer meet your needs, they can be used to support our various programs. Whether it's an outright gift, bargain sale, retained life estate, charitable gift annuity, or charitable remainder trust, real estate offers creative ways to unlock financial security and provide immediate tax benefits while supporting the programs that matter to you at the SEI.

Each donation directly impacts our patients, faculty, researchers, residents, fellows, staff and local or global community - as well as the field of Ophthalmology. We value the partnership with our generous community members who invest in us.

Naming opportunities for gifts, such as endowed chairs, laboratories, specialized clinics, and research initiatives, are available. We would be happy to have a confidential conversation with you to understand how you want your gift to be used. Please consult with your tax, legal, or financial advisors to learn how these giving options might affect your specific financial situation.

For further information about donating, please contact:
Karen Anisko Ryan
Phone: 858-534-8017
Email: kanisko@health.ucsd.edu

2024 UPDATED INFORMATION

Your support of SEI can save you money too!

The gift options below offer a few ideas to help you achieve your philanthropic goals along with providing you with financial benefits.

Qualified Charitable Distributions (QCD): Whether or not you itemize, if you are at least 70½, you can make a QCD from your IRA to support the Shiley Eye Institute. A QCD is not included in your reportable taxable income and, if you take required minimum distributions, a QCD will count toward some or all of that amount. Note that a QCD this year can help you manage your financial situation next year.

Charitable Gift Annuity (CGA): If you are looking to increase your financial security in retirement, consider creating a CGA to provide a guaranteed lifetime income stream and immediate tax benefits. CGA annuity rates are at their highest level in years!

Donor Advised Fund (DAF): Contribute to a DAF and you can then recommend a grant (or recurring grant) to the Shiley Eye Institute and Viterbi Family Department of Ophthalmology at UC San Diego.

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