



VISIONS

Koret Vision Institute + Beckman Vision Center + Department of Ophthalmology

Annual Report Issue Fall 2006

University of California San Francisco + That Man May See

Focal Point



Dear Friends,

This fall issue of *VISIONS*, with our annual report, is dedicated to the long view. Two thoughts motivate the theme: one relates to the time required for basic scientists to understand biological processes, fundamental to discovery and its applications; the other honors our contributors who share our need for endowments. These funds are invested in perpetuity, providing an essential stream of financial support impacting all aspects of our work.

This being the 35th anniversary of That Man May See, support foundation for UCSF Ophthalmology, we are grateful for the insight of its founders and the many gifts that have resulted from the generosity encouraged through TMMS.

Building a preeminent center focused on eye disease and its prevention takes a gifted faculty with much diversity of viewpoint and experience. With this issue, we salute our faculty and our newest residents and fellows, welcoming them into our family.

Thank you for your support of our vision.

Sincerely,

Stephen D. McLeod, MD
Theresa M. and Wayne M.
Caygill, MD, Chair in
Ophthalmology
Professor and Chair,
UCSF Ophthalmology



Ophthalmology Insight The Long View

UCSF's Basic Scientists Chart the Course

Driven strongly by curiosity, scientists ask deeply technical questions. Their answers expand our knowledge, uncover molecular mechanisms, and lay the groundwork for possible treatments and clinical applications. These initial efforts to discover fundamental biological processes are part of the long view required for the prevention and cure of disease.

Within UCSF Ophthalmology, a preeminent group of researchers devote all of their effort to laboratory work in pursuing discoveries at the Koret Vision Research Laboratory. These "basic scientists" strive to understand the pure science that potentially underlies glaucoma, corneal disease, cataract and lens biology, cellular pharmacology, ocular oncology, amblyopia, visual

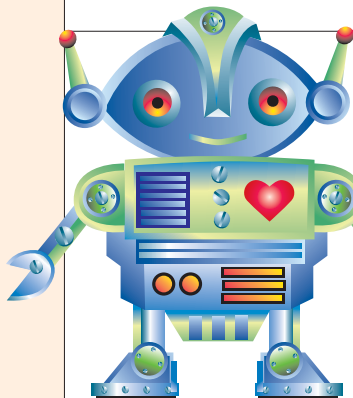
development, retinal physiology, ophthalmic genetics, retinal growth factors, retinitis pigmentosa, and macular degeneration.

These basic scientists are motivated by a belief that progress requires elemental understanding.

The discoveries of these basic scientists fuel innovative research, including studies of the mechanism

of – and potential new treatments for – glaucoma; evaluation of new diagnostic and therapeutic modalities for ocular tumors; and investigations of the basic mechanisms of vision, including the molecular biology and cell biology of visual process. They are engaged in an effort to understand and overcome prevalent blinding diseases that have been historically

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Envision the Future Endowment Donors Go the Distance

Caygill, Kimura, Shearing, Steel, and Stock are familiar names at UCSF Ophthalmology. They are etched on crystal plaques; they appear on the letterhead of individual faculty members and in peer-reviewed international

publications, on articles by those same clinician scientists; and they create an enduring bond with That Man May See and the entire Department of Ophthalmology. Ensuring the long-term strength of UCSF Ophthalmology has been a priority for That Man May See

as far back as its founding 35 years ago.

Thanks to loyal contributors who take the long view, the department is able to establish distinguished professorships and

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Dr. Stephen D. McLeod

New Chair of UCSF Ophthalmology

The University of California, San Francisco, School of Medicine named Stephen McLeod, MD, chair of the Department of Ophthalmology. Dr. McLeod has been on the faculty since 1998, and has been interim chair of the department since January, when Creig Hoyt, MD, retired after working 36 years at the school.

David Kessler, MD, vice chancellor for medical affairs and dean of the School of Medicine, oversaw a national and international search and said, “This is a great department; it was a great search; and you have a great leader.” He praised Dr. McLeod for earning the respect and admiration from his own faculty and from other departments on campus while serving as interim chair, emphasizing the “overwhelming and unanimous recommendation for Dr. McLeod.”

New Vision for UCSF Ophthalmology

“This is truly one of the world’s great departments of ophthalmology, and it is a privilege to be able to lead such an impressive group of researchers, educators, and clinicians who share a dedication to understanding, preventing, and treating visual disorders,” said Dr. McLeod.

“Our strategic vision is attracting the brightest and best minds to tackle the most challenging clinical and scientific issues.”

Highlighting the department’s mission of excellence in research, patient care, and teaching, Dr. McLeod emphasized, “We provide world-class care for our patients by investigating and advancing emerging technologies. Our researchers create a dynamic, collaborative environment that fosters creativity and groundbreaking discoveries. We train the finest ophthalmologists of the future whom we can look to for the next great advances in addressing blindness and visual discovery.”

Dr. McLeod’s research bridges the disciplines of cornea and external disease, cataract, and refractive surgery, and includes the diagnosis and management of infectious keratitis, the development of materials for the artificial cornea (keratoprosthesis), and the development of intraocular lens devices that restore accommodation for dynamic change in focus after cataract surgery.

He has published extensively in these areas, and serves as a consultant to the FDA ophthalmic devices panel. He is co-editor of the online edition of the *Archives of Ophthalmology* and serves on the editorial board of the *Journal of Refractive Surgery*. He has served the American Academy of Ophthalmology in many roles and is currently chairman of the Preferred Practice Patterns Refractive Surgery Panel charged with setting the academy’s standards for refractive surgery.




Distinguished Education and Background

Dr. McLeod was born in Jamaica and spent his childhood there and the United Kingdom. He first came to the United States as an undergraduate at Dartmouth College, where he completed an AB in biology, graduating magna cum laude. He obtained his medical degree from Johns Hopkins University School of Medicine and went on to internship in internal medicine at the Beth Israel Medical Center in New York, followed by residency in ophthalmology at the Illinois Eye and Ear Infirmary of the University of Illinois, Chicago. Dr. McLeod then completed a fellowship in cornea, external disease, and refractive surgery at the Doheny Eye Institute of the University of Southern California.

Dr. McLeod returned to the Illinois Eye and Ear Infirmary as director of refractive surgery, where he initiated the university’s excimer laser refractive surgery program. He was recruited to the Department of Ophthalmology at UCSF in 1998, where he initially served as co-director of the Division of Refractive Surgery and vice chairman for clinical affairs.

He and his wife, artist Marion Faymonville, reside in San Francisco and Healdsburg, where they have planted a vineyard. ●

Cordes



CONNECTIONS

Dr. Robert Kim

An interview with Robert Kim, MD, is a part of the ongoing series focused on residency graduates and former fellows of UCSF Ophthalmology.

As Chief Clinical Scientist, Ophthalmic Medicine, at Genentech, Inc., Robert Kim, MD, shepherded the Phase III development of LUCENTIS™, a drug to halt vision loss from age-related macular degeneration (AMD) (See story, page 1). When Dr. Kim isn’t in the laboratories of the South San Francisco biotech company, he and his wife, Elizabeth, might be found swimming from Alcatraz to the San Francisco Bay. He has raced from Angel Island to Tiburon (Raccoon Straits) and holds a 2nd degree black belt in taekwondo. All of his family pursue the discipline – Dr. Kim, his wife, who works at Sun Microsystems, and their two daughters, Katie and Carolyn. His wife and eldest daughter also hold black belts.

Routine Eye Exam Led to Lifelong Fascination with Vision

Dr. Kim’s family came to the U.S. from Korea. His father was on the faculty of UCSF in the area of gastrointestinal research and care. Born in New York, the younger Dr. Kim was 12 when he had a routine eye exam that detected an abnormality on the optic nerve. An evaluation by William Hoyt, MD, at UCSF Ophthalmology, began a lifelong fascination with eyes and ocular disease and cures.

“I didn’t have the tumor everyone was worried about,” says Dr. Kim. Instead it was little disc hemorrhages common in Asian myopics.

Following undergraduate and medical degrees from Brown University in a special seven-year program, Dr. Kim came to San Francisco for his internship at St. Mary’s Medical Center and then residency at UCSF Ophthalmology. He completed a three-year postdoc at the National Eye Institute and a two-year retina fellowship at Moorfields Eye Hospital in London. His mentors at UCSF became Dr. Hoyt, Alex Irvine, MD, and Jorge Alvarado, MD. His advice to our residents today: “Make the most of your time at UCSF Ask all the questions you can think of. It’s a special group of people, and they will be there for you when you leave.”

According to Dr. Kim, taking part in the LUCENTIS™ project has had greater impact than anything he could have imagined. “Even today, I think of former patients. What excites me most is the opportunity to work on a potentially cutting-edge new therapeutic that targets disease with a huge unmet need.” ●

The Long View

Continued from page 1

incurable, such as macular degeneration and other inherited and acquired retinal diseases.

The Long View – Hope for Age-Related Macular Degeneration

This is a story of how a basic scientist at UCSF played a pivotal role in discovery of a growth factor that became the basis for the development of an innovative new drug offering hope to individuals suffering from age-related macular degeneration (AMD). It's a story of how UCSF Ophthalmology plays a role in helping to bring novel treatments from the laboratory to the clinic.

But first, it's a story about the long view and why it can take over 50 years from initial discovery of fundamental biological processes to eventual human use and treatment.

On June 30, 2006, the Food and Drug Administration (FDA) approved LUCENTIS™ (ranibizumab injection) for the treatment of neovascular (wet) AMD. The availability of this drug culminates several decades of basic and applied research. AMD is a major cause of painless central vision loss and is a leading cause of blindness for people over the age of 55. The National Eye Institute estimates that there are 1.6 million people with AMD in the United States alone and that this prevalence will grow to nearly 3 million by 2020. AMD occurs in two forms: dry and wet. The dry form is associated with atrophic cell death of the central retina or macula, which is required for fine vision used for activities such as reading, driving, or recognizing faces. The wet form is caused by growth of abnormal blood vessels under the macula. These vessels leak fluid and blood and cause scar tissue that destroys the retina. While the dry form accounts for 80%–90% of AMD, the wet form accounts for 80%–90% of the legal blindness from AMD.

Uncovering Vascular Endothelial-Derived Growth Factor Paved Way for Treatment of AMD

In 1971, Judah Folkman, MD, at Harvard discovered a novel soluble factor released by cultured cancer cells that stimulated the growth of blood vessels. Over the next 20 years, improved biochemical techniques enabled scientists in many different laboratories to isolate other "factors" that had similar angiogenic properties. One of these, fibroblast growth factor (FGF), was studied by Dr. Denis Gospodarowicz, then a UCSF professor. A young physician in Dr. Gospodarowicz's lab, Napoleone Ferrara, PhD, moved to nearby Genentech, Inc., in South San Francisco, where he continued to look for new angiogenic factors. Dr. Ferrara's efforts at Genentech culminated in two reports describing the discovery and DNA sequence of a novel angiogenic factor, vascular endothelial growth factor (VEGF), in 1989, using the technology pioneered by Watson and Crick, the discoverers of the structure of DNA in the early 1950s, to identify the complete DNA structure of VEGF DNA. This discovery sparked a whole field of

research into the properties of VEGF. Since 1981, over 15,000 separate studies have been published on VEGF in the scientific literature.

To block abnormal blood vessel growth in AMD as well as in tumors, it was not enough to understand VEGF. More research had to be done to develop actual drugs to inhibit VEGF functions. A major breakthrough was the development of engineered antibodies that could be used to "tie up," or bind, free-floating VEGF that stimulated blood vessel growth, as well as leakage from blood vessels. Genentech, a biotech company with strong connections to UCSF, was in an ideal position to develop a drug that might arrest new blood vessels in the eye. Genentech received FDA approval for the first monoclonal antibody for a therapeutic purpose in 1997. Using the expertise of Dr. Ferrara, a vascular biologist at Genentech, and many other basic and clinical scientists, the effort to develop and get approval for a method to treat AMD accelerated. Ranibizumab (LUCENTIS™), a humanized monoclonal antibody antigen-binding fragment (FAB) directed against VEGF, was the result of these efforts.

Once the drug had been designed and engineered in the laboratory, it was tested in a series of Phase I and Phase I/II trials involving 27, 32, and 64 patients to determine whether the drug was safe to deliver by injection into the eye and to determine what dose and regimen to explore in pivotal Phase III trials. The final Phase III program involved a total of 1,139 subjects in two trials to establish whether it was safe and effective. Robert Kim, MD, a former resident and current clinical faculty member in the Department of Ophthalmology at UCSF, was the first ophthalmologist hired at Genentech in 2003. He shepherded the pivotal Phase III program required for approval.

The specificity and ability to localize this anti-VEGF drug holds much promise for treating AMD. "We have to think carefully about how to treat eye disease," says Dr. Kim, "as eyes are such a delicate part of the body. With wet AMD, we are dealing with an older population already at risk for cardiovascular disease, and we wouldn't want to put the individual at risk for other diseases." According to Dr. Kim, LUCENTIS™ addresses the specific needs for treating eye disease by gently shutting down abnormal blood vessels in the eye using doses of LUCENTIS™ administered locally to the eye that are very low compared to doses of other monoclonal antibodies administered intravenously to treat systemic diseases such as cancer.

The approval of LUCENTIS™ for the treatment of AMD culminates over 50 years of basic research, applied research, engineering, and clinical trials. The successful development of this drug exemplifies the need to take the long view of research and treatment of disease. Dr. Folkman in 1971 could not have envisioned that his study of tumor cells would lead to a treatment for AMD.

How UCSF and Genentech Work Together to Treat Disease

UCSF's overall mission is education, research, and public service – not essentially the development of products. Yet, university researchers play a significant role in working with industry to collaborate on research, generate new knowledge, and engage with trials and applications. The development of LUCENTIS™ reveals the connection not only between basic scientists at UCSF but with clinical scientists as well.

"It takes multiple minds," says Dawn Kalmar, spokeswoman at Genentech. "It takes a lot of smart people thinking from different angles to come up with a product."

UCSF Ophthalmology basic scientists: Jennifer LaVail, PhD; Hilary Beggs, PhD; Erik Ullian, PhD; David Copenhagen, PhD; Jonathan Horton, MD, PhD; David Sretavan, MD, PhD; Julie Schnapf, PhD; Jeanette Hyer, PhD; and Douglas Gould, PhD.

"We routinely seek out expert advice," says Dr. Kim. "Academics provide highly specialized expertise."

In particular, UCSF's Robert Bhisitkul, MD, PhD, engaged in the trials to work with Dr. Kim on these studies. Other UCSF clinical faculty were involved as well: Walter Stern, MD; H.R. McDonald, MD; J. Michael Jumper, MD; Craig Leong, MD; Dan Brinton, MD; and their partners and staffs, just to name a few.

Nisha Acharya, MD, served as a Genentech fellow before recently joining the Francis I. Proctor Foundation at UCSF, an organized research unit closely aligned with UCSF Ophthalmology. (See story on page 7.)

"Dr. Acharya was critical to helping us maintain scientific momentum while we were focusing on our application for LUCENTIS™ to the FDA," says Dr. Kim. "It was wonderful to have her here. She had a background in statistical methods from her work with Tom Lietman, MD, at UCSF's Proctor Foundation that she brought to the LUCENTIS™ team, enabling her to work closely with one of our statisticians to mine data while we prepared our application. It was an opportunity for her and a real benefit to Genentech – a win-win for all."

Dr. Kim cites additional connections at Genentech to UCSF: Art Levinson, PhD, Genentech CEO, was once a postdoctoral fellow at UCSF. Co-founder of Genentech, Herb Boyer, PhD, was a UCSF professor. Genentech has been a strong financial supporter of many UCSF research programs and the training of graduate and medical students. ●



The Long View

Today's Basic Scientists Make Way for Tomorrow's Breakthroughs

We asked each of UCSF Ophthalmology's current basic science faculty members to tell us what they do. Three questions included:

1 What do you do every day – what is your project at hand?

Hilary Beggs, PhD:
We are taking a multifaceted approach to study a crucial signaling pathway that utilizes focal adhesion kinase (FAK) in the eye.



2 How could what you are working on today be applied – what is the potential application or increased understanding?

Understanding how this kinase signaling pathway works normally, how it produces lens and retinal disease when perturbed will: a) not only lead us towards fundamental biological insight, but b) towards possible therapeutic intervention.

3 What is your dream?

Deletion or dysfunction of FAK produces retinal dysplasia/degeneration, microphthalmia, and lens degradation. We would like to figure out WHY FAK doesn't work and HOW we might fix it. My dream would be to identify a way to rescue this gene or inhibit its deleterious actions when it is not working correctly.

David Copenhagen, PhD:
Our two immediate projects are the discoveries and characterization of essential molecules required for the normal development of the retina after birth and for the "transmission" of visual signals, generated by rods and cones, to the brain. In addition to mentoring, my daily tasks include grant reviewing, reading the scientific literature, reviewing journal articles, and trying to deal with the bureaucracy while still maintaining a sense of humor.

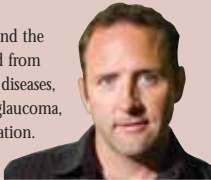
The techniques we develop and use and the discovery of fundamental biological processes will enable future scientists and clinicians to assess how therapeutic approaches work and point to ways to manipulate biological pathways to aid development of the visual system and to offset degenerative processes of aging.

My dream is that the discoveries we make and that the students and fellows trained in my laboratory impact positively how eye disease is ultimately cured and how the workings of the visual system are understood and revealed.



Doug Gould, PhD (newly arrived at UCSF Ophthalmology):
I am currently in the process of establishing my lab and strategic plan of how to best develop my research program.

The goal of my work is to understand the precise biological processes that lead from genetic mutations to human ocular diseases, ranging from ocular dysgenesis, to glaucoma, and to age-related macular degeneration.



My dream is to prevent or treat diseases using genetic medicine. For example, once we understand the genetics behind, and pathogenic mechanisms of, AMD, one could potentially determine the genetic profile of each patient and provide "individualized therapy," in which each patient is treated in a manner targeted for his or her specific genetic profile.

Jonathan Horton, MD, PhD:
With my lab members, I'm seeking to understand how visual perception occurs in the human brain.



Our research is focused on two common visual disorders: amblyopia and strabismus. If we can learn how the processing of visual signals is disrupted in these conditions, we may be able to offer better treatments for patients.

Newton observed that scientists are like dwarfs perched on the shoulders of giants. My dream is to advance the cause of medical science by seeing a little further than my predecessors. Perhaps at some point in the future my research will spare others from the wantonness of Nature.

Jeanette Hyer, PhD:
My lab works on the development of the anterior portion of the eye (the iris, ciliary body, lens, and cornea), how that complicated structure forms, and what has gone wrong when it doesn't form correctly.

Since there is still no real understanding about how the different tissues interact with each other to create the whole structures, we don't know how to apply what we have learned about the genetics behind glaucoma and other developmental syndromes; we hope to provide that link.

An understanding of how these tissues originally form will aid us in learning how they might be reformed and reengineered in the future, perhaps using an individual's own retinal stem cells (strikingly, stem cell populations have been found within both the iris and corneal tissue).



David Krizaj, PhD:
My project consists of studying two complementary questions: How do retinal photoreceptors regulate calcium? And, what is the functional role for glutamate-glutamine interactions in the retina? This involves experimental work, as well as supervision of postdoctoral students, interactions with colleagues, and presenting our work to the wider community of scientists.



The mechanisms we study represent a fundamental problem in retinal biology: most, if not all, photoreceptor degenerations are associated with pathological increases in intracellular calcium concentration, which ultimately makes the retina go blind by killing rods and cones. We characterized a number of novel pathways and mechanisms that both act to increase intracellular calcium in dying cells (calcium channels) and protect cells from pathological increases (calcium transporters).

The elegance of this approach is that – because pathological calcium is the final common pathway leading to cell degeneration – blocking/manipulating calcium levels may help us treat MOST, if not all, eye diseases originating from photoreceptor degeneration (such as retinitis pigmentosa).

The Dream . . . The basic idea is to see the cell as a living being that is trying to make sense of its world and that is responding to (healthy or pathological) stimuli in a way that resolves a question posed by its environment. If I anthropomorphize this teleology a bit – it is to look at a living cell with respect. This involves understanding of not only mechanisms but also interactions between these mechanisms in order to understand what makes a cell such as a photoreceptor alive. What IS life? How do our cells interpret health, and what makes them give it up?

Endowment Donors Go the Distance

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chairs and encourage research projects and fellowships, using a portion of the interest from invested funds to keep the department on the leading edge.

"Distinguished professorships and chairs allow us to attract and support an excellent faculty," according to Stephen D. McLeod, MD, chair of ophthalmology and holder of the Theresa M. and Wayne M. Caygill, MD, Chair in Ophthalmology. "Absent the freedom this allows our faculty who are supported by these endowments, we would be challenged to remain among the finest institutions in the country."

The Jane and Marshall Steel, Jr.,
Endowment Fund for Vision Research



recently played a critical role in helping to attract a dedicated young scientist to UCSF. Douglas B. Gould, PhD (see interview on page 8), was sought after by several major universities, as his groundbreaking research shows great promise in areas of glaucoma and stroke.

Several factors went into Dr. Gould's decision to come to UCSF, including the opportunity to work collaboratively with some of the best minds in the world addressing the causes and cures for disease from a variety of

Thank you to loyal contributors Terry Caygill and Pearl Kimura for funding endowed chairs in ophthalmology through That Man May See.



What does the basic scientist do?

1 What do you do every day – what is your project at hand?

Jennifer LaVail, PhD:
I solve puzzles about research, how to teach optimally, and how to support and mentor my research staff so they are satisfied with their work. The project at hand is to figure out how to block the spread of human herpes virus from the eye to the brain.

Matthew LaVail, PhD:
We currently have about 13 different studies ongoing in our lab. Our experiments are directed toward developing experimental therapy for inherited and age-related retinal degenerations.



Julie Schnapf, PhD:
I do electrophysiological research on the retina, teach graduate students and postdocs, write research grants, attend scientific meetings, and review papers in professional journals. For our research, we study how photoreceptors interact with each other through gap-junctions.

David Sretavan, MD, PhD:
We have a number of different projects in the laboratory at the moment. They are linked by a fundamental interest in the processes of nerve cells called axons. Axons are key to information processing in the eye and in the brain, and axonal damage from injury or disease has serious irreversible consequences for vision. Specific studies include basic mechanisms of retinal ganglion cell axon damage in glaucoma, and novel methods using micro- and nanoscale devices for axon micro-repair.

Erik Ullian, PhD:
We are working on several genetic and signaling mechanisms that regulate retinal neuron survival, morphology, and function. I spend time discussing experiments and data with graduate students and postdocs in the lab. I also spend time applying for grant money from public and private foundations, teaching graduate students and medical students, and traveling to meetings to discuss our work and its significance.

2 How could what you are working on today be applied – what is the potential application or increased understanding?

We have identified a protein that appears to be required for transfer of herpes viral DNA to the brain. This protein is a potential target for therapy to block viral encephalitis.

Most of our studies are in the category of applied, or targeted, research. Since we are working with animal models of human blinding diseases, the findings may be directly applicable to human diseases. A number of our current projects could lead to human clinical trials similar to a recently completed Phase 1 clinical trial of a growth factor called CNTF.

We think that gap-junctions may be involved in the progress of disease in retinitis pigmentosa. We would like to know how gap-junctions are regulated naturally in the retina and what role they may play in disease processes of the retina.

We believe that our projects are potentially quite clinically applicable. A deeper understanding of how and why optic nerve axons die in glaucoma patients can lead to new avenues for diagnosis and treatment. Nerve injuries anywhere in the nervous system have devastating effects on the patient's quality of life. Unlike many diseases where significant therapeutic inroads have been made, nerve injuries represent one area of medicine where there is as yet no beneficial therapeutic intervention that can be offered to patients.



We want to understand the basic biological mechanisms that regulate neuronal function and survival. This work is relevant to a variety of diseases and conditions where neurons become sick or do not function normally, such as with glaucoma.

3 What is your dream?

My dream is to confirm that this protein is the signal that tells neuron motor molecules to carry the viral DNA into the brain. Then I hope to develop agents to block its function.



I would hope that our studies will lead to therapy for heretofore untreatable blinding diseases of the retinitis pigmentosa category, as well as for the dry form (and, perhaps, the wet form) of age-related macular degeneration. We are very encouraged by the initial CNTF trials for retinal degenerative diseases. An approach that came from our earlier work showed efficacy of CNTF in slowing retinal degenerations in animal models of eye disease.

The dream is to discover pharmacological agents that alter gap-junctions in human patients and that halt retinal degeneration.



My hope is that these projects will ultimately make an impact in people's lives. Every once in a while, we receive e-mails or letters from patients who have learned of our research online or by word of mouth. Although we cannot offer them a new medicine or therapy today, hearing directly from people whose lives are affected by these diseases provides everyone in the laboratory, students, fellows, and research associates, with an extra degree of encouragement and motivation.

My dream is to uncover fundamental rules governing retinal neuron function and survival. We believe that understanding these rules will allow us to attack retinal diseases with novel tools and approaches. ●



perspectives. The Steel Prize gave Dr. Gould a running start on his research as soon as he arrived in San Francisco. This prestigious award of funds is an example of how private philanthropy fosters excellence in the face of progressing limitations from state funds and other government sources.

Building an endowment requires that the organization, as well as its major funders, go the distance.

The endowment for UCSF Ophthalmology is comprised largely from funds raised through That Man May See – given by donors in their lifetimes as well as created from estate-planned gifts. These funds are invested at the UCSF Foundation and the Board of Regents of the University of

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New Donation Opportunity

Transfer Your IRA to That Man May See

The Pension Protection Act of 2006 allows individuals who are at least 70½ years of age to make direct transfers from traditional IRAs and rollover IRAs of otherwise taxable dollars to certain charities without federal tax consequences. That Man May See is a qualified recipient of such funds. The transfers can be made only in 2006 and 2007 and are limited to \$100,000 per individual per year.

For further information, please contact That Man May See, support foundation for UCSF Ophthalmology, at 415.476.4016. ●



Hutson family helping seek a cure for retinoblastoma.

Retinoblastoma is a life-threatening childhood cancer that develops in the retina of the eye and can rapidly spread, up the optic nerve to the brain. It is a fast-growing and dangerous form of cancer. However, if detected early and treated effectively, it is survivable. This disease is one of the few cancers that can affect very young children, even newborns. It is almost always diagnosed before the age of five and accounts for over 12% of infant cancers. Yet a cure for retinoblastoma can help lead to cures for all cancers, as Dr. O'Brien's research illuminates the similarity in pathways for retinoblastoma and cancer in general.

from the Valley Foundation will accelerate Dr. O'Brien's search for a cure. The capital portion of the grant will build a family-friendly space for diagnosis and treatment, including new equipment especially configured for children. Doug Fredrick, MD, and Dr. O'Brien are the lead physicians in developing the new center, which will include an endowment for pediatric ophthalmology, the current focus of fundraising for the project.

Paige and Dr. O'Brien have developed educational materials at UCSF for families to better understand resources available when this frightening tumor emerges.

For Crewe, this has been a life-changing experience that he counts as one of his blessings. "I'm the first in our family to survive cancer, aren't I, Mommy?" he proudly asked, as he learned the value of firsts in our world. "I'm so proud of Crewe and everything he teaches us, but this is one 'first' I wish we could have avoided," says Paige. Crewe's two sisters, Sonja and Summer, support the view that their brother is indeed a special child. ●

An intelligent and especially diligent mother, Paige has become a spokesperson for the disease. She joined the board of That Man May See last year and became the co-chair, with Tom Bird from Napa, of the Visual Center for the Child at UCSF Ophthalmology.

Paige and Tom participated in a site visit that ultimately resulted in a \$2 million grant from the Wayne and Gladys Valley Foundation as a lead gift for the new center, a place dedicated to children and families with serious eye issues. Funding

Crewe and Paige Hutson

The Paige and Kirby Hutson family became intimately involved with UCSF Ophthalmology two years ago, when young son, Crewe, needed immediate attention from a doctor who understands retinoblastoma. "We were on a ski trip to Tahoe when we noticed that Crewe's left eye was severely dilated," describes Paige.

A rush to the emergency room and a call to UCSF Ophthalmology brought the family together with Joan O'Brien, MD, renowned ocular oncologist, who performed surgery and has guided Crewe and the Hutsons through a series of steps needed to survive the cancer. Dr. O'Brien has become one of Crewe's best friends.

Dr. Nancy McNamara

Investigates Eye Disease at the Clinical and Molecular Levels

"I became interested in helping patients with corneal disorders during my contact lens residency and decided I wanted to better understand some of these disorders at the molecular level, as well as provide vision care," says Assistant Professor of Anatomy Nancy A. McNamara, OD, PhD. In January, Dr. McNamara joined the faculty at the Francis I. Proctor Foundation to study the molecular mechanisms of dry eye disease, and to provide screening and comprehensive vision care to patients who need glasses or contact lenses.

Trained as an optometrist and corneal researcher, Dr. McNamara will combine patient studies with molecular biology to investigate the mechanisms of squamous metaplasia (benign, noncancerous changes) in dry eye. The work is supported by a five-year RO1 grant from the National Eye Institute. She was previously a research biologist in the UCSF laboratory of the late Professor

Carol Basbaum, PhD, studying the role of innate immunity in protecting cells from environmental injury. The lab was first to demonstrate a role for specialized receptors on the cell surface (nucleotide ATP receptors) that communicate the presence of bacteria outside the cell with the cell nucleus where it can affect gene expression.

Helping People with Corneal Injury and Disease

"So many patients who have corneal disorders from scarring, postsurgery, and injury have difficulty with glasses and contacts," Dr. McNamara says. "After practicing as an optometrist in Michigan, I came to UC Berkeley to get specialized training to help people with corneal injury and disease."

Born in Grand Rapids, Michigan, Dr. McNamara graduated from Michigan State University and received her optometry degree at Michigan College of Optometry in Big



Dr. Nancy McNamara studying the molecular mechanisms of dry eye disease.

Rapids, Michigan, in 1991. Moving to UC Berkeley that year, she completed a residency in cornea and contact lenses, and then earned a PhD in vision science in 1997, with an emphasis on corneal physiology, biostatistics, and clinical trials. She also studied physiological changes in patients with diabetes at the Mayo Clinic in Rochester, Minnesota, working with experts in the field.

Today, she and her husband, Nicholas Pittler, an attorney specializing in

international aircraft leasing, live in San Francisco.

"Science is my passion, but my children are my life," says Dr. McNamara, whose twin daughters are six and attend St. Brendan's School in San Francisco; a son aged three attends UCSF Preschool in Laurel Heights. Their family loves skiing at Tahoe, and spends summers with a large, extended family in Glen Arbor, a small town on Lake Michigan. ●

Welcome New Faculty



Controlling Infectious Eye Disease

Dr. Nisha Acharya Named Uveitis Service Director

The entire field of medicine is moving towards evidence-based patient care, and there is a tremendous need for randomized clinical trials that can guide treatment for our patients with uveitis (inflammation of the inner eye structures)," says the new co-director of the Uveitis Service at the Francis I. Proctor Foundation, Nisha Acharya, MD, MS.

"There are a multitude of potential therapies for infectious and inflammatory eye diseases, but we don't always know what treatment is best for which patient," Dr. Acharya says, explaining her clinical and translational research in the field of ocular infectious and inflammatory disease.

Multidisciplinary Interests

"I was really intrigued by the diversity of patients in ophthalmology, and the multidisciplinary approach to treatment for inflammatory eye disease," says Dr. Acharya. "Conditions that affect the eye can affect the entire body, and we often work with rheumatologists, infectious disease specialists, and dermatologists to care for our patients."

"I have an extremely interesting uveitis clinic at the Proctor Foundation, and it's wonderful working with eager residents and fellows," she says. "We see patients who have serious inflammatory or infectious diseases of the eye, referred from all over the Bay Area. Often we are their last resort."

Research and Treatment

With a background in epidemiology and health care services, Dr. Acharya has focused her research on clinical trials.

She is participating in a study that is evaluating whether adding steroids to the treatment of corneal ulcers will improve clinical outcomes. The principal investigator of this NIH trial is Associate Professor Tom Lietman, MD, of the Proctor Foundation. The major enrollment site for this multicenter study is Aravind Eye Hospital in South India. Dr. Acharya has an NIH/UCSF Career Development Award to study whether bacterial subtypes and antibiotic resistance factors will affect treatment outcomes in this corneal ulcer trial. Her mentors for this grant are Dr. Lietman, Dr. Todd Margolis, director of the Proctor Foundation, and Dr. George Rutherford, director of the Institute for Global Health at UCSF.

From Musician to Medicine

Dr. Acharya was a serious violinist who toured with the Chicago Youth Symphony. Only when she was an undergraduate at Stanford did she realize her greatest passion was medicine.

She earned her medical degree at UCSF in 2000, followed by an ophthalmology residency at Harvard's Massachusetts Eye and Ear Infirmary.

Dr. Acharya also completed a research fellowship at Genentech in 2005-2006, working with chief clinical scientist in ophthalmic medicine, Robert Kim, MD, to gain additional expertise in clinical trials in ophthalmology. (See story on Dr. Robert Kim, page 2.)

Dr. Acharya and her husband, Mintu Turakhia, MD, met in medical school at UCSF, where he is completing a fellowship in cardiology with a subspecialty in electrophysiology. ●



Focus on Resident Education

Dr. Cynthia Chiu Named Assistant Resident Director

I was a student at UCSF and have always thought of this as the ivory tower of medicine. Now I'll be working with residents as a preceptor, guiding them in the clinic and the operating room, and supervising their inpatient consultations at UCSF, San Francisco General Hospital, and Veterans Administration Medical Center," says Assistant Professor Cynthia Chiu, MD, who joins the faculty as assistant residency director this fall. She will also work with Residency Director Doug Fredrick, MD, to reorganize the resident curriculum and optimize outcomes for accomplished young residents learning new surgical techniques.

"My motivation is to help residents learn as much as they can for the benefit of the patient," she says. "This is a three-year opportunity for residents to take advantage of an extraordinary faculty, to learn from their patients, and to read. We owe it to our patients to be as well-rounded and as well educated as possible."

As a clinician and researcher, Dr. Chiu will see patients and pursue research on inflammation of the ocular blood vessels in temporal arthritis that can cause blindness and heart attack.

Coming Home to California

Born in Salt Lake City, Utah, Dr. Chiu moved to Danville as a teenager. She graduated from Stanford University and completed her medical degree at UCSF in 2000, before completing a residency in ophthalmology at Harvard's Massachusetts Eye and Ear Infirmary.

Dr. Chiu and her fiancé, Annjoe Wong-Foy, PhD, are now returning to California from Manhattan, where she was assistant professor of ophthalmology at Weill Medical College of Cornell University and New York-Presbyterian Hospital, and he worked as a physicist, studying photonics (using light to power computers and microchips).

"We're a pretty nerdy couple," she says, adding that they plan to collaborate on projects to help patients with no vision.

They look forward to exploring the restaurants of San Francisco (as they've been exploring the restaurants of New York), and taking dance lessons.

"Everyone deserves a good quality of life," Dr. Chiu says. "You have to be studious, in order to take good care of patients and to have the privilege of doing surgery. You also have to set aside time on a daily basis to enjoy your life." ●



Treatment for Traumatic Injury

Dr. Timothy McCulley Bridges Oculoplastics and Neuro-Ophthalmology

With an interest in two important subspecialties – oculoplastics and neuro-ophthalmology – Assistant Professor Timothy McCulley, MD, is busy providing clinical care and pursuing research that bridges the two fields. He joins the faculty at UCSF from Stanford, where he was assistant professor of ophthalmology and was awarded the Joint Commission of Allied Health Professionals in Ophthalmology Teaching Award in 2004.

"My initial interest was in neurology, and I had an affinity for surgery," says Dr. McCulley. "By combining these two specialties in ophthalmology, I was able to pursue both." He will serve as the director of ophthalmic plastic and reconstructive surgery, teach and mentor residents and fellows, in addition to patient care and research activities.

"I consider it a privilege to be part of the top ophthalmology program on the West Coast," he says.

Research and Treatment for Traumatic Injury

"Anyone who is hit in the head hard enough can lose his or her sight, and there is no effective treatment," explains Dr. McCulley regarding the importance of research on the biomechanics of traumatic optic neuropathy. "We are examining the mechanisms of the injury to the optic nerve to better define where to look next, in terms of treatment."

Treatment for another traumatic injury, orbital hemorrhage, generally requires surgery. Dr. McCulley is also investigating the effectiveness of the standard of care for that injury – a small procedure that detaches the lateral canthal tendon from the eyelid. This research will evaluate the accuracy of intraocular pressure in reflecting orbital pressure and will determine to what degree the standard surgery lowers orbital pressure.

A Family Tradition of Ophthalmology

Like his father, University of Texas Ophthalmology Professor James McCulley, who has been chairman of the Department of Ophthalmology at UT Southwestern for over 20 years, Dr. Timothy McCulley has extensive training in medicine and ophthalmology.

UCSF's Dr. McCulley was born in Boston and graduated from the Claremont Colleges outside of Los Angeles, receiving his medical degree at Washington University School of Medicine in St. Louis. He completed his internship, an integrated transitional residency, at the University of Hawaii School of Medicine in Honolulu, and a residency in ophthalmology at Stanford. He also completed a fellowship in neuro-ophthalmology at Bascom Palmer Eye Institute in Miami, and a clinical and research fellowship in ophthalmic plastic and reconstructive surgery at Cincinnati Eye Institute.

He is a member of the American Academy of Ophthalmology editorial board, and serves on two committees of the North American Neuro-Ophthalmology Society.

Currently ensconced south of San Francisco, Dr. McCulley is house-hunting in the city proper. "I've always wanted to return to San Francisco," he says. ●

Faculty PROFILE

Dr. Robert L. Stamper

On the door to Robert L. Stamper, MD's office at UCSF Ophthalmology, you will find pictures of his grandchildren. In vivid color – all smiling faces and tousled heads, four offspring in all. Once inside the door, look beyond the paperwork on his desk to the black and white photos by world-famous photographers: Roman Vishniac, Ruth Bernhard, Elliott Erwitt, and Judy Dater, a part of his collection amassed over the years.

Dr. Stamper, the Michal Vilensky Endowed Chair for Research in Ophthalmology, professor of clinical ophthalmology, and director of the UCSF glaucoma service, met his wife, Naomi, at a Harvard-Cornell

football game. He played the trombone, “as in *The Mikado*,” he says, citing the Gilbert and Sullivan operetta, with his typical, wry sense of humor. He loves classical music, especially opera, as well as hiking in the mountains and reading.

His passion for international ophthalmology started early. He and Naomi joined the Peace Corps for two years after college and went to the West Indies, working with 500 volunteers. “The Peace Corps had a profound impact on my life,” says Dr. Stamper.

A research position at UCLA brought him to California and also opened up the world of medical research. “I like to look

at new things, but tempered with the knowledge that some things sound good but don't work out,” he says. Dr. Stamper has a wide range of research and clinical interests – including early and better diagnostic modes for glaucoma. “Diagnostics and monitoring are a key to saving sight,” he says. Dr. Stamper works on the evaluation of new technologies in an effort to find better therapeutics to find a cure for glaucoma, one of the major causes of blindness today. He received his medical degree from the State University of New York and completed residency and a fellowship at Washington University in St. Louis.

Glaucoma affects over two million Americans. Dr. Stamper's research has taken several tracks: finding new, simpler, and better ways to make diagnosis early;



finding better ways to monitor for glaucoma progression; and assessing new pharmacological and surgical ways to prevent vision loss.

“I like all three aspects of my work,” says Dr. Stamper, which includes taking care of patients, teaching residents and medical students, and conducting research to fight blindness.

Dr. Stamper admires world-renowned photographers and enjoys caring for patients.

“Mostly, I like to take care of patients – in all age groups.” With glaucoma, a doctor forms a long-term relationship with patients. “Ophthalmology is very rewarding,” says Dr. Stamper. “You can help a lot of people most of the time.” ●

Research PROFILE



Dr. Douglas B. Gould

How Genetics Contributes to Human Disease

The development of his line of research is a telling story of insight, tenacity, and sheer brilliance,” said Stephen D. McLeod, MD, on the arrival of Douglas B. Gould, PhD, at UCSF Ophthalmology. “Dr. Gould has established a remarkable career for one so early in the field, and we are delighted to welcome him to our faculty,” says Dr. McLeod.

Dr. Gould moved to San Francisco in midsummer from Bar Harbor, Maine, where he was a postdoctoral fellow with the Howard Hughes Medical Institute and The Jackson Laboratory. Raised on a farm near Alberta, Canada, in a village of 700 people, Dr. Gould had an excellent

role model for his academic aspirations, a father who had been a science teacher.

“I did an extensive job search,” says Dr. Gould, who was completing a fellowship. “My goal was to find a strong, supportive environment for young faculty. An intellectual atmosphere is extremely important for me.” He will find the Bay Area an ideal place to also enjoy his avocations, rock climbing, music, and sports.

Dr. Gould received a doctorate in medical genetics from the University of Alberta in Canada, where he studied eye development and how it relates to glaucoma. He continued studying eye development and glaucoma during his postdoctoral fellowship.

The Jane and Marshall Steel, Jr., Endowment Fund for Vision Research helped to attract Dr. Gould.

He began to study a particular gene mutation (COL4A1 – a type of collagen) that affects eye development but that also predisposes mice to brain hemorrhages – a condition that exists in humans as well. COL4A1 is expressed in every organ of the body including the vasculature where it wraps a sheath around blood vessels to afford them greater strength. He noticed that on the day of birth, some mouse pups with the mutation were dying with severe cerebral hemorrhage, perhaps caused by a combination of the weakened blood vessels and the trauma of natural birth. Delivering the pups by Cesarean section buffered the effects of COL4A1 mutation and birth canal stress, but each mutant adult mouse continued to develop small hemorrhages, and about 20% had cavities in their brains, a condition called porencephaly.

Dr. Gould made another kind of search – one for human families who might suffer from porencephaly. He found six: four Dutch, one Italian, and one French, all carriers of the mutation in COL4A1. His team's results were published in *The New England Journal of Medicine*, reporting on the French family, which has experienced two deaths due to cerebral hemorrhage: one adult suffered a head injury at work; the other died while on anticoagulant therapy. The results of this work could be a prevention of stroke for those who carry this gene, COL4A1.

The researchers believe this gene's effects might be even greater, extending beyond infantile stroke and porencephaly to small vessel disease, responsible for about 30% of hemorrhagic strokes and sometimes

leading to cognitive impairment in the elderly. It also can cause anterior segment dysgenesis (ASD) of the eye, a strong risk factor for developing glaucoma, according to Dr. Gould.

He dreams big. This research is aimed at reducing the risk of hemorrhagic stroke and glaucoma, but Dr. Gould also sees ramifications for treatment and prevention of age-related macular degeneration (AMD). As this gene is expressed in every organ of the body, mutations could underlie many other diseases that are a combination of genetic makeup and environmental influences. “Very little is known yet about the underlying mechanisms and biological processes of AMD,” asserts Dr. Gould. “Once you understand, it makes it easier to develop therapeutics.” His collaborators at UCSF Ophthalmology will be Jacque Duncan, MD; Matthew LaVail, PhD; Hilary Beggs, PhD; and Erik Ullian, PhD. Dr. Gould also has a cross appointment with anatomy and will collaborate with neurology.

Many awards and honors already have been bestowed on the young Dr. Gould. Receipt of the prestigious Steel Prize, a cash award made possible by the Jane and Marshall Steel, Jr., Endowment Fund for Vision Research, accompanied his welcome to UCSF. “I deeply appreciate these funds so this research can continue immediately,” says Dr. Gould. “In the current funding climate, securing federal research grants is increasingly more difficult. Organizations like That Man May See (through which the Steel funds were given) make it easier to do meaningful and sometimes more creative research, ultimately leading to faster and more effective treatments for patients with blinding diseases.” ●

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We all feel fortunate to have UCSF Ophthalmology as a resource in our community.

At That Man May See (TMMS), it has been one of our best years of support for this outstanding department. Our faculty and TMMS are committed to the elimination of eye disease, thereby giving hope to future generations. We could not do this without you.

One of our greatest pleasures as a board is our role in introducing new friends to this talented faculty. We also enjoy thanking those who have supported us for so long – 35 years in all.

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Thank you for supporting excellence in patient care, vision research, and physician education through your generosity to That Man May See.

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Marilyn M. Pratt

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Gifts in Kind
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Jessica and James Fleming
Dr. Thomas and Mrs. Yvonne Mazzocco

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BEQUESTS
Realized bequests benefiting the UCSF Department of Ophthalmology
Alexander Family Trust
Eleanore Compagno Estate
Frances W. Garron Trust
Nina Pera Estate*
Shirley Reich Estate
The Gloria Jean Stefani Trust

* Gifts received via the UCSF Founation or Board of Regents

Endowed Research Funds
Research funds support innovative research.
The Dawn Society Endowment
Heleanor Campbell Foerster Ophthalmic Pathology Endowment*
Samuel J. Kimura, MD, Endowment Fund
Robert H. Sanborn Research Fund*
Jane and Marshall Steel, Jr., Endowment Fund for Vision Research
Dexter C. Tight Macular Degeneration Endowed Research Fund

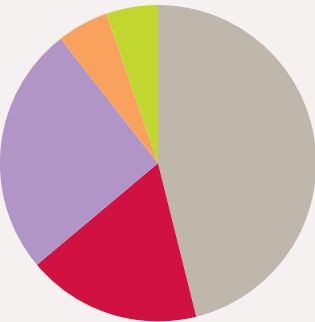
Endowed Education Funds
Educations funds provide permanent funding for academic lectures.
George and Rosalie Hearst Fellowship in Ophthalmology*
Amy S. McNamara Endowed Fund*
Francis I. Proctor Lecture Fund*
Transamerica Visiting Professorship in Vision Science

General Endowed Funds
These endowments are applied wherever the need is greatest.
Frances W. and Levon K. Garron Endowment
Michael J. Hogan, MD, Endowment Fund
Charles Taylor Reeve Endowed Fund*
Agnes M. Welsh Eye Fund*

Endowed funds raised by That Man May See are managed by the UCSF Foundation.

* UC Regents endowments. Others are held by the UCSF Foundation.

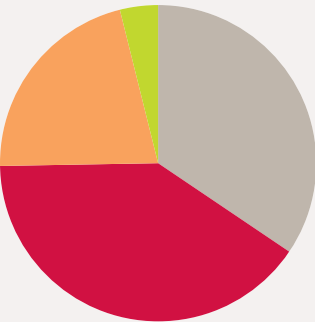
UCSF Department of Ophthalmology Source of Funds



Clinical Revenue	\$8,394,924
National Institutes of Health	\$3,213,662
Private Sources of Funds	\$4,670,252
Endowment Income	\$923,671
State Funds	\$955,599
Total	\$18,158,108

■ Clinical Revenue ■ National Institutes of Health ■ Private Sources of Funds
■ Endowment Income ■ State Funds

UCSF Department of Ophthalmology Use of Funds



Faculty/Clinical Fellows	\$6,293,478
Research & Administrative Staff, Supplies & Equipment	\$7,277,681
Patient Care & Clinical Expenses	\$3,919,065
Institutional Taxes & Fees	\$667,884
Total	\$18,158,108

■ Faculty/Clinical Fellows ■ Research & Administrative Staff, Supplies & Equipment
■ Patient Care & Clinical Expenses ■ Institutional Taxes & Fees

TMMS – Sources of Private Support

	Received and Influenced by TMMS FY Ending 6/30/06*	Gifts Committed by 6/30/06 to Be Received in FY 2006-2007	Total
Board Gifts	\$846,498	\$23,000	\$869,498
Individual Gifts	\$2,579,833	\$292,750	\$2,835,573
Bequests	\$2,785,573	\$50,000	\$2,835,573
Corporations, Foundations, Other	\$2,047,131	\$2,140,000	\$4,187,131
Total	\$8,259,035	\$2,505,750	\$10,764,785

*Some gifts are processed through the UCSF Foundation and Board of Regents, primarily as bequests.

Seed Funding for Research

That Man May See Awards to the Department of Ophthalmology: \$4,160,306

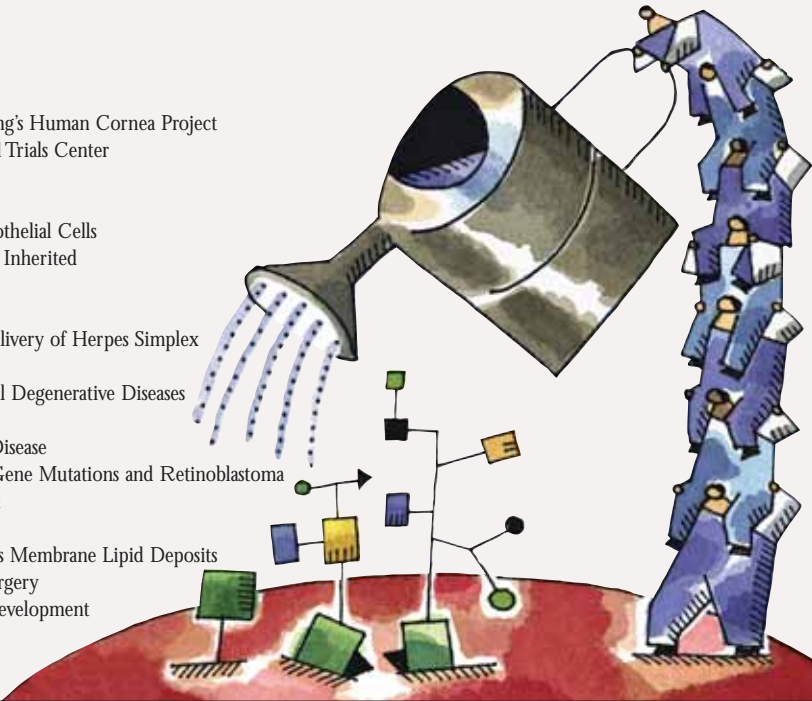
July 1, 2005, to June 30, 2006

Select Patient Care and Education Awards

Eugene de Juan, Jr., MD	Equip and Upgrade Research Laboratory
Douglas Fredrick, MD	Residency Education Fund
Jonathan Horton, MD, PhD	Neuroscience Program Seminar Series
David Hwang, MD	Support for Fellow from Japan for Dr. David Hwang's Human Cornea Project
Stephen McLeod, MD	UCSF Ophthalmologic Epidemiology and Clinical Trials Center

Select Research Awards

Jorge Alvarado, MD	Cytokines Released by Trabecular Meshwork Endothelial Cells
Jacque Duncan, MD	High Resolution Retinal Imaging in Patients with Inherited Retinal Degenerations
David Krizaj, PhD	Calcium Overload and Photoreceptor Death
Jennifer LaVail, PhD	Role of Tegument Protein US9 in Anterograde Delivery of Herpes Simplex Virus Nucleocapsids to the Axon
Matthew LaVail, PhD	Animal Models and Therapeutic Studies on Retinal Degenerative Diseases
Thomas Lietman, MD	Mycotic Ulcer Treatment Trial
Todd Margolis, MD, PhD	Medical Discovery in the Field of Infectious Eye Disease
Joan O'Brien, MD	High-Throughput Screening for Retinoblastoma Gene Mutations and Retinoblastoma Mutation Database – International Development
Julie Schnapf, PhD	Signal Processing in Retina
Daniel Schwartz, MD	Novel Techniques for Imaging and Treating Bruch's Membrane Lipid Deposits
David Sretavan, MD, PhD	Microdevices for Minimally Invasive Glaucoma Surgery
Erik Ullian, PhD	Role of Micro-RNAs in Retinal Ganglion Cell Development and Disease



Research to Prevent Blindness Awards

Dr. David Sretavan Receives Lew R. Wasserman Award

David Sretavan, MD, PhD, is one of only seven this year granted a Lew R. Wasserman Merit Award by Research to Prevent Blindness (RPB). Dr. Sretavan is among 85 scientists at 37 institutions who have been honored with this prestigious award over the past eleven years.

Recognized as an expert in the field of developmental neuroscience with special interest in optic nerve formation and regeneration, Dr. Sretavan is professor of ophthalmology and physiology at UCSF Ophthalmology.

Dr. Sretavan will use this award to support glaucoma research on the molecular mechanisms of retinal ganglion cell (RGC) axon damage. Glaucoma is a major cause of vision loss worldwide and is expected to become an increasingly serious health issue as the general population ages. Although it is clear that elevated intraocular pressure is a major risk factor for glaucoma, the molecular events that lead to RGC death are not known. Dr. Sretavan's laboratory will investigate whether specific receptor tyrosine kinases that have been detected at the optic nerve head of animals with glaucoma contribute to the progression of the disease. Ultimately, this work could lead to specific pharmacologic treatments that delay the onset or slow the progression of the disease.

Established in 1995, the Research to Prevent Blindness Lew R. Wasserman Merit Award provides unrestricted support to mid-career MD and PhD scientists who hold primary positions within departments of ophthalmology, and who are actively engaged in eye research at medical institutions in the U.S.

Dr. Erich Strauss Presented with James S. Adams Award

Assistant Professor Erich Strauss, MD, has received the James S. Adams Scholar Award from Research to Prevent Blindness. The award is part of RPB's Special Scholar program, which supports outstanding young scientists conducting research of unusual significance and promise.

A specialist in immune and inflammatory eye disease, Dr. Strauss is director of the Pearl and Samuel J. Kimura Ocular Immunology Laboratory at the Francis I. Proctor Foundation at UCSF, which is dedicated to research and training in infectious and inflammatory ocular diseases. He is also an assistant professor of ophthalmology at the UCSF Department of Ophthalmology and a visiting scientist at the UCSF Gladstone Institute of Virology and Immunology.

Immune and inflammatory ocular surface disease may result in blindness, and patients with these diseases currently have limited treatment options available. Dr. Strauss's laboratory-based research program is

focused on the molecular mechanisms mediating sight-threatening inflammatory and autoimmune disease of the ocular surface.

Based on his clinically relevant model systems, Dr. Strauss's investigations promise to provide a fundamental understanding of the molecular signaling pathways promoting ocular surface immuno-inflammatory disorders. This research is aimed at identifying novel targets for therapeutic intervention.

RPB Announces Career Development Award for Dr. Erik Ullian

Neurobiology researcher, Assistant Professor Erik Ullian, PhD, has been granted a four-year Career Development Award by Research to Prevent Blindness to support eye research in the field of glaucoma.

The RPB Career Development Award was established in 1990 to attract young physicians and basic scientists to eye research. This marks the seventh time that UCSF Ophthalmology has received this award.

Glaucoma is the second leading cause of blindness in the U.S. One promising avenue for the treatment of this and other diseases or injuries is replacement of the retinal ganglion cells that die. For this treatment to work, progenitor or stem cells must differentiate into the appropriate cell type and then become integrated into the synaptic circuitry of the retina and brain. Dr. Ullian's work explores the process by which this synaptic integration occurs in the visual system.

To facilitate regeneration of active retinal cells that would allow the injured eye to "see," Dr. Ullian has identified some of

the signals and cell types that are required to form synaptic connections. As with other neurons generated from stem cells, these retinal ganglion cells do not initially become activated or integrated in retinal circuitry when they are formed. He is currently aiming to explore these signals further, to understand the molecular mechanisms that lead to integration into retinal circuitry, so that future therapies using stem cells would allow retinal ganglion cells to be made and to function fully.

RPB Provides Critical Unrestricted Support to the Department

Research to Prevent Blindness has awarded an unrestricted grant to the Department of Ophthalmology to support research into the causes, treatment, and prevention of blinding diseases. The research will be directed by the department chair, Professor Stephen McLeod, MD.

Funding from RPB provides critical unrestricted support for a wide range of programs at UCSF Ophthalmology, developed by a faculty of basic and clinical scientists.

Basic science programs supported by RPB funding include the study of the neural mechanisms of amblyopia; fundamental cellular processes in retinal function; the relationship between retinal signaling and human visual perception; axonal guidance systems; retinal synapse development; and the molecular biology of lens development.

RPB funding also supports a vibrant translational program in ophthalmology at UCSF that includes ophthalmic device development, such as the next-generation of accommodative and adjustable intraocular lenses; novel drug delivery devices; and optical retinal imaging devices adapted to the study of degenerative retinal disease. Additional RPB funding supports translational projects including molecular mechanisms of ocular surface inflammatory disease and dry eye and related therapeutic targets; molecular diagnostics for ocular tumors; and novel cellular targets for the treatment of glaucoma.

To date, RPB has awarded grants totaling \$4,904,656 to UCSF Ophthalmology and the Proctor Foundation. ●

David Sretavan, MD, PhD, and Erich Strauss, MD.



Research Fellows 2006–2007

Accomplished Scientists Join UCSF Research Labs

The most talented, capable physician scientists and PhD graduates join UCSF vision research laboratories each year as research fellows, prior to obtaining appointments in academia or in commercial laboratories.

The research fellows at UCSF this year are making significant contributions to ophthalmology research.

Celine Bouquet, PhD	
Postdoctoral Fellow:	Lens and Retina
Lab:	Hilary Beggs, PhD
Born:	Lyon, France
College:	École Normale Supérieure de Lyon, France
Graduate Degree:	PhD, Neuroscience, Pierre and Marie Curie University, Paris

Wesley Chang, PhD	
Postdoctoral Fellow:	Neurosciences
Lab:	David Sretavan, MD, PhD
Born:	San Jose, California
College:	UC Berkeley
Graduate Degree:	PhD, Mechanical Engineering, UC Berkeley

Clifton Dalgard, PhD	
Postdoctoral Fellow:	Ocular Oncology
Lab:	Joan O'Brien, MD
Born:	San Francisco, California
College:	UC Berkeley
Graduate Degree:	PhD, Neuroscience, Uniformed Services University of the Health Sciences, Bethesda, Maryland

Tigwa Davis, PhD	
Postdoctoral Fellow:	Neurodevelopment
Lab:	Erik Ullian, PhD
Born:	Lansing, Michigan
College:	Morehouse College, Atlanta, Georgia
Graduate Degree:	PhD, Pharmacy, University of Michigan

Juan Du, MD, PhD	
Postdoctoral Fellow:	Glaucoma
Lab:	David Sretavan, MD, PhD
Born:	Xifeng, China
College and Medical School:	MS and MD, Norman Bethune University of Medical Sciences, Chang Chun, China
Graduate Degree:	PhD, Vision Science, Peking University Health Science Center

John Economides, PhD	
Postdoctoral Fellow:	Neuro-Ophthalmology
Lab:	Jonathan Horton, MD, PhD
Born:	Lawrence, Kansas
College:	University of Kansas, Lawrence
Graduate Degree:	PhD, Neuroscience, University of Texas Medical Branch, Galveston
Postdoc:	Postdoctoral Researcher, Emory University, Atlanta

Juliette Johnson, PhD	
Postdoctoral Fellow:	Developmental Neurosciences
Lab:	David Copenhagen, PhD
Born:	California
College:	UC Davis
Graduate Degree:	PhD, Anatomy and Cell Biology, UCLA

Fumie Kagaya, MD, PhD	
Postdoctoral Fellow:	Cornea
Lab:	David Hwang, MD
Born:	Japan
Medical School:	MD, University of Akita School of Medicine, Japan
Graduate Degree:	PhD, Ophthalmology, University of Tokyo
Residency:	Tokyo University Hospital
Professional Appointment:	Assistant Professor, Ophthalmology, Ichihara Hospital, Teikyo University

Xiaorong Liu, PhD	
Postdoctoral Fellow:	Developmental Neurosciences
Lab:	David Copenhagen, PhD
Born:	Shijiazhang, China
College:	Peking University
Graduate Degree:	PhD, Biology, University of Virginia

Sarah Moseley, PhD	
Postdoctoral Fellow:	Neuro-Ophthalmology
Lab:	Hilary Beggs, PhD
Born:	Great Britain
College:	University of East Anglia, Norwich, England
Graduate Degree:	PhD, Molecular, Cellular, and Developmental Biology, UC Santa Cruz

Petras Ongen, MD	
Postdoctoral Fellow:	Ocular Oncology
Lab:	Joan O'Brien, MD
Born:	Croatia
College:	BS, BA, Honors, University of Illinois, Champaign-Urbana
Medical School:	MD, University of Illinois, Chicago
Residency:	Internal Medicine, University of Illinois Hospital, Chicago
Postdoc:	Visiting Postdoctoral Scholar, UCSF

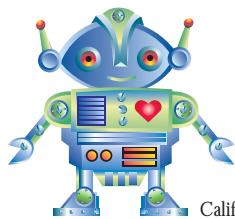
Luciano Pereira, MD	
Hearst Fellow:	Oculoplastics and Neuro-Ophthalmology
Lab:	Timothy McCulley, MD
Born:	São Paulo, Brazil
College and Medical School:	MD, Federal University of Uberlândia, Minas Gerais, Brazil
Residency:	Santa Casa Misericórdia de São Paulo, São Paulo, Brazil

Jose Perez, PhD	
Postdoctoral Fellow:	Ocular Oncology
Lab:	Joan O'Brien, MD
Born:	Manila, Philippines
College:	BA, Biology, Columbia
Postgraduate studies,	Molecular Biology, NYU
Professional Appointment:	Research Assistant, Rockefeller University
Medical School:	PhD, Biochemistry, Rutgers, University of Medicine and Dentistry of New Jersey
Postdoc:	Postdoctoral Research Fellow, NYU Howard Hughes Medical Institute; Postdoctoral Scientist, Sugen, Inc.

Jan Verweij, PhD	
Postdoctoral Fellow:	Retina
Lab:	Julie Schnapf, PhD
Born:	Huizen, The Netherlands
College:	BS, University of Utrecht, The Netherlands
Graduate Degree:	PhD, University of Amsterdam, The Netherlands

Wiwan Sansanayudh, MD	
Proctor Research Fellow:	Cornea and External Disease
Born:	Bristol, United Kingdom
Medical Degree:	MD, Srinakarinwiroth University, Bangkok, Thailand
Internship:	Anandamahidol Hospital, Lopburi, Thailand
Residency:	Ophthalmology, Pramongkutklao Hospital, Pramongkutklao School of Medicine, Bangkok
Other Fellowships:	Cornea and Refractive Surgery Fellowship, Ramathibodi Hospital, Mahidol University, Bangkok ●





California. "Our endowment donors greatly strengthen the department," says Kathleen L. Rydar, president of That Man May See. "Thanks to the growth of these funds over the past decades, we are able to demonstrate the value of placing this trust in UCSF."

This past year, TMMS developed funds for three new chairs: one from the estate of the late Shirley Reich, another from the estate of the late Edward and Estelle Alexander, and another from a collection of gifts from colleagues and friends of the recently retired chair of ophthalmology, Creig S. Hoyt, MD, and his wife, Debbie.

"Our goal is to have an endowed chair for each of our professors and associate professors," explains Dr. McLeod. "And, we hope someday that our generous contributors will support new distinguished professorships to anchor each of our research and clinical divisions. This is what sets a university apart and provides distinction for holders of individual chairs and professorships, as well as a legacy of contribution for our donors."

That Man May See and UCSF Ophthalmology salute and thank the generous individuals and foundations who contributed to the current endowments. ●

ENDOWED PROFESSORSHIPS AND CHAIRS

Professorships and chairs provide sustained support for research and clinical faculty.

Eugene de Juan, Jr., MD, holds the Jean Kelly Stock Distinguished Professorship

Stephen D. McLeod, MD, holds the Theresa M. and Wayne M. Caygill, MD, Chair in Ophthalmology*

Jonathan C. Horton, MD, PhD, holds the William F. Hoyt, MD, Chair in Ophthalmology

Joan M. O'Brien, MD, holds the Pearl T. and Samuel J. Kimura, MD, Chair

Douglas R. Fredrick, MD, holds the Steven G. Kramer, MD, PhD, Endowed Chair in Ophthalmology
Michael V. Drake, MD, has held the Steven P. Shearing, MD, Chair in Ophthalmology, until his recent appointment as chancellor of the University of California at Irvine

Robert L. Stamper, MD, holds the Michal Vilensky Endowed Chair for Research in Ophthalmology

Richard L. Abbott, MD, holds the Thomas W. Boyden Endowed Chair in Ophthalmology

Todd P. Margolis, MD, PhD, holds the recently established Rose B. Williams Chair for Research in Corneal Disease

New chairs currently being established and awaiting the university's official approval include:

Edward and Estelle Alexander Chair for Vision Research

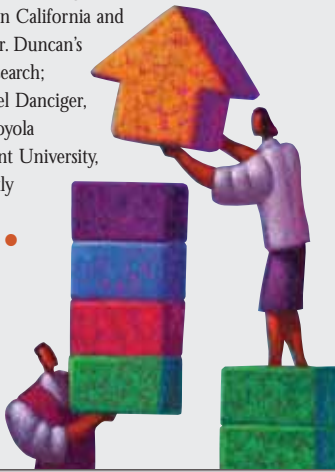
Deborah Hoyt and Creig S. Hoyt, MD, Chair in Pediatric Ophthalmology

Shirley Reich Chair in Ophthalmology

** UC Regents endowments. Others are invested by the UCSF Foundation.*

Faculty Awards
Funding for
Retinal
Degeneration
Center

The Foundation Fighting Blindness, Baltimore, MD, awarded the Kearn Family Center for the Study of Retinal Degeneration within the UCSF Department of Ophthalmology, with a five-year renewal for highly collaborative research efforts. The Kearn Center, headed by Matthew LaVail, PhD, is called the "Center Without Walls," and includes basic researchers John Flannery, PhD, of UC Berkeley, and Douglas Vollrath, MD, PhD, of Stanford. The present renewal will fund Dr. LaVail's therapeutic studies for retinal degenerations in mice and rats and two important added modules: (1) Jacque Duncan, MD, will head a clinical module, which will help establish UCSF Ophthalmology as a key clinical center for retinal degenerations in northern California and support Dr. Duncan's clinical research; (2) Michael Danciger, PhD, of Loyola Marymount University, was recently added to the group. ●



UCSF Department of Ophthalmology
First-Year Residents 2006–2007

Shelley Day, MD

Born: Illinois
College: Harvard, History and Science
Medical School: Harvard
Internship: UCSF, Medicine

Ying Han, MD, PhD

Born: Xi'an, China
Medical School: Nanjing Medical University, China
PhD: UC Berkeley, Vision Science
Internship: Oakland Kaiser, Internal Medicine

Isabella T. Phan, MD

Born: Columbus, Mississippi
College: UCLA, Anthropology
Medical School: UCSF
Internship: CPMC, Internal Medicine

Soraya Rofagha, MD, MPH

Born: Columbus, Ohio
College: Ohio State University, Political Science
MPH: Johns Hopkins School of Public Health
Medical School: Ohio State University
Internship: Riverside Methodist Hospital, Columbus, Ohio, Transitional Medicine

Michelle J. Trager, MD

Born: Washington, DC
College: Stanford, Biological Sciences
Medical School: UCSF
Internship: Cabrini Medical Center/Mt. Sinai, New York City, Preliminary Medicine ●

Five new residents have joined UCSF Ophthalmology – selected from 350 new, young medical doctors, all of whom are in the top 5% of the country's finest medical schools.



Prominent Faculty Role
in Prestigious Society

The newest member of the influential American Ophthalmological Society (AOS), Department Chair and Professor Stephen McLeod, MD, joins prominent UCSF faculty and alumni who play a leading role in the organization. “Our faculty are among the leaders in the field who are part of this prestigious organization in ophthalmology,” says Professor Brooks Crawford, MD, who was editor and associate editor of the AOS Journal for a decade, and served as AOS president in 2005.

It is an honor to be nominated to the AOS, and members must demonstrate a body of work that contributes to education, research, or leadership in the field of ophthalmology. Prospective members also submit a 50- to 100-page thesis, based on original research, for evaluation by AOS editors.

The oldest specialty society in the U.S., the AOS was founded in 1863, just 13 years after Helmholtz invented the ophthalmoscope that allows ophthalmologists to look inside a person’s eye. The society was one of three that established the American Board of Ophthalmology in the early 1900s, which sets the standards for ophthalmology education in the U.S. (the others are the American Academy of Ophthalmology and Otolaryngology

The American Ophthalmological Society

and the American Medical Association Section on Ophthalmology).

Exemplifying Excellence
Dedicated to promoting excellence in patient care, education, and research in ophthalmology, The American Ophthalmological Society holds annual meetings on questions of major importance in the field. “These programs are designed to address essential issues that would be applicable in ophthalmology and other fields of medicine, as well,” says Dr. Crawford.

Recent AOS programs include symposia on Tissue Bioengineering and Regenerative Medicine; Targeted Drug Delivery in Ophthalmology; and Ocular Genetics, which featured a presentation on Current Research in Retinoblastoma by Professor Joan O’Brien MD.

Honors and Leadership
Six UCSF faculty have received the highest recognition an ophthalmologist can obtain, with the presentation of the AOS Lucien Howe Medal for distinguished service to ophthalmology. The late Professor Crowell Beard, MD, received the honor in 2002 for his work in oculoplastic surgery, just short of his 90th birthday; and former

Department Chair Michael J. Hogan, MD, was honored in 1975. Other faculty recipients include Robert Shafer, MD (1985), as well as the late faculty members Phillips Thygeson, MD (1949), David Harrington, MD (1981), and William Spencer, MD (1995).

Four UCSF faculty have served as president of the AOS: Former Department Chair Fredrick Cordes, MD, in 1957; Robert Shafer, MD, in 1984; William Spencer, MD, in 1995; and J. Brooks Crawford, MD, in 2005. ●

American Ophthalmological Society	
UCSF Faculty Leaders	
Richard Abbott, MD	Cordes Alumni
Jorge Alvarado, MD	Taylor Asbury, MD
J. Brooks Crawford, MD	Devron Char, MD
Allan Flach, MD, PharmD	William Good, MD
Jonathan Horton, MD, PhD	Robert Weinreb, MD
Alexander Irvine, MD	Marco Zarbin, MD
Stephen McLeod, MD	
Ariah Schwartz, MD*	
Daniel Schwartz, MD	
Robert Shaffer, MD*	
Gilbert Smolin, MD*	
Robert Stamper, MD	

*UCSF Clinical Faculty

Clinical Fellows
2006–2007

Patient Care and Research

Talented clinicians and researchers pursue advanced studies and research projects in partnership with renowned UCSF Ophthalmology faculty at the Koret Vision Research Laboratory, Beckman Vision Center, and Francis I. Proctor Foundation. These are skilled physicians who have completed their residency and internships, and provide patient care as well as develop research projects for publication.

Matilda Chan, MD, PhD
Proctor Fellow in Cornea and External Disease
Born in Oakland, California, Dr. Chan earned her BA in molecular and cell biology from UC Berkeley in 1994. After completing her MD and PhD at the University of Southern California Keck School of Medicine in 2002, she interned at UC San Diego. She completed her residency in 2006 at the University of Rochester Department of Ophthalmology.

Julie Freidlin, MD
Proctor Fellow in Uveitis
Born in Moscow, Dr. Freidlin has a BS in electrical engineering and mathematics, summa cum laude, from the University of Maryland, College Park. She earned her MD at the Johns Hopkins University School of Medicine in 2002. She completed her internship at Greater Baltimore Medical Center in 2003, and her residency at the University of Illinois, Chicago, Department of Ophthalmology and Visual Sciences, in 2006.

Jenny Hong, MD
Oculoplastics and Neuro-Ophthalmology Fellow
Dr. Hong was born in Seoul, South Korea, and earned her BA in biology and East Asian studies at Harvard University in 1995. She was awarded an MD at Columbia University College of Physicians

& Surgeons in 2001. She completed her internship in internal medicine at New York University Medical Center in 2002, and a residency at Massachusetts Eye and Ear Infirmary in 2005.

Thomas Hwang, MD, PhD
Oculoplastics and Neuro-Ophthalmology Fellow
Born in Narberth, Pennsylvania, Dr. Hwang received his BA in engineering sciences at Harvard University in 1992, and his PhD in biomedical sciences from UCSF in 2000. He attended medical school at the University of Pittsburgh and received his MD at Stanford University in 2002. After his internship at Kaiser Permanente in Santa Clara, Dr. Hwang completed his residency at Stanford University Hospital in 2006.

Shane Kim, MD
Proctor Fellow in Cornea and External Disease
Dr. Kim was born in Korea, and earned his BA in chemistry, magna cum laude and Phi Beta Kappa, in 1997 at Franklin and Marshall College in Lancaster, Pennsylvania, where he was also an NSF National Research Scholar. He earned his MD at New York University in 2001, and completed his residency at Scheie Eye Institute in Philadelphia in 2005.

Har Hiu Dawn Lam, MD, PhD
Retina Fellow
Dr. Lam grew up in Hong Kong. She earned a BS in biomedical engineering and psychology at Johns Hopkins University in 1995, and completed a PhD in neuroscience at Cambridge University 1998. She received her MD at Stanford University in 2002, where she interned in 2003. She completed her residency at USC Doheny Eye Institute in 2006.

New clinical fellows who are pictured include (from left to right) Thomas Hwang, MD, PhD; Julie Freidlin, MD; Matilda Chan, MD, PhD; Har Hiu Dawn Lam, MD, PhD; Judy Ou, MD; and Shane Kim, MD.

Sharon McCaffery, MD
Ocular Oncology Fellow
Born in Pasadena, California, Dr. McCaffery earned a BA in communication studies at UCLA, a BS in biological sciences at UC Irvine, and completed her MD at UCSF in 2000. After an internship at Mayo Clinic Hospital in 2002, she completed a residency at St. Louis at Barnes-Jewish Hospital at Washington University Medical Center in 2005.

Judy Ou, MD
Proctor Fellow in Cornea and External Disease
Born in Taiwan, Dr. Ou earned her BA in human biology with honors at Stanford University in 1997. She subsequently received her MD from UCSF in 2002, where she was awarded the UCSF Dean’s Fellowship for Research in 2001 and the UCSF School of Medicine travel grant to England’s Moorfields Eye Hospital in 2002. She completed her residency at Stanford in 2006.

Bryan Seiff, MD, MS
Oculoplastics and Reconstructive Surgery Fellow
Dr. Seiff was born in New York City and earned his BA in psychology at Cornell University, and an MS in physiology at Georgetown University. He received his MD from the University of Medicine and Dentistry of New Jersey in 2002. Following an internship at Mount Sinai Medical Center in New York City, Dr. Seiff completed his residency at New York Presbyterian Hospital in 2006.

Gloria Wang, MD
Glaucoma Fellow
Dr. Wang was born in Santa Monica, California. She received her BS in biology at Massachusetts Institute of Technology in 1997, followed by an MD at UC San Diego in 2001. After an internship at Scripps Mercy Hospital in San Diego, Dr. Wang began residency at the University of Illinois, Chicago, in 2003, and completed her residency at Stanford University in 2006. ●



Faculty News

Richard L. Abbott, MD

Appointments: Lifetime Achievement Award, American Academy of Ophthalmology
Honors: *Who's Who in America*, 61st Edition
Appointments: American Academy of Ophthalmology: Chair, Maintenance of Certification (MOC) Review Course; Eye Care Work Group, Physician Consortium for Performance Improvement; Global Education Committee
Invited Lectures: *How to Select the Most Effective Antibiotic to Prevent Infection in Cataract and Refractive Surgery* and *The Value of Preferred Practice Patterns in Clinical Practice*, Chinese National Congress, Annual Meeting, Beijing; *Diagnosis and Management of Corneal Trauma*, Osaka University, Japan; *Clinical Pearls in the Management of Corneal Trauma*, University of Udine, Italy; *Maintenance of Certification for the Ophthalmologist*, AAO MOC Review Course, Rosemont, Illinois; *Quality Based Initiatives from the AAO and Their Effect on Our Profession*, American Society of Oculoplastic and Reconstructive Surgery, Annual Meeting, Banff, Canada; *The Consequences of Medical Errors and Their Effect on Our Profession*, Mansour F Armaly, MD, Distinguished Lectureship, University of Iowa, Annual Meeting, Iowa City; *Evidence-Based Decisions in Choosing Antibiotics*, Asia Pacific Academy of Ophthalmology Annual Meeting, Singapore; *LASIK Related Microbial Keratitis, Practical Tips in the Management of Corneal and Scleral Trauma, Clinical Rationale in Choosing and Using Antibiotics for Cataract and Refractive Surgery*, Korean Ophthalmological Society, Annual Congress, Pusan, Korea; *The Challenge of Providing Valid and Accessible Educational Materials to Physicians in Practice, The Development and Use of Evidence-Based Preferred Practice Patterns, Keratoconus: Reviewing the Association to Local and Systemic Conditions, The Clinically Relevant Curriculum for International Use, Ocular Allergic Manifestations of Dermatologic Disease, Incorporating Preferred Practice Pattern into Your Practice to Improve Quality of Care, Clinical Pearls in the Management of Microbial Keratitis, The Role of the Pan American Foundation in Latin America*, World Ophthalmology Congress, São Paulo, Brazil; *Clinically Relevant Curriculum for Ophthalmology Residents: An Educational Tool*, Association of University Professors in Ophthalmology, Annual Meeting, Sarasota, Florida; *Update on Quality of Care Measures for Ophthalmology*, Santen, Inc. Meeting, Napa, California

Robert B. Bhisitkul, MD, PhD

Invited Lectures: *Anti-VEGF Therapy: Setting a New Standard for AMD Treatment*, Eyetech/Pfizer Webcast Program for Professional Education; *The VISION Study: Safety of a Second Year of Macugen Treatment for Neovascular AMD*, Retina Society Meeting, Coronado, CA; *Update on Anti-VEGF Therapies in Age-Related Macular Degeneration*; Orange County Medical Association, Orange, CA; *Anti-VEGF drugs: Clinical Applications, and New therapies in Age Related Macular Degeneration*, Course Coordinator, XXV Pan-American Congress of Ophthalmology, Santiago, Chile; *Anti-VEGF Therapies – from Clinical Trials to Practice*, Asociación de Retina de Occidente, Guadalajara, Mexico; *Update on Anti-VEGF Therapies in Macular Degeneration*, Pacific Coast Oto-Ophthalmologic Society (PCOOS), Vancouver, Canada; *Retinal Vein Occlusion: Evidence-Based Management, Systemic Considerations with Anti-VEGF Therapies, Retinal Manifestation of HIV/AIDS, New Approaches to Diabetic Retinopathy*, Second Annual Symposium in Systemic Diseases in Ophthalmology, Riyadh, Kingdom of Saudi Arabia; *Anti-VEGF Therapies in 2005*, King Khaled Eye Hospital, Retinal Division Conference, Riyadh, Kingdom of Saudi Arabia; *Management of Venous Occlusive Diseases*, World Ophthalmology Congress, São Paulo, Brazil

Allan J. Flach, MD, PharmD

Appointments: Chair, Pharmacology Section, Ophthalmology Basic Science Course, Stanford University
Awards: Jerome W. Bettman Service Award, Prevent Blindness, Northern California
Invited Lectures: *Ophthalmology and Non-Steroidal Anti-Inflammatory Drugs*, 2006 Asbury Lecture, University of Cincinnati College of Medicine, Cincinnati; *Nutrition and Ophthalmology*, Grand Rounds, Cincinnati Society of Ophthalmology; *Ocular Pharmacology and Toxicology*, Pharmacology Section, Ophthalmology Basic Science Course given at Stanford University; *Pharmacology of Cataract Surgery*, Pearls of Ocular Therapy Conference, University of California, San Diego/LaJolla; *Emerging Trends in NSAID Therapy*, 9th Annual Ocular Drug and Surgical Therapy Update, Dana Point, California

Douglas R. Fredrick, MD

Honors: Elected to the Haile T. Debas Academy of Medical Educators at UCSF
Invited Lectures: *Vision Development*, Bay Area Ophthalmology Course

Jennifer H. LaVail, PhD

Invited Lectures: *The US9 Tegument Protein of HSV-1 Is Necessary for Efficient Anterograde Axonal Transport of Capsid and DNA in Neurons in Vivo*, 2006 International Herpesvirus Workshop, Seattle, Washington; *Herpetic Infections of the Eye: A Hitchhiker's Guide to the Cell*, Bay Area Ophthalmology Course, Foundations of Clinical and Visual Science, Stanford Medical School

Matthew M. LaVail, PhD

Appointments: Co-Organizer, XII International Symposium on Retinal Degenerations, San Carlos de Bariloche, Argentina
Invited Lectures: *Neuroprotective Therapy for Retinal Degenerations*, Symposium for Grand Opening of John A. Moran Eye Center, Department of Ophthalmology, University of Utah; *Current Status of Neuroprotective Therapy Clinical Trials for Retinal Degenerative Diseases*, 14th Retina International Conference, Rio de Janeiro, Brazil; *Neuroprotection and Clinical Trials for Retinal Degenerations*, Bressler Symposium, The Jewish Guild for the Blind, New York City; *Neuroprotective Therapy for Retinal Degenerations*, Macula Vision Research Foundation Conference, Santa Fe, New Mexico; *Unexpected Effects of Neuroprotective Agents*, W.K. Kellogg Eye Center, University of Michigan; *Neuroprotective Therapy for Retinal Degenerations: Current Status*, Save Sight Sunday, Foundation Fighting Blindness; *Experimental Neuroprotective Therapies for Retinal Degenerative Diseases*, Ophthalmology Department, Vanderbilt University

Shan C. Lin, MD

Invited Lectures: *The Role of the Cytoskeleton in Outflow Obstruction of POAG*, Wills Eye Hospital in Philadelphia, PA; *Phaco-Chopping Techniques*, Harvard Medical School Cataract Surgical Training Conference, Boston, MA; *San Francisco Chinese Eye Study*, Frederick C. Cordes Eye Society; *Neuro-protection in Glaucoma Therapy: Are We There Yet, Ultrasound Biomicroscopy: The Latest Developments*, Pacific Coast Oto-Ophthalmological Society, Cabo San Lucas, Mexico; *Trabecular Meshwork Physiology*, Basic Science Course in Ophthalmology, Stanford University; *Taking High Frequency to the Next Level – Come and See What's Next*, Asian Pacific Academy of Ophthalmology (APAO); *New Developments in Endoscopic Cyclophotocoagulation*, Glaucoma Grand Rounds, National Taiwan University, Taipei, Taiwan; *New Developments in Ultrasound Biomicroscopy*, Glaucoma Teaching Session, National Taiwan University, Taipei, Taiwan; *New Developments in Endoscopic Cyclophotocoagulation, Glaucoma Neuro-Protection: Are We There Yet?*, Glaucoma Grand Rounds, Tri-Service General Hospital, Taipei, Taiwan

Todd P. Margolis, MD, PhD

Invited Lectures: *Stat1 Regulates Outcomes of HSV-1 Infection, ICP0 Antagonizes Stat1-Dependant Repression of Herpes Simplex Virus: Implications for the Regulation of Viral Latency, and Differences in the LAT Coding Region Are Responsible for Differential Latent Infection with Herpes Simplex Virus (HSV) Type 1 and Type 2*, 2006 International Herpes Virus Workshop, Seattle, Washington; Invited Lecturer, Emory Medical School; Thomas H. Pettit Lecturer, UCLA, Jules Stein Eye Institute; Harvard Medical School, Department of Ophthalmology; Harvard Medical School, Visiting Professor for Cornea Rounds

Stephen D. McLeod, MD

Invited Lectures: *Update on the Visiogen Synchrony Dual Optic Accommodative IOL*, Department of Ophthalmology, University of Washington, Seattle; *Clinical Decision Making in Infectious Keratitis*, Department of Ophthalmology, Boston University

Timothy J. McCulley, MD

Appointments: AAO Editorial for Basic and Clinical Science Course: Orbit, Eyelids, and Lacrimal System; Patient Education Committee, North American Neuro-Ophthalmology Society; Judge: The Eye Institute-Pfizer Research Prizes
Invited Lectures: *Botox in Ophthalmology; Ophthalmology at the Crossroads: Controversies and Evidence-Based Knowledge at the Cutting Edge*, University of Texas, Southwestern Medical Center, Dallas, Texas; *Lacrimal Drainage System, Orbital Osteology, Nuclear and Internuclear Extraocular Motility, Orbital and Nasal Anatomy*, Bay Area Ophthalmology Course, Foundations of Clinical and Visual Science, Stanford Medical School; *Eyelid and Orbital Soft Tissue Trauma, Orbital Trauma, The Lacrimal Drainage System*, The Osler Ophthalmology Board Review Course, San Francisco

Joan M. O'Brien, MD

Invited Lectures: Invited Mentor, 2006 Heed Ophthalmic Foundation Resident Retreat; *Differential Diagnosis of Choroidal Melanoma, The Dilemma of Small Melanocytic Lesions of the Choroid, Genetics of Retinoblastoma, Treatment Options for Retinoblastoma, Melanosis and Malignant Melanoma of the Conjunctiva, Surgical Management of Conjunctival Tumors*, Updates in Ophthalmic Oncology, Continuing Education Series, Department of Ophthalmology, University of North Carolina

Julie L. Schnapf, PhD

Invited Lectures: *Electrical Signals of Rods and Cones in Primate Retina, Gap-Junctional Coupling of Macaque Photoreceptors*, Stanford and Joan Alexander Lecturer in Ophthalmology, University of Texas, Houston; *How Do Photoreceptors Work?* Keynote Speaker at the Center for Adaptive Optics Annual Meeting, Arrowhead, CA; *Electrical Coupling of Photoreceptors*, FASEB Conference on the Biology and Chemistry of Vision, Tucson

David W. Sretavan MD, PhD

Honors: Lew R. Wasserman Research Award, Research to Prevent Blindness

Robert L. Stamper, MD

Honors: *Who's Who in America*, 61st Edition
Invited Lectures: *Innovative Surgery for Glaucoma*, Keynote Address, and *A Simplified Approach to Express Implantation*, Israeli Eye Microsurgery Society Annual Meeting; *Early Surgical Outcome of Ex-Press™ Mini Shunt*, International Congress of Glaucoma Surgery, Toronto, Canada; *New Diagnostic Approaches in Glaucoma and New Surgical Treatments for Glaucoma*, The George Washington University School of Medicine Annual Alumni Meeting, Washington, DC ●



Faculty Presentations at 2006 ARVO Meeting

World's Largest Vision Research Society

UCSF Ophthalmology faculty presented research findings at the Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting on *Building International Collaboration* in Fort Lauderdale, Florida, April 30-May 4, 2006.

Richard L. Abbott, MD

Vertical Optokinetic Nystagmus and Smooth Pursuit in Parkinson's Disease.

Nisha R. Acharya, MD

Randomized, Controlled Phase III Study of Ranibizumab (LUCENTIS™) for Minimally Classic or Occult Neovascular Age-Related Macular Degeneration: Two-Year Safety Results of the MARINA Study; Steroids for Corneal Ulcers Treatment – SCUT Pilot Study Results; Biologics and Ocular Inflammatory Disease: The Present and Future.

Jorge A. Alvarado, MD

Multifocal Electretinography Evaluation in Normal-Tension Glaucoma Patients.

Cynthia S. Chiu, MD

Dietary Carbohydrate Intake and Glycemic Index in Relation to Cortical and Nuclear Lens Opacities in the Age-Related Eye Disease Study.

Kimberly P. Cockerham, MD, FACS

Comparison of Electric Stimulation of Patients with Acute and Chronic Facial Nerve Palsy at Multiple Locations of the Orbicularis Oculi; Creation of a Functional Blink in Rabbits with Denervated Orbicularis Oculi with an Implanted Stimulation Chip Based on Micro Electro Mechanical Systems (MEMS) Technology; Prospective Comparison of 1-Day vs. 1-Hour Pre-Operative Moxifloxacin Prophylaxis for Intraocular Surgeries.

Jacque L. Duncan, MD

Expression and Function of High-Affinity Calcium Transport at the Photoreceptor Synapse; Adaptive Optics Imaging of Macular Photoreceptors Reveals Differences in Patients with Retinitis Pigmentosa and Cone-Rod Dystrophy; Visual Thresholds and ERG Amplitudes Are Impaired by Intraocular Delivery of CNTF; BDNF Confers Long-Term Protection from the Retinal Toxicity of Verteporfin PDT.

Allan J. Flach, MD, PharmD

Amiodarone Induced Cataracts: A 22-Year Follow-Up.

Douglas B. Gould, PhD

Mice with a COL4A1 Mutation Have Phenotypes Relevant to Human Age-Related Macular Degeneration.

Jonathan C. Horton, MD, PhD

Radiation Treatment of Optic Nerve Sheath Meningioma: Visual Improvement Can Begin Before Radiotherapy Ends.

David G. Hwang, MD

Rigid Gas Permeable Contact Lens Use as a Risk Factor for LASIK Retreatment; Retinal Function Assessment Following Intravitreal Injection of Erythropoietin in Rats: A Dose-Toxicity Study.

Jennifer H. LaVail, PhD

A Comparison of the Roles of HSV Tegument Proteins VP22 and US9 in Corneal Cell-Cell Spread and Retinal Anterograde Transport.

Matthew M. LaVail, PhD

The C57BL/6-c2J Albino Background Reduces the Severity of Light-Sensitive rd3 Disease but Not by Means of the RPE65 Met450 Variant; Mechanisms of CNTF-Mediated Neural Protection in the P216L rds Transgenic Mouse; Rapid and Stable Knockdown of the Endogenous Neuroprotective Factor bFGF in the Retina in Vivo Using Viral Vectors; BDNF Confers Long-Term Protection from the Retinal Toxicity of Verteporfin PDT; Visual Thresholds and ERG Amplitudes Are Impaired by Intraocular Delivery of CNTF; Relationship of Retinal Vasculature Development and Photoreceptor Degeneration in Mutant Rhodopsin Transgenic Rats.

Thomas M. Lietman, MD

The Probability of Finding the Pathogen of Presumed Microbial Keratitis with Repeat Cultures After a Negative Culture at the F.I. Proctor Foundation; Hookworm Infestation as a Risk Factor for Mooren's Ulcer in South India; Analysis of Digital Images of Corneal Ulcers in the Pilot Study for the Steroid Corneal Ulcer Trial (SCUT); Steroids for Corneal Ulcers Treatment – SCUT Pilot Study Results; Complete Local Elimination of Infectious Trachoma from a Severely Affected Community; Is There A Herd Protective Effect Associated with Annual Mass Antibiotic Distributions for Trachoma?; Eliminating Infectious Trachoma with Antibiotics: Report from the TEF II Study in Ethiopia; TEF I: Is More Frequent Mass Treatment Necessary for Elimination of Infectious Trachoma?; Clinical Grading of Trachoma from Photographs.

Shan C. Lin, MD

Efficacy of Different Selective Laser Trabeculoplasty Treatment Area Parameters; Time Dependent Changes in Central Corneal Thickness in the Ocular Hypertension Treatment Study (OHTS); Dynamic Contour Tonometry and Ophthalmic Pulse Amplitude in Patient with Normal Tension Glaucoma, Pseudo-Exfoliative Glaucoma, and Primary Open-Angle Glaucoma; San Francisco Chinese Eye Study; Isolation, in Vitro Culture, and Characterization of Putative Fetal Trabecular Meshwork Cells; Efficacy of Diabetic Retinopathy Screening Using Mobile Eye Services among Different Races; Effect of Hypertension and Diabetes on Progression of Optic Nerve Damage in Normal Tension Glaucoma Suspects; The Effect of Statins and Aspirin on Glaucomatous Visual Field Progression; Effect of Statin Drugs and Aspirin on Progression of Optic Nerve Parameters in POAG Suspects; Usefulness of Two Cre-Expressing Transgenic Lines for Conditional Deletion of Genes in the Retina.

Stephen D. McLeod, MD

Magnification Induced by Single Optic Intraocular Lenses Compared to a Dual Optic Accommodative Intraocular Lens Design; Comparison of Corneal Levels of Moxifloxacin After Subconjunctival Versus Topical Application; Steroids for Corneal Ulcers Treatment – SCUT Pilot Study Results.

Timothy J. McCulley, MD

The Relationship between Orbital Pressure and Intraocular Pressure Following Orbital Hemorrhage: An Experimental Model; The Effect of Lateral Canthotomy and Cantholysis on Orbital and Intraocular Pressure Following Orbital Hemorrhage: An Experimental Model; A Novel Mechanism for Indirect Traumatic Optic Neuropathy; Cranial Nerve Visualization with Flow Imaging Using Steady Acquisition (FIESTA) Sequences.

Todd P. Margolis, MD, PhD

Differences in the LAT Coding Region Are Responsible for Differential Latent Infection with Herpes Simplex Virus (HSV) Type 1 and Type 2.

Joan M. O'Brien, MD

Expression of Truncated Mutant pRB in Retinoblastoma; Selective Inhibition of Calcineurin/Nuclear Factor of Activated T-cells Signaling by the Cell Permeable Peptide 11R-VIVIT Is Insufficient for Induction of Apoptosis in Retinoblastoma Cells; Tumor Volume Assessment of Choroidal Melanoma by High-Resolution Reformattable 3D MRI Improves Proton Beam Radiotherapy Planning; Subconjunctival Topotecan in Fibrin Sealant in the Treatment of Murine Retinoblastoma; COG / NCI Retinoblastoma Clinical Trials; Research Advances in Ocular Oncology: Focus on Translational Applications.

Julie L. Schnapf, PhD

Spectral and Spatial Properties of Rod and Cone Responses in Macaque Retina.

Daniel M. Schwartz, MD

Novel Corneal Implant Materials.

Stuart R. Seiff, MD

Efficacy of Diabetic Retinopathy Screening Using Mobile Eye Services Among Different Races.

Robert L. Stamper, MD

Efficacy of Different Selective Laser Trabeculoplasty Treatment Area Parameters; Effect of Statin and Aspirin Use on Primary Open-angle Glaucoma Progression; Ophthalmology, Epidemiology and Biostatistics; Dynamic Contour Tonometry and Ophthalmic Pulse Amplitude in Patients with Normal Tension Glaucoma, Pseudo-exfoliative Glaucoma, and Primary Open-angle Glaucoma; Effect of Hypertension and Diabetes on Progression of Optic Nerve Damage in Normal Tension Glaucoma Suspects.

John P. Whitcher, MD, MPH

TEF I: Is More Frequent Mass Treatment Necessary for Elimination of Infectious Trachoma?; Eliminating Infectious Trachoma with Antibiotics: Report from the TEF II Study in Ethiopia; Is There A Herd Protective Effect Associated with Annual Mass Antibiotic Distributions for Trachoma?; Complete Local Elimination of Infectious Trachoma from a Severely Affected Community; Hookworm Infestation as a Risk Factor for Mooren's Ulcer in South India; The Probability of Finding the Pathogen of Presumed Microbial Keratitis with Repeat Cultures after a Negative Culture at the F.I. Proctor Foundation; Correlation of Corneal Scraping Smear Examination and Presence of Hypopyon to Microbial Culture Results in Suspected Infectious Keratitis; Steroids for Corneal Ulcers Treatment – SCUT Pilot Study Results. ●





1 Board member Andrew Yau, and Cecilia Yau, from Bangkok, Thailand, with David Sretavan, MD, PhD, at That Man MaySee's annual Vision Awards Dinner.

2 Matt LaVail, PhD, with board member John de Benedetti, with Ginny MacLean, and board members Angus MacLean and Emily Fine.

3 The Vision Awards Dinner was held at the Franciscan Club. Peg Gomory, mother of board member Paul Gomory, and Béatrice Gomory.

4 Chita Abbott with husband, Richard Abbott, MD, board member of That Man MaySee and UCSF Ophthalmology faculty member.

5 Marilyn Pratt, new chair of the board for That Man MaySee, with Dan Benatar, board member, and spouse, Jeanne Benatar.

6 Tom Bird, board member from Napa, with spouse, Jan Bird.

7 Thomas Mazzocco, MD, confers with Ajay Singh, MD, from India. Dr. Singh was the recipient of the Hearst International Fellowship for 2005-2006.

8 Jim Livingston, generous long-time supporter of That Man MaySee, receiving status as emeritus board member, from Steve Smith, who served as chair from 2003-2005.

9 Steve Smith congratulates Patsy Schuchardt, board member, with the Shirley Reich Award.

10 Steve Smith, outgoing board chair, loyal supporter, and long-term board member with commemorative plaque designed by Teri Flach – salute to a golfer!

Cordes Society Scientific Meeting

New Insights in Ophthalmology from the U.S. and Abroad

Distinguished speakers from London and Japan joined their U.S. colleagues and UCSF Ophthalmology alumni and faculty at a wide-ranging scientific program for practicing ophthalmologists at the Frederick C. Cordes Eye Society Scientific Meeting, March 31 to April 1. Former Cordes Society President Brien Seeley called it "the best meeting in years."

The Hogan lecturer, Mr. Richard Keeler, the son of the founder of the world-famous Keeler Instrument Company, and honorary fellow of the Royal College, England, gave an authoritative lecture on

the history of the ophthalmoscope, which was invented 150 years ago and yet still allows ophthalmologists to conveniently see inside the eye in their offices every day. He is the author of a famous atlas on the ophthalmoscope, and noted that the UCSF Department of Ophthalmology has one of the most important collections of historic ophthalmoscopes in the United States.

Shigeaki Ohno, MD, chair of the Department of Ophthalmology and Visual Sciences at Hokkaido University Graduate School of Medicine, and vice president of the University Hospital, graciously returned

to San Francisco to deliver the Hearst Lecture for the second time. He delivered a scholarly lecture about Behçet's disease and the Vogt-Koyanagi-Harada's syndrome, which has been his special interest ever since he was a Hearst Fellow with Samuel Kimura, MD, in the 1970s.

J. Earl Rathbun, MD, of Santa Rosa delivered the Williams Lecture on "A Perspective on Oculoplastics." He gave a complete review of the personalities involved in the evolution of this subspecialty in Northern California and at UCSF during the time of his residency and his years of practice since finishing his

fellowship at UCSF. He will be retiring this year.

The program was hosted by A. Sydney Williams, MD, 2006 president of the Cordes Society. The society was named in honor of Frederick C. Cordes, MD, who was ophthalmology chair at UCSF for 25 years. The Cordes Society has nearly 300 members internationally, including former UCSF ophthalmology residents and fellows and ophthalmology faculty. The 2006 meeting was organized by Cordes Society Vice President Reza Vagefi, MD, a senior resident, and Cordes Secretary Kelly Stone. ●

Koret Vision Institute + Beckman Vision Center

A facility of the UCSF Department of Ophthalmology

University of California San Francisco Department of Ophthalmology 10 Koret Way Room K-301 San Francisco, CA 94143-0730 Chair Stephen D. McLeod, MD	HOW TO REACH US Comprehensive Eye Center 415.353.2800 Routine eye care, acute care, eye disease referrals Eyeglasses 415.476.3100 Contact Lenses 415.476.3100	Cataract Care 415.476.3705 Cornea Care 415.476.3705 Glaucoma Care 415.476.3707 Neuro-Ophthalmology 415.476.7176	Ocular Oncology Care 415.502.3206 Ocular Plastic Surgery 415.353.2142 Pediatric Ophthalmology 415.353.2289 Proctor Medical Group 415.476.1442	Retinal Care 415.353.2402 Vision Correction Center 415.476.5698 Individualized vision correction surgery, including LASIK and PRK UCSF Ophthalmology on the Internet www.ucsfeye.net
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