

enVISION

News From the UC Davis Eye Center

FALL/WINTER 2017



UC DAVIS

EYE CENTER

Our Mission

We will realize our vision through pioneering collaborative vision research, providing state-of-the-art, world-class eye care, and training superbly prepared ophthalmologists and vision scientists.

Our Vision

Our vision is to be the world's transformational leader in collaborative vision research and in the development of cures for blinding eye disease from cornea to cortex.

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From the Chair's Desk

WHO ARE OUR PATIENTS HERE AT THE EYE CENTER?

In many ways, the UC Davis Eye Center mirrors the development of the UC Davis Health System as a whole. Beginning as the County Hospital purchased by UC Davis in the late 1960s, the Health System has evolved from an institution that cared primarily for the needy and uninsured, to a sophisticated, multifaceted academic medical center providing the most advanced specialty care in the region. It has retained a strong emphasis on primary care, but at the same time, the Health System has developed highly sophisticated specialty services, as exemplified by the Department of Ophthalmology & Vision Science. Despite its evolution toward cutting-edge care of the highest quality, the Health System and specifically, the Eye Center, have not forgotten its obligation to the underserved.

The range of patients we treat includes captains of industry, political leaders, professionals from throughout the valley and western Nevada, university professors and a host of individuals from outside the region referred in for the special talents we have here. But, just as importantly, we care for a large proportion of the underserved in our region. Just as UCD has taken on the care of the largest number of underserved and indigent patients in the area, the Eye Center shares this same responsibility. If one glances at our patient mix, it becomes obvious that we have a strong commitment to the underserved and the underfunded. Almost 10% of our adult patients are MediCal funded. Our pediatric ophthalmologists are the only ophthalmologists in the region who care for MediCal supported children, with 47% of their patients funded through MediCal. In addition, the Eye Center vigorously supports the volunteer student-run clinics that deliver care to a variety of underserved ethnic groups in the city.

One of our educational missions, in training our residents, is to impress upon our trainees the need for volunteer service as part of their professional lives. We hope that they will learn this by example, as we treat everyone, especially those who, by virtue of limited access to health insurance, may not have access to the health care they deserve.

Our system of health care in the United States is in a state of serious disarray. Indeed, the famous news commentator, Walter Cronkite said, "America's health care system is neither healthy, caring, nor a system." Regardless of one's political views on the suitability of the Affordable Care Act, it is clear that health care delivery is rapidly changing. Despite this and despite the fact that academic medicine and the running of training and research programs is extremely costly and often less efficient, we pride ourselves on providing the best care to all economic strata. At the Eye Center, we strive to follow the direction of Canadian physician, Jeffrey Turnbull, who said: "...the medical profession must demonstrate leadership in regaining a vision for the health care system...that provides timely, universal access to high quality, patient-centered care across the continuum of health." As such, our commitment at the Eye Center is to serve all levels of our regional community.



Mark J. Mannis, M.D., F.A.C.S

Fosse Endowed Chair in Vision Science Research
Professor and Chairman,
Department of Ophthalmology & Vision Science
University of California Davis, Eye Center



Our Mission

Through community outreach and relationship building, we support and promote the UC Davis Eye Center as the premier provider of quality eye care for Northern California and of cutting-edge research for the world.

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Council Vice Chair

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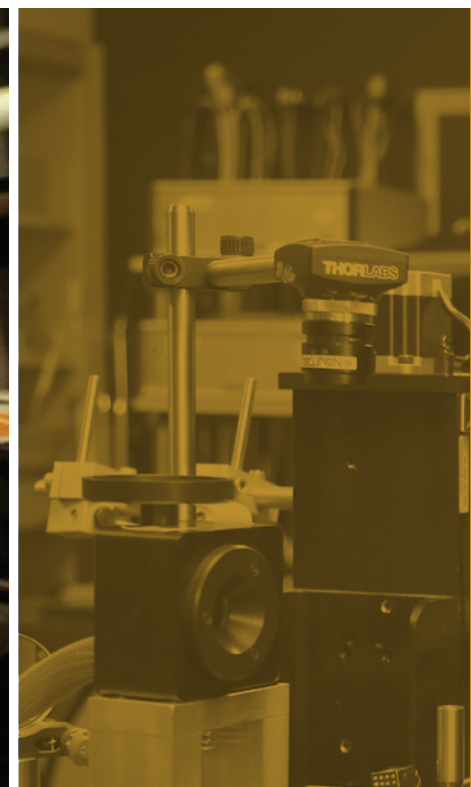
ALAN ROTH, M.D.

ERNEST TSCHANNEN



THE EYE CENTER ANNOUNCES THE APPOINTMENTS OF **TWO NEW RESEARCH FACULTY**

The Eye Center is pleased to announce the appointments this fall of two new research faculty, **Drs. Robert J. Zawadzki and Ravi S. Jonnal**. Both have excellent records of NIH-funded research and look forward to the opportunities afforded by the Eye Center to advance our knowledge of the fundamental properties of the visual system and how those are impacted by ocular disease and therapeutic interventions. Drs. Zawadzki and Jonnal have been employed at UC Davis for some time, and have decided to accept faculty positions here in spite of having been recruited by other top-tier research universities.



Dr. Zawadzki completed a Ph.D. in medical physics at the Medical University of Vienna, where he made significant contributions to the development of optical coherence tomography (OCT), a technology now considered to be an ophthalmic standard of care. In 2004, he joined Distinguished Professor John S. Werner's retinal imaging lab here at UC Davis, first as a visiting assistant professor and later as an assistant researcher. Between 2004 and 2012, his focus was on combining OCT with adaptive optics (AO), which permitted (for the first time) single cells to be imaged in the living human retina. The combined technology allowed Dr. Zawadzki to partner with clinical faculty in the Eye Center to study a number of retinal diseases at the cellular level—where they first manifest—as well as the efficacy of various therapeutic interventions, such as stem cell treatments. In 2012, Dr. Zawadzki, together with Professor Edward N. Pugh, Jr., with funding from a UC Davis Research Investments in Science and Engineering (RISE) grant, started the EyePod—a multi-modal, high-resolution retinal imaging platform for animal imaging. Using the EyePod, Dr. Zawadzki has partnered with other Eye Center faculty to improve our understanding of eye health by imaging a variety of transgenic and mutant animal models of retinal disease.

Dr. Zawadzki was recently awarded an NIH R01 grant, with which he plans to improve our understanding of age-related and inherited

macular degenerations by developing and studying mice with genetic defects thought to mirror retinal changes that cause these diseases in humans. With the benefit of noninvasive microscopic resolution, Dr. Zawadzki will be able to follow these mice as their diseases progress and thereby uncover cellular aspects of the diseases, which may lead to improved diagnostics and therapeutics in humans.

Dr. Jonnal began his professional life as a software engineer, working in machine vision. An interest in the human visual system led him to pursue a Ph.D. in vision science and cognitive science at Indiana University, which he completed in 2011. His Ph.D. work consisted of developing methods to image neural function in the living human retina and culminated in the first images of signaling activity and cellular renewal in single living human neurons. Dr. Jonnal joined Professor Werner's group in 2012 as a postdoctoral scholar, interested in studying cellular anatomy and physiology of the retina with AO-OCT. His work has leveraged the cellular resolution of AO-OCT to study the morphology of cone photoreceptors in vivo and how retinal diseases, such as AMD, alter cellular morphology. While contributing to our body of fundamental knowledge about the retina, this work has also had a significant impact in clinical practice by revising our interpretation of the clinical OCT image and the ways in which retinal disease affects its appearance.

Dr. Jonnal was recently awarded an NIH K99/R00 grant. The key goals of the grant involve the extension of AO-OCT technology developed by Professor Werner and Dr. Zawadzki to the measurement of cellular function in the living human retina. He plans to use these techniques to measure functional deficits in cells affected by retinal disease. Such an application would allow diagnosis and assessment of disease at its earliest possible stage and would transform our understanding of how these diseases lead to blindness.



Annual Resident *and* Alumni

BY KIMBER CHAVEZ

RESEARCH SYMPOSIUM

The Department of Ophthalmology & Vision Science hosted the 6th Annual Resident Alumni Research Day on June 17, 2017 at the School of Medicine in Sacramento. The residents and fellows presented their mentored research, and papers were discussed by members of the practice community. This event brings together academic faculty, community practitioners and ophthalmologists-in-training in a unique exchange of information.

Honorees at the event included Alumnus of the Year, Linda Margulies, M.D., whose lecture was titled *Beam Me Up Scotty, There's No Intelligent Life Down Here; Musings on My Career in Ophthalmology and the Veterans Affairs*; and the Byron Demorest Lecturer, Dr. Barbara Arnold, who spoke on *Science and the Arts – Color and Creativity*. The William Kohl Student Research Award was presented to Vivian Vuong, MS4, for her work entitled *Effects of Sildenafil Citrate on Choroidal Thickness in Age-Related Macular Degeneration*.

The resident and fellow lectures are judged by our judging panel: Dr. Miller, Dr. Perlman and Dr. Sandler. This year, the resident best presentation was awarded to Jolene Rudell, M.D., Ph.D., for her work on *Characterization of Neuromuscular Junctions in Patients with Strabismus, a Preliminary Study*, with her mentor Nandini Gandhi, M.D. The fellow best presentation was awarded to Saranya Balasubramaniam, M.D., for her research on *Ab-interno Circumferential Angle Surgery in Childhood and Juvenile Glaucoma: Initial Results at UC Davis* with mentor James Brandt, M.D.



Lisa (Daughter), Henry Go, M.D., Barbara Arnold, M.D. and Mark Mannis, M.D.



JP Perlman, M.D. * Robert Miller, M.D.* Jolene Rudell, M.D., Ph.D. * Brad Sandler, M.D.



JP Perlman, M.D. * Robert Miller, M.D. * Saranya Balasubramaniam, M.D. * Brad Sandler, M.D.



Jim McDonnell* Linda Margulies, M.D.* Mark Mannis, M.D.



Vivian Vuong, MD, MAS
Mentor: Glenn Yiu, MD, PhD

Ann Kohl* Mark Mannis, M.D. * Vivian Vuong, MS4* Glenn Yiu, M.D., Ph.D.

Sacramento's Finest: **Fredric Sauze**

BY ERIN BAUER

Fred Sauze is an unassuming man who enjoys life and prefers to fly below the radar. Nevertheless, he is what many would refer to as a true hero and an exemplary member of the Sacramento community.

Born and raised in Sacramento, Fred graduated from Sacramento High School and began his college career at UC Davis, where he pursued a degree in veterinary medicine. In 1942, at the age of 18, he enlisted in the Army, which allowed him to finish the semester at UC Davis. In the infantry, Fred was a Browning Automatic Rifle (BAR) man. The BAR was an automatic

rifle, weighing 24 pounds, used during World War II. He started his duty in France after D-Day and went from France to Germany, ending the war in Austria. While in Austria, Fred was part of a team that liberated a concentration camp, an experience he describes as extraordinarily unsettling. Soon after, the war ended, and he returned home.

Fred spent some time in San Francisco before enrolling at USC to complete his Bachelor of Science degree in finance. His love for animals had not subsided, but he was concerned that he was “too old” to pursue a six-year degree program in veterinary medicine and felt that he needed to get into the workforce. After completing his degree, he returned to Sacramento and went to work for the state in finance as an auditor of state colleges; he did this for the next 10 years. Fred went on to spend a majority of his career at the California Department of Highway Patrol and served as the budget officer until he retired in 1984. During this time, he met a college student, David Motes, now a fellow Eye Center patient, donor and Chair of the Volunteer Advisory Council of the Eye Center. Motes was the first student Fred ever hired for an internship program, and since that time they have remained close friends.

In his retirement, Fred enjoyed having more time to concentrate on several of his treasured leisure pursuits: reading, travel, opera, music and volunteer work. While in Europe during the war, he became friends with a family in Normandy that was living in a small village. He went back to visit with them at least four times, and on the first



trip to visit, he traveled on the Queen Elizabeth and became friends with a French couple who were part of the French resistance. Visiting these new friends also became part of his travel itinerary after that first meeting.

When he was not busy exploring France, China, Ireland, Hawaii or Tahiti, Fred spent a great deal of time volunteering for and supporting several causes dear to his heart. He is a member of the Episcopalian Church, and through his church, he was introduced to the River City Food Bank and the Episcopal Community Services Board, on which he served for more than 6 years. Through the Board, he became involved with a program to support underprivileged children in an Oak Park neighborhood school by providing the students with a clothes closet, packed lunches on the weekend when they are not in school, and funded trips for three to four days. This afforded these students an opportunity to travel and experience the world outside of the Sacramento community. Fred also supports the SPCA and has provided a home for nine to ten dachshunds and many, many cats over the years. Many of the cats have come to his doorstep looking for a home, and he has always been happy to oblige.

Fred's relationship with the Eye Center and his ophthalmologist, Dr. Mannis, who he considers his hero, began in 2011 when he was referred to the Eye Center after being told there was nothing his doctor could do to help preserve his sight. Fred is an avid reader of history books and enjoys following current affairs. The thought of losing his sight and the ability to read was nothing short of agonizing for him. As soon as he became a patient of Dr. Mannis, his circumstances and future changed. He underwent successful corneal transplant surgery

and since his first surgery has had one additional procedure in 2016.

Because of his experience at the Eye Center, Fred began thinking about how he could help make sure that all individuals have access to the level of care that he received. "It seems to me that the faculty, and certainly Dr. Mannis, take such a personal interest in the patients and provide the best of care," says Fred. "I've seen Dr. Mannis for quite a few years, and I'm sure he does that with every patient, and I really appreciate it."

Fred feels fortunate that his medical care is covered for the most part and he has a particular interest in helping children, who might not otherwise have the means or access, receive the highest quality vision care. To him, vision is such an important part of life. In fact, he considers vision the most important sense. When Fred learned about an opportunity to support the Demorest Chair in Pediatric Ophthalmology through his longtime pal and fellow Demorest donor, David Motes, he decided to make a very generous legacy gift through his estate to support the fund. "If you can help people regain their vision, that is an amazing thing to support," says Fred. "The Demorest Fund is helping children and I think that is a wonderful thing."

When asked about the accomplishment of which he is most proud, Fred shared that "I've never thought about that! I don't know if it's an accomplishment, but I've had wonderful friends and do appreciate them. I still talk to a fellow I met serving in WWII. He is one year older than I am, and when we talk, we don't talk about the war. He lives in Kansas City and we've visited each other on numerous occasions. We are of different political parties, but we can still have civil conversations."

Fred Sauze is a modern day hero. With his personal generosity, his devoted service to our country, and the support he provides to children and animals in need in our community, Fred is truly one of Sacramento's finest.

UC DAVIS
EYE CENTER

40TH ANNUAL UC DAVIS EYE CENTER SYMPOSIUM

OPHTHALMOLOGY
THROUGH
THE GENERATIONS

BY JENNIFER LI, M.D.





Neil Kelly, M.D. * Rob Wendel, M.D.



Panel: International Ophthalmology; Challenges and Opportunities
 Jeff Caspar, M.D. * Robert Miller, M.D. * Lawrence Morse, M.D., Ph.D. *
 Michael Chen, M.D. * Mary O'Hara, M.D. * Susanna Park, M.D., Ph.D.

The 40th Annual UC Davis Eye Center Symposium, “Ophthalmology Through the Generations,” was held on June 2-4, 2017 at the Marriott Hotel & Spa in Napa Valley. It was a celebration of the many contributions our UC Davis Eye Center alumni have made not only to our department, but to the field of ophthalmology.

UC Davis Eye Center residency and fellowship alumni were invited to speak at the symposium. They covered all areas of ophthalmology with their expertise. Alumni speakers joined us from across California and the United States. We also had several international alumni, including: Dr. Enrique Graue from Mexico City, Dr. Luis Izquierdo, Jr. from Lima, Peru, and Dr. Adiel Barak from Tel Aviv, Israel.

Two panels in particular highlighted some of the unique work that our faculty and alumni have

done. One panel discussed “Ophthalmic Care for Active Military and Veterans” and included faculty and alumni who have, or are, actively serving in our armed forces. They focused on some of the unique challenges in caring for our military personnel. A second panel, “International Ophthalmology: Challenges and Opportunities,” included faculty and alumni who have provided eye care to underserved communities in developing countries. This panel highlighted the outreach efforts of our UC Davis Eye Center family.



Ashley Lesley, M.D. * Christianna Stuber, M.D. * Daniel Lee, M.D. *
 Vivian Lien, M.D. * Roma Patel, M.D., MBA



Brooke Chang, O.D. * Marcia Nearing, O.D. * Jeff Caspar, M.D. *
 Bonnie Quiroz, M.D. * Kaaryn Pederson, O.D.



Sophia Fang, M.D. * Aaron Skelton, M.D. * Sam Abbassi, M.D. * Sangeeta Kalsi, M.D., MPH * Hoby Wedler, Ph.D. * Tyson Olson, M.D. * Jolene Rudell, M.D., Ph.D. * Justin Hellman, M.D.

Our keynote speaker this year was also one of our illustrious alumni. Dr. Neil Kelly was the first graduating UC Davis Eye Center Resident (Class of 1972). He went on to a prominent career as a vitreoretinal surgeon in the Sacramento area and pioneered surgery for macular hole repair. His keynote address was entitled, “Ophthalmic Miracles Throughout the Ages.”

Finally, the symposium also featured a special guest speaker on Friday evening. Dr. Hoby Wedler has a Ph.D. in organic chemistry and was one of Forbes Media’s “30 under 30” winners in 2016 in the food and drink category. He discussed how the use of all five of our senses relates to our experience of food and beverages. Dr. Wedler, who has been blind since birth, led the audience through blind taste tests of olive oil and wine to emphasize how crucial it is to utilize all of our available senses.

It was another very successful UC Davis Eye Center Symposium, and the excitement of bringing our brightest graduates back to participate in the program could not have happened without the financial support of the Eye Center Executive Advisory Council. We look forward to joining everyone again at next year’s symposium on May 18-20, 2018 at the Marriott Hotel & Spa in Napa Valley. **Mark your calendars!**

UC DAVIS EYE CENTER *Pioneer Residents*

BY MICHAEL SCHERMER, M.D.

Seven pioneers met in Napa this June for the first time in more than 40 years. The occasion was the special Alumni-focused UC Davis Department of Ophthalmology and Vision Science 40th Annual Symposium in Napa. These pioneers are the first residents to train at the UC Davis Department of Ophthalmology and Vision Science. They had confidence that

this fledgling department staffed mainly by local practicing ophthalmologists would provide the training needed for a successful and productive career. How right they were!

The very first resident was Neil Kelly. He took a leap of faith. There were no full-time faculty members when he started. Dr. Byron Demorest ran the show, and what a great job he did.

The list below shows the order of the residents and the year they completed the program. Today the total number of ophthalmologists trained at the Eye Center is 119.


Neil Kelly	1972	Founded Retinal Consultants in Sacramento, conquered the macular hole.
Jerry Gilbert	1973	Practiced in Hemet, Ca. Lost to follow up. Did not attend.
Tom Purcell	1973	Practiced in Minneapolis, spends a lot of time in Australia the birthplace of his wife. Did not attend.
Jack Hughes	1974	Practiced in Milwaukee, recently retired and remarried.
Rich Davis	1975	Working part time in Ft. Myers, Fla. Still scuba dives. Did not attend.
Mike Schermer	1976	Wants to work 9 more years. Received 2017 Distinguished Achievement Award from UCD Alumni Association.
Doug Beernink	1976	Retired from Kaiser, enjoys his Great Danes & bonsai.
Tom Rowley	1977	Retired from practice in Oakland, teaches at UC Berkeley.
Howard Gross	1978	Founded a multispecialty eye group in Atlantic City, still loves his work.
Bruce Noonan	1978	Retired from practice in Moses Lake, WA. Still active in military reserve.

Of these first 10 pioneers, we had seven attend the Napa meeting. Dr. Hughes flew in from Wisconsin, Dr. Gross from New Jersey and Dr. Noonan came down from Washington. None arrived by covered wagon. The highlight for these seven was a private dinner at the breathtaking Artesa Winery on Friday night. Dr. Alan Roth and Dr. John Keltner joined the pioneers to help with the reminiscing.

Most of the pioneers have retired. None of them regretted the choice of ophthalmology as a career or the choice of UC Davis as the training site. Stories and laughs abounded until late at night when Dr. Zeiter's Limo Service came by to return everyone to the Marriott. Thank goodness—they had this gathering with all in good health.



From left to right: Brian Hafler (Harvard Medical School), Tom Gardner (U Michigan), Dimitri Azar (U Illinois), Rajesh Rao (U Michigan), Reza Dana (Harvard Medical School), Glenn Yiu, (UC Davis).



Two Hats: BECOMING A CLINICIAN-SCIENTIST

A UC Davis faculty member reflects on his career path. He co-hosted a networking event at the Association for Research in Vision & Ophthalmology (ARVO) annual meeting in Baltimore to share experiences and advice as clinician-scientists in the vision sciences.

BY GLENN YIU

When I was a graduate student, my PhD mentor told me, “You need to stop thinking like a doctor, and start thinking like a scientist.” As part of the Medical Scientist Training Program (MSTP) sponsored by the National Institute of Health (NIH), I was among a small group of individuals who aspired to a career as both a practicing physician and a research scientist. We were nicknamed “mud-phuds,” which stood for M.D.-Ph.D. At the time, we basked in the idealism of treating patients on a daily basis while also conducting innovative research that could discover cures for diseases. Obtaining both an M.D. and a Ph.D. is a long road – four years of medical school and another four or more years of graduate training – during which time we learn a lot about science,

medicine, the real world and ourselves. Several of my classmates abandoned their Ph.D. careers. A few others gave up patient care. People cite family, finance, and time as barriers to a combined career. But I think the bigger hurdle is a philosophical one, and I understand now what my Ph.D. mentor meant. Physicians and scientists wear two very different hats – like a baseball cap and a cowboy hat, neither of which goes well with the same outfit. As a physician, I am trained to apply scientific knowledge to care for patients. But as a scientist, I have to challenge the dogma, defy tradition, and dispute “knowledge.” This disparity explains why physicians and scientists exist in such different worlds, and why our efforts to straddle these two worlds as clinician-scientists can be particularly challenging.

Today, the path of a clinician-scientist career has become harder than ever before. The average age for a clinician-researcher to receive his/her first independent federal research grant is 45 years and getting older. Only 22% of researchers who show enough promise to get a career development grant like me ever get an independent research grant. This means that 4 out of 5 aspiring clinician-scientists will fail in their research endeavors after a few years. Unlike basic scientists who spend most of their time in research and have abundant startup research funds, clinician-scientists spend a large part of their time caring for patients and are given much less funding to start their research.

Despite these challenges, I believe that clinician-scientists play a critical role in directing the future of translational research and developing new therapies. Physicians today are overwhelmed by administrative work, and many have little to no background in research. Basic scientists, on the other hand, are not familiar with the needs of patients. As a clinician-scientist, I can bridge this gap. For example, I monitor patients with retinal diseases in clinic using ocular imaging technologies, which I then exploit in the laboratory setting using mice and monkeys to design optically-controlled systems for drug delivery and disease modeling. Yet, the limitations in time and research funding can be disheartening to many who would otherwise seek this rewarding career path.

To encourage other clinician-scientists and foster collaborations, I co-hosted a dinner event with a colleague from the University of Michigan entitled “Succeeding as Clinician-Scientists.” It took place at the Association for Research in Vision and Ophthalmology (ARVO) annual conference this spring in Baltimore. My colleague, Rajesh Rao, M.D., is also a clinician-scientist and retina specialist. Together we invited clinician-scientists at various stages of their careers from around the country to discuss experiences, strategies and advice. The

event featured four speakers, including: Vinit Mahajan, M.D., Ph.D. (University of Iowa), Kathryn Pepple, M.D., Ph.D. (University of Washington), Yang Sun, M.D., Ph.D. (Stanford), and Thomas Gardner, M.D., Ph.D. (University of Michigan). Each speaker presented short, interactive talks covering topics such as timelines to grants and tenure; building a lab; funding sources beyond the NIH; finding mentors, and balancing clinic, lab and family. Sponsored by Alcon, the dinner provided a venue for different generations of clinician-scientists in ophthalmology to share practical skillsets and strengthen collaborations in the vision sciences. Thirty-five participants attended, including a number of senior investigators, such as: Dimitri Azar, M.D., MBA (University of Illinois), Harry Quigley, M.D. (Johns Hopkins), Janey Wiggs, M.D., Ph.D. (Harvard), Reza Dana, M.D., MSc, MPH (Harvard), and Scott Cousins, M.D. (Duke), as well as more junior and mid-career faculty including Ala Moshiri, M.D., Ph.D. from UC Davis. Dr. Rao and I hope to continue organizing such events and promoting more discussions of this kind at future research meetings. Looking back, I am glad I chose a career as a clinician-scientist. As a medical provider, I learn the needs of every one of my patients. As a researcher, I feel empowered to translate these important clinical questions into the laboratory setting, and hopefully back to my patients in the future. By actively engaging in clinical trials and translational research projects, I hope to foster a new fashion trend of wearing more than just one hat.



Junior and mid-career clinician-scientists from around the country.

UC Davis Eye Center Supports

“MARCH FOR SCIENCE”

BY JENNIFER LING, M.D.

On April 22, 2017, members of the UC Davis Eye Center, including residents, fellows, faculty and research scientists, gathered at the Sacramento Capitol and in Washington DC for the “March for Science.” We were proud to join other health care providers and concerned citizens across the United States in this non-partisan celebration of science, research and evidence-based policy.





TOP ▲

SACRAMENTO MARCH FOR SCIENCE SUPPORTERS

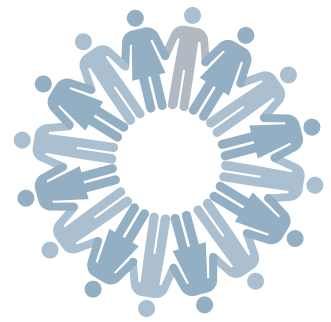
Neil Farbman, M.D., J.D., Nandini Gandhi, M.D., Jennifer Ling, M.D., Glenn Yiu, M.D., Ph.D.

RIGHT ►

WASHINGTON MARCH FOR SCIENCE SUPPORTERS

Christopher Murphy, D.V.M., Ph.D.





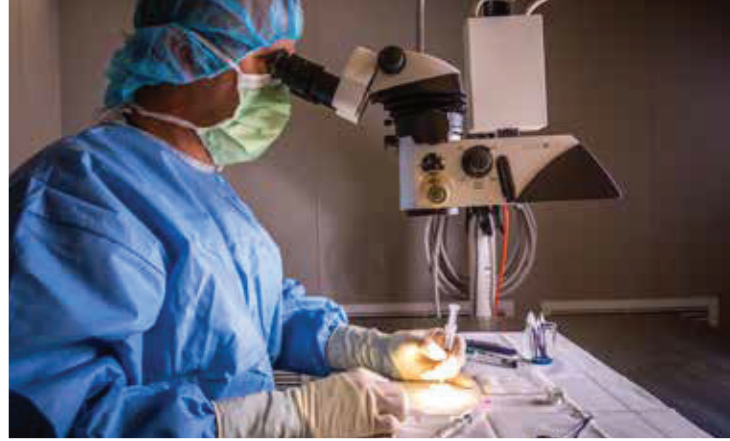
SUMMER NIGHTS AND SUMMER SIGHT!

BY DEANNA SANTANA

In June, Sierra Donor Services Eye Bank (SDSEB) celebrated its new facility with an exciting open house.

In attendance were board members, eye bank clients and their staff, Donate Life Ambassadors, members of the Lions Club of Northern California, and interested community members. Attendees were invited to enjoy food trucks, local beers and wines, facility tours and demonstrations of the latest in cornea processing for DMEK and DSAEK procedures.

The community had live-streamed narrated demonstrations of the processing procedures performed at our eye bank. Surgeons in attendance received a VIP invitation to join us in the cleanrooms to watch a live and detailed demonstration of the care and precision that goes into processing the corneal grafts that they obtain from us. SDSEB also highlighted the importance of organ, eye and tissue donation and had interactive stations from hospital development, public education, quality control, tissue recovery, etc. to demonstrate all that



is involved in bringing a tissue from donor to recipient. To round out the evening, a building dedication and a ribbon cutting ceremony were held, and SDSEB was honored with recognition from Senator Dr. Richard Pan and Assembly member Kevin McCarty for our “dedication to facilitating transplants and donation in our community.”

After a successful open house, SDSEB hosted its very first in-house DMEK wet lab. Dr. Jennifer Li, SDSEB Co-Medical Director, provided training on how to perform one of the newest cornea

transplantation methods to three of our visiting Tennessee surgeons. These surgeons have had great success with ultra-thin DSAEK procedures and were eager to explore the more challenging DMEK procedure, which is the current gold standard for patients suffering from certain types of corneal dystrophies. We are very excited to have the ability to offer this complimentary training to our partner surgeons, enabling them to be among the first in the Nashville area to offer this service to their patients.

SOCIETY FOR THE BLIND

Society for the Blind's Low Vision Clinic is Growing for the Future

BY: SHARI ROESELER

Executive Director, Society for the Blind



In August, Society for the Blind (Society) welcomed a new full-time Optometrist in the Low Vision Clinic, Dr. Arie Wong, O.D. She was a Regent Scholar of the University of California-Los Angeles and graduated magna cum laude in 2012. She completed her optometric education at the UC Berkeley School of Optometry in 2016 and a residency in Low Vision Rehabilitation at State University of New York, College of Optometry in 2017. Joining Dr. Wong at the clinic are Dr. Ron Cole, M.D., Dr. Kristin White, O.D. and Dr. Monica Rodriguez-Bayes, O.D.

Another new addition to the Low Vision Clinic in August was a Mobile Eye Clinic, donated by VSP Global Eyes of Hope. Society has been aware of the many challenges our patients face trying to find transportation to the Low Vision Clinic. “This van will make a big difference for our patients,” says Toni Boom, Clinic Director and Occupational Therapist. “Now we can go on the road and take our clinic services to the patients who live in the northern and more rural parts of the state.” The mobile clinic will be equipped with a portable lane as well as low vision devices and tools, allowing us to provide low vision exams and occupational therapy throughout the 27 county area we serve. Society plans to make an initial trip along the highway 99 corridor later this fall.

The addition of a full-time doctor and the mobile eye clinic are part of Society’s long-range planning to be ready for the increasing numbers of people experiencing vision loss



and blindness. By 2035, the senior population in California will have increased by 64% to 12 million.

The American Foundation for the Blind reports that today 1 in 15 seniors aged 65 and up has serious difficulty seeing, even with glasses or contact lenses. With the large growth in our senior population on the horizon, Society for the Blind is committed to being a ready resource for those who experience low vision or blindness.

Society's partnership with the UC Davis Eye Center ensures continuity of care for patients, so that the transition to living with low vision or blindness can happen with the support of both the medical team and Society's faculty of instructors and optometrists. For more information about the Low Vision Clinic, please contact Society for the Blind at **916-452-8271**.



Binda Mangat and Mark Mannis M.D.

GET TO KNOW OUR EAGLE SPONSOR



BY ERIN BAUER

Binda Mangat is not only the 2017 Eagle Sponsor for the Lions Education Foundation Club Golf Tournament to benefit the Eye Center, but is also an active member of the Eye Center Executive Advisory Council and a tremendous partner to UC Davis.

Born in Nairobi, Kenya, Binda lost considerable vision in one eye at the age of 10 after a serious hockey injury. He understands what it means to experience significant vision loss and has devoted his resources and talents to helping individuals with blinding eye diseases throughout the globe access ophthalmological care. Binda became acquainted with the Eye Center after a patient visit with Dr. Mannis. During this visit, he met a resident

who was preparing to leave for Kenya. Since this visit, his relationship with the Eye Center has continued to develop, and he believes that with Dr. Mannis, “You can tell, as a human being, who he is. The people of UC Davis are so committed. And, with the base that has been created by Dr. Mannis and his team, there is absolutely no reason why the Eye Center couldn’t have a huge presence worldwide.”

Binda graduated from East Ham College, London and City & Guilds Institute of London in Electronics and Telecommunications. Before he decided to pursue telecommunications, he had dreamed of a career as a pilot with the British Royal Airforce. However, Binda's vision loss prevented him from pursuing this dream. Currently, Binda and his wife Jasvinder (Jas) have two sons and four grandchildren. Jasvinder's career in Medical Physics has spanned from the Royal Free Hospital in London to Calgary Cancer Center in Canada, RAS, UCD Cancer Center, and Sutter Cancer Center in Sacramento. Binda's sons are both UC Davis graduates: Navit is a captain with Alaska Airlines and Sanjeev is a manager in information systems security with the State of California.

Binda is Founder, President and CEO of Quorum Technologies, Inc., based in Sacramento. He also co-founded a cloud based UC service: Pandora

Networks; mobile app companies: Purple Talk/ X-Cube Labs; and a gaming company: Yes Gnome. He continues to work with other institutions in developing solutions that have the potential to make a difference in people's lives.

Prior to this, Binda was Director, Information Systems and Networks for Sutter Health, a diverse health care entity with 26 hospitals in California. He served as chief architect for the design and development of northern California's first privately-owned Fiber Optic Network that integrated multiple hospitals, physician buildings, clinics, surgery centers and physicians. This deployment in 1991 was northern California's very first privately-operated health care communications network. Binda has also served in management and engineering roles with HP in the USA, Bell Canada in Canada, and British Telecom in London, England.

Binda Mangat and Ernest Tschannen





Charlene Woodward * David Motes * Binda Mangat



Gil Alvarado and Binda Mangat

Quorum Technologies, under Binda's leadership, has helped guide developing countries with implementing local and national telemedicine networks. Quorum Technologies was a co-sponsor for the East African E-Health conferences in Kigali, Rwanda, Africa and Prishtina, Kosovo, where Binda presented with Dr. Rifat Latifi, a renowned trauma surgeon and an accomplished author, on the subject of e-health and telemedicine. Binda is a MedStart Advisory Committee Member and a Member of the Eye Institute team at UC Davis. Quorum is also represented on the Board of

Innovate North State. Binda is past Chair of the development committee of the Powerhouse Science Center and currently serves as a board member.

In his spare time, Binda loves to be on the golf course and can claim many successful rounds that even landed him a visit with Arnold Palmer at the Bay Hill Classic, where Binda was a member of the winning team at the 1991 Bay Hill Pro-Am with David Frost from South Africa. He has combined his love of golf with his passion for giving back and has been actively involved in many golf tournaments to benefit the organizations he supports. The Eye Center and the Lions Education Foundation were very fortunate to have Binda's support of the golf tournament to benefit our pediatric ophthalmology patients this year, and we thank him and Quorum Technologies for the tremendous support that helped make the tournament a great success.

The Lions Education Foundation Golf Tournament for the Eye Center: **HELEN KELLER WOULD BE THRILLED**

BY: DEREK LEDDA



Michael Ellis, M.D. * Mark Mannis, M.D. * Alex Willoughby, M.D. * Jefferson Berryman, M.D.



On a beautiful Saturday afternoon in September at the highly regarded Rancho Murietta Golf Course, the spirit of competition and the spirit of giving combined for a very special fundraising experience for over 100 golfers who played to help the Lions Education Foundation (LEF) to support youth related projects and the UC Davis Eye Center to provide exceptional pediatric eye care in the local area. The Lions District Governor for the Sacramento area, Nick McNicholas, made the opportunity possible by selecting the Eye Center as LEF's community beneficiary of a portion of the funds raised at this year's golfing event. The two groups certainly displayed their strengths, with the Lions showcasing their experience in organizing, providing volunteers and carrying out the successful tournament activities, and the Eye Center reaching out to its generous donor friends to make the fundraising equally successful.

The dynamic Eye Center duo of Erin Bauer and Holland Adams was the driving force in mobilizing support from the Eye Center's Executive Advisory Council while also coordinating with the Lions Education Foundation Tournament Chair, Past District

Governor Andy Anderson, to ensure that the Eye Center exceeded all expectations in making a very positive contribution to the success of the event. With Binda Mangat taking the lead, the Advisory Council's golf committee worked hard to effectively outreach to the Center's

friends to find both sponsors and golfers. Kudos to Mangat, who got the ball rolling all the way to a sponsorship “hole in one” by having his company, Quorum Technologies, become the premier sponsor of the tournament. Heartfelt thanks and credit also go to Eye Center friends: Sierra Donor Services, Sierra Health Foundation, and Schermer Associates, who were among other substantial sponsors.

What’s a party without party goers? The Eye Center certainly did its part to bring its family to the fundraising party with Center staff and residents and their friends forming several of the golf foursomes and the Sierra Donor Services also sponsoring a foursome. The occasional high scores on the very challenging course

did nothing to dampen the high times and satisfaction that everyone had in supporting such great causes during a fun filled day of great food, great golf and great fellowship.

Lions Clubs International and the UC Davis Eye Center have a common mission to help prevent and cure blindness and find new and better ways to treat the visually impaired. Since 1925 when the Lions accepted Helen Keller’s challenge to be her “Knights of the Blind,” Lions around the world have focused on addressing sight related needs as their signature area of service. It is, therefore, no surprise that Dr. Mark Mannis, the Eye Center’s Chair of Ophthalmology, and Dr. Mary O’Hara, Director of Pediatric Ophthalmology, found themselves

Chris Serdahl, M.D. * Neil Kelly, M.D. * Glenn Owens, M.D.



preaching to the choir during their after golf dinner presentation to the Lions and others present about significant new developments in the Eye Center’s work in restoring and preserving sight. Since the tournament, the Lions and the UC Davis Eye Center have already been looking ahead to how they might collaborate again to achieve Helen Keller’s dream of “...the day when there shall be no preventable blindness; no little deaf, blind child untaught; no blind man or woman unaided.” Without being asked, the doctors and staff of the Eye Center have, for 49 years, been dedicated to serving northern California’s blind and visually impaired as “Knights of the Blind in the Crusade Against Darkness.” Helen Keller would be thrilled.



2017 LEF GOLF TOURNAMENT

**EAGLE SPONSOR
(\$5,000)**

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Sierra Health Foundation

**BRONZE SPONSOR
(\$500)**

Ron & Carol Peek
Penn Valley Hi-Graders Lions
Club



PROFILE: Dr. Craig Berris

BY ERIN BAUER

“If you can find a job you love, you’ll never work again.” –Winston Churchill

This quote has been attributed to many individuals, from Confucius to the singer Marc Anthony. It is often used in a commencement address, but few are fortunate enough to be able to pursue their passion as a career. Dr. Craig Berris considers himself one of the lucky few.

Dr. Berris recently stepped down as an active Eye Center clinical faculty member after more than three decades of involvement with the Department of Ophthalmology in order to spend more time with family. When asked to calculate the number of hours spent training residents, Dr. Berris resisted quantifying his contributions. “I don’t even look at it that way; it seems odd,” Berris says. “It’s like asking an avid golfer how many hours he spent on the course. I always felt that having a bright third-year resident work with me in surgery was a source of enjoyment rather than a task.”

As the first and only physician in his family, Dr. Berris became interested in medicine after a childhood illness kept him out of school for

a prolonged period of time. That exposure allowed him to experience first-hand how much physicians care about others and use their knowledge and skills to help improve the lives of their patients. “I felt that medicine was a noble calling that required a great deal of hard work and dedication, but whose emotional rewards were worth the sacrifices,” says Berris. Dr. Berris admits that this early view was a bit naïve (no doubt helped along by TV shows such as *Marcus Welby M.D.*, *Ben Casey*, and *Dr. Kildare*). It did not take into account the degree of sacrifice also required of others, especially a physician’s family. He recalls more than one occasion when he had to bring one of his children with him to the hospital while on call.

Craig Berris is the ultimate UC alumnus, having received his undergraduate education from UC Berkeley, his medical degree from UC Davis, and his internship and residency training at UCLA. After completing an oculoplastic surgery fellowship at the University of Texas, Houston, he returned to Sacramento where

he opened a private practice specializing in ophthalmic plastic and reconstructive surgery. The evolution of that practice went from having nothing but time, to not having time for lunch. When he opened the practice there were a lot of free afternoons, and becoming a member of the Volunteer Clinical Faculty at the UC Davis Eye Center was a way to employ the knowledge gained in fellowship as well as a way to give something back to the community.

As the demands of private practice increased, there were fewer opportunities to spend an afternoon at the UCD medical campus. Monday through Friday, Dr. Berris sees his first patient at 8 AM, skips lunch and wraps up his day at about 6:30 PM after updating the Electronic Medical Records (EMRs). Fortunately, the full-time faculty were flexible enough to allow residents to work with Dr. Berris as he operated on his own patients in hospitals outside the university system. The residents would assist in surgery all day, every Thursday, during a three-month rotation. This helped them consistently place above the 90th percentile, compared to other programs in terms of cases they either performed or assisted in.

“Our residents would not have been in the position to secure such stellar fellowships and flourish in the profession without the training and mentorship they received from community physicians such as Dr. Berris,” says Dr. Mark Mannis, reflecting upon Craig’s tenure as a VCF. “I am unbelievably grateful that Craig chose to devote 37 years to the department, and I am certain that Craig’s dedication and service will inspire many residents and volunteer faculty for years to come.”

Early in his career, Dr. Berris was among the 41% of physicians in solo practice. Today, the share of physicians in solo practice has decreased to 17.1%. The decline in the number of physicians in solo practice is not from a lack of entrepreneurial spirit or business acumen but more likely reflects the increased demands on time from such things as EMRs and the Medicare Access and CHIP

Reauthorization Act of 2015 (MACRA). Dr. Berris feels the institution of the electronic health record has increased, rather than decreased, the time it takes to chart on each patient. This in turn has decreased the number of patients that it is possible to see in one day unless one stays late to complete charting. Increased authorization review requirements, increased obligations of MACRA, as well as rising challenges to obtain fair reimbursement for procedures, have resulted in the need for Dr. Berris to add three additional staff members dedicated to just the administrative side of the practice. He believes that the drive to control costs and meet increasing government regulation has stimulated the growth of large medical groups and organizations that are better equipped to survive these external pressures. He now realizes that with the increased demands of his practice, the one thing that he is in short supply of is time.

Outside of medicine, Dr. Berris and his lovely wife Debbie enjoy outdoor activities such as bike riding and golf. There is also the occasional poker game with other physicians, including former resident, turned volunteer faculty member, Dr. Bob Miller. Debbie is quite active in the UC Davis Mind Institute and other Sacramento area organizations dedicated to supporting children with special needs.

Although Dr. Berris is not as active on the Volunteer Clinical Faculty, his ties to UC Davis Eye Center remain strong, and his practice continues to thrive. This has freed up sufficient time; he can now take the occasional four-day weekend to spend time with a new grandchild. “I have now come to appreciate the joy in interacting with a 3-year-old instead of a third year resident,” Berris remarked. “But, it is really quite amazing how far the eye program has come since I first started volunteering in the clinic on the first floor of the original hospital over 30 years ago, thanks to the efforts of Dr. Mannis and department chairs before him. I feel fortunate to be associated with such a well-respected, nationally-recognized ophthalmology program.”



ED SWEET, M.D.

Alumnus, Family Man, Adventurer

BY ERIN BAUER



Walking into Dr. Sweet's home, one immediately knows how important the people in Ed's life are to him. There is a strong sense of family. From the back deck, Ed's home opens to an incredible view of the UC Berkeley campus, the Oakland skyline, and the bay. Inside, the home is handsome and cozy, filled with photos of family and friends that make guests feel immediately welcome. It's a secure home base that looks out to the world.

Dr. Sweet is a seasoned and well regarded glaucoma specialist at Kaiser Permanente in Walnut Creek. He has not forgotten nor lost touch with the many people who have made his career possible and enriched his life.

► **Birthplace?**

I was born and raised in San Francisco, CA and grew up in the Marina and Cow Hollow neighborhoods, areas popular with families at the time. My parents still live in the same house I grew up in.

► **Tell us about your family**

I returned home to California from fellowship training in Utah in 1993. It was a really big year for me, personally and professionally. I started the Kaiser job I still have, bought the house my family still lives in, and met my husband Hal with whom I still share life's adventures. Hal and I met at the Marina Greens, near my parents' home, where I jogged regularly and where Hal walked his dog. Yes, you never know where you'll meet your soulmate!

We dated for many years; Hal had a rent-controlled apartment in San Francisco that was difficult to part with to move to Oakland, even with an ophthalmologist thrown in the package! But in 2004, we finally moved in together, Hal giving up his apartment a little too reluctantly I thought. Happily, we survived and thrived, and a few years later decided we were ready to grow our family and add children to the mix. Through the miracle of a lovely and generous surrogate and an anonymous egg donor, we were oh so fortunate to welcome our beautiful twins Roxie and Wylie, now ten years old, to our lives.

We became domestic partners and then got married the following year in Fall 2008 during the short window between when the CA Supreme Court declared denying same-sex marriage unconstitutional and the subsequent passing of Prop 8. The day of our wedding, my



dad happened to be getting out of the hospital. We planned to postpone the small wedding (how could Prop 8 ever pass), but my dad would not let us delay, saying he was sick of hospital food and coming to the celebration no matter what! If not for his decision, the marriage would have been postponed many years.

Hal and I continue to be excited and thrilled to watch Roxie and Wylie grow and develop. We feel like we won the lottery and know it wouldn't have been possible without the support of both our extended families and the generosity of one-time strangers.

► When did you first become interested in medicine?

During prep school, at Phillips Exeter in New Hampshire, I had a fantastic biology teacher, Mr. Polychronis, who sparked my interest in living systems that eventually would lead me to medicine. For college I enrolled at UC Berkeley, where I studied molecular biology and quite a bit of French, spending my junior year in Pau and Paris, France. I thought I wanted to be a research biologist of some sort. My parents suggested that I speak with a family friend who was an ichthyologist at Stanford. She suggested I go to medical school to get a solid science education and have the option to pursue a career either as a researcher or as a physician (was she sick of fish?). Off I went to medical school at UC Davis. While there, I quickly realized I was most interested in the clinical aspects of medicine and I took my first steps to becoming a medical practitioner.

► When did you first become interested in ophthalmology?

As a medical student at Davis, I played squash in Woodland and met Dr. Paul Donald, an ENT professor at Davis. Dr. Donald was a very cool guy, which made me think that I might want to be an ENT doctor too.

ENT, like ophthalmology, requires medical students to develop an early interest and focus. In my third year of medical school, I tried to get a 4-week rotation in ENT, but the only rotation available was a 2-week rotation. I had to find something to fill the gap, and the only thing available was an ophthalmology rotation at the VA in Martinez. My rotation was with the newly arrived Dr. Ernie Tark, and I had a great time with Ernie and learned a lot about the wonderful field of ophthalmology. The ENT rotation, needless to say, was not as wonderful!

Ernie was very enthusiastic about ophthalmology as a career choice and encouraged me to consider pursuing it as a specialty. At 26 years old and easily swayed, I spoke with Dr. Mark Mannis, and he offered me an elective ophthalmology rotation for eight weeks at the beginning of my fourth year. I was hooked on ophthalmology and was thrilled and honored to match at UC Davis for my ophthalmology residency. Eventually, I continued on to do a fellowship in glaucoma, cornea, and anterior segment at the University of Utah.

Indeed, if not for the interest and support of Dr. Tark and Dr. Mannis, I wouldn't be an ophthalmologist today. It's always the people you come across that make all the difference.

I love ophthalmology, and what attracted me from the start was that as an ophthalmologist, you are a specialist, and therefore you can be exceptional at something but at the same time develop ongoing relationships with your patients. It's a perfect mix of primary care and specialized medicine.

► What was the first surgery you performed?

Putting in corneal sutures with Dr. Mannis during a corneal transplant. "The needle's not a tire iron!" Actually, I don't remember it being a huge, traumatic experience, which is probably why I'm still a surgeon today!

► Can you share with us your career path?

I got my job at Kaiser in Walnut Creek in November of 1993. I really wanted to come back home to California and the Bay Area, but it was a time when finding jobs in ophthalmology was not easy, particularly as a sub-specialist, and particularly in the urban areas. Kaiser was intrigued with the breadth of my experience and training. When I first started at Kaiser, I saw glaucoma and cornea patients for about 10 years. Eventually, another cornea specialist was

hired and I switched my focus solely to treating patients with glaucoma.

Kaiser has been a very good fit for me since it allows me to focus on my professional passion: the clinical practice of medicine. At Kaiser, I spend 99% of my time taking care of patients. I don't have the day-to-day worries of running a business and ensuring its success. I work extremely hard when I'm there, but when I'm done, I have another life. There's good work-life balance. A Kaiser physician also has great financial security. But it's not like you can decide to grow your practice to try to make more money. Perhaps the potential disadvantage of Kaiser is that you must learn to adapt to a system, and to choose your battles carefully. Kaiser might not be the best choice if you are particularly entrepreneurial or controlling. Coming from an academic environment like UC Davis, one certainly gets exposure to working within a system, and Kaiser is not unlike working in an academic setting.

► **What is one of the most interesting medical cases you have encountered?**

I learned a lot from one of my wise patients who was 83 years old when he came to my clinic. This generally healthy gentleman had already lost vision in one eye to glaucoma and had 20/60 vision in his remaining eye. He had primary open angle glaucoma, a cataract, high intra-ocular pressure running in the low to mid-30's on maximally tolerated medical therapy, and moderate visual field loss. I told the patient that my best medical advice was for him to have surgery, but the patient refused. I respected his decision hesitatingly, and we agreed that I would continue to monitor him. I was sure he had made a bad decision. I continued to follow him for at least five years and his pressures always remained in the 30's. His vision deteriorated to 20/80, and his visual field went from moderate

loss to moderate/advanced loss. But, this worsening happened much slower than I had anticipated, and he got along visually quite well. This patient was close to 90 years old when he passed away, never having had cataract or glaucoma surgery in his better eye, which was clearly, in hind-sight, the correct decision for this patient. This humbling experience taught me not to be too sure of myself as a physician and demonstrated the importance of treating the patient and not the disease. I was also reminded to always be cognizant of patients' wishes and never be too sure of how any individual patient will do with any given disease or treatment. As physicians, we need to be the best medical advisors possible and respect patients' decisions. They often know best.

► **Why glaucoma?**

Glaucoma is a disease where the science has not answered many of the questions, so the art of medicine plays a critical role in patient care. I enjoy the challenge of working with each patient as an individual to determine what's best for that particular person. It's really more of an art than a science and requires a strong rapport with the patient. The major goal is to prevent further significant vision loss during the patient's lifetime. It's very easy to over-treat as well as under-treat patients, and determining and redetermining the proper treatment is a challenge I enjoy.

► **What was the highlight of your time at the Eye Center?**

All the fun I had with my fellow residents! Jeff Caspar and Esther Kim were training while I was there, as well as Chris Serdahl, Clarissa Tendero, Dave Chaffin, Steve Cohen, Denise Satterfield and Jim Ruben, who was our chief resident. I am still very good friends with a lot of past residents, and we continue to have great times together. There was a great camaraderie

among the residents. I still see and experience this camaraderie when I attend meetings such as the Napa Symposium. The Eye Center is just a friendly place and attracts nice people.

I also had the opportunity to train with generous community ophthalmologists, such as Neil Kelly, Rob Wendel and Craig Berris, who served as great role models.

► **What do you think distinguishes the Eye Center from other residency training programs?**

The Eye Center gave me the foundation for being a good doctor:

- 1. Know your stuff.** For me, this was exemplified by John Keltner. You have to have the knowledge, skills and intellectual curiosity if you're going to be an excellent ophthalmologist.
- 2. Treat the person, not the patient nor the disease.** For me, this was exemplified by Mark Mannis. Mark is always professional, personable, genuine, honest and caring. A doctor needs to have that human connection with the patient for the process to be therapeutic.
- 3. Always put the patients' interests first.** For me, this was exemplified by Ivan Schwab. He was always thinking only about what's best for the patient. His entire decision making stemmed from putting the patient's interest first.
- 4. Be as positive as possible.** For me, this was exemplified by Larry Morse. Larry is very happy and has the kind of personality that helps patients always maintain hope. He is a glass half-full type of person.
- 5. Do no harm.** For me, this was exemplified by Jamie Brandt. Jamie is extremely cautious, careful and meticulous. He always wants to be sure that any intervention is really going to benefit the patient and not make things worse.

During my residency, I was just too young and inexperienced to fully appreciate all that I was being taught. But, when I think back, the Davis faculty were the kind of people that clearly are excellent models for the requisites of being an exceptional physician and human being.

► **What do you do when you're not at Kaiser?**

My favorite hobbies are sports (skiing, biking, hiking) and adventure traveling. I just returned from a cross-country backpack trip to Sequoia National Park. Our children have been to five continents with us and are enrolled in a bilingual school. I want my children to be world citizens. I took a brief sabbatical when the kids were in second grade, and we all lived in Strasbourg, France for three months with the kids going to French public school. What a great experience!

► **What are your plans for the next 5-10 years?**

I suspect that my career at Kaiser will wind down, and I hope to spend more time with my kids. While retirement is in the not too distant future, I still consider myself young and active and I'd like to try to pursue new interests, although I'm not exactly sure yet what they will be. I hope to be able to excel in something new.

► **What excites you about the future of vision care?**

Stem cell research is going to open up a lot of possibilities in all the subspecialties of ophthalmology. And it's very exciting that the Eye Center is spearheading stem cell research.

I believe that basic science research is really going to provide the true breakthroughs and will allow, for example, improved glaucoma care as its myriad causes are elucidated. I think there will be a day when we no longer put holes in people's eyes!

ALUMNI HIGHLIGHTS

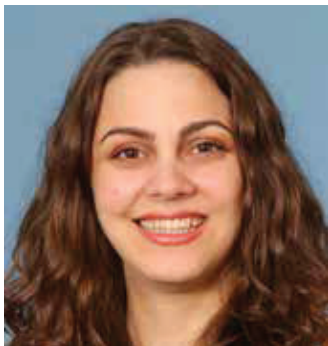


SHAUN BRIERLY, M.D.

Resident 2003

Alumnus Shaun Brierly, M.D. was named Chief of Ophthalmology for Santa Rosa and Rohnert Park Kaiser.

Dr. Brierly chose to become an ophthalmologist because he believes the eyes are “the most interesting, exciting and satisfying areas of the body to treat.” In addition to his work at the Kaiser Permanente Santa Rosa Medical Center, Dr. Brierly provides voluntary care for the Santa Rosa Community Health Centers and for KidsNet, a county-wide program for uninsured children.



LISA NIJM, M.D., J.D.

Fellow 2009

Eye Center Alumnus, Lisa Nijm, M.D., J.D. chaired the Annual Women in Ophthalmology Summer Symposium. The annual Women in Ophthalmology Summer Symposium took place in San Diego from Aug. 10 to 13 with a restructured format, new content and more networking opportunities, meeting chair Lisa Nijm, M.D., J.D.



GREGORY RABIN, M.D.

Resident 2003

On February 21, 2017, Dr. Greg Rabin came back to campus for an evening of candid conversation and Q & A with a group of eight medical students. Dr. Rabin shared his insights and perspectives on the medical profession and told current students about his journey in medicine since graduation. This informal, roundtable discussion is hosted by the School of Medicine Alumni Office.

ALUMNI HIGHLIGHTS

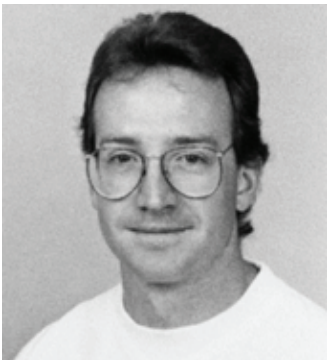


BOB MODJTAHEDI, M.D.

Resident 2013

Listed at #6 in The Ophthalmologist Magazine in the Top 50 Rising Stars of 2017.

One nominator said: "At a young age, he has already established himself as a leader in the field. He has already made valuable contributions to the scientific literature and is currently working on a number of large-scale projects that will help shape the future of our field. His work has and will continue to tangibly affect the day-to-day management of patients."



CHRIS SERDAHL, M.D.

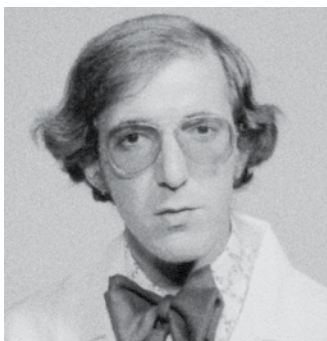
Resident 1991

Visually impaired students learning how to ski at Achieve Tahoe in Alpine Meadows. The organization exposes and offers lessons to people with disabilities.

This trip to Achieve Tahoe is sponsored by Dr. Chris Serdahl and his family. Dr. Serdahl, an ophthalmologist and UCD alumnus, says he wanted to share his passion for skiing, a passion he wants to share with patients he can't always help medically.



PHOTO: <http://fox40.com/2017/03/29/fox40-special-report-skiing-without-sight/>



MICHAEL SCHERMER, M.D.

Resident 1976

The UC Davis Cal Aggie Alumni Association honored Dr. Michael Schermer with the 2017 Distinguished Achievement Award as part of the 44th Annual Alumni Awards Gala.

UC DAVIS

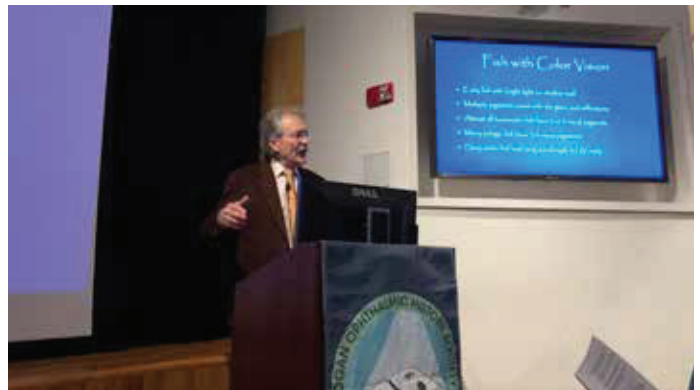
EYE CENTER

AWARDS AND INVITED LECTURES

- 01 Annie Baik, M.D., Nandini Gandhi, M.D., Mark Mannis, M.D., and Ivan Schwab, M.D.: selected as Sacramento Magazine's Top Doctors in 2017 in the Ophthalmology Category.
- 02 Ivan Schwab, M.D.: 2017 Keeler Lecture to the Royal College of Ophthalmologists entitled "The Evolution of Eyes: Major Steps."
- 03 Glenn Yiu, M.D., Ph.D.: 2017 Macula Society International Travel Grant.
- 04 Christopher Murphy, D.V.M., Ph.D.: Visiting professor biotechnology program, Texas Tech University.
- 05 Glenn Yiu, M.D., Ph.D.: CNPRC Pilot Research Program Award.
- 06 John S. Werner, Ph.D.: University of Washington, Department of Ophthalmology, Jane and Gordon Bergy, M.D. Lectures in Ophthalmology (September 2017).
- 07 Glenn Yiu, M.D., Ph.D. and his four fellow scientists: CNPRC Pilot Research Program Award 2017.
- 08 Glenn Yiu, M.D., Ph.D.: The ARVO Foundation for Eye Research and the ARVO Awards Committee selected Glenn Yiu, M.D., Ph.D., to receive a 2016 ARVO Foundation/Genentech Age-related Macular Degeneration Research Fellowship. This fellowship is supported through a generous grant from Genentech to the ARVO Foundation.
- 09 The UC Davis Eye Center has been awarded the Certificate of Excellence from MES Vision California. The award is based on feedback from patients who rated us as "EXCELLENT" in all surveyed categories.
- 10 Megan Hughes Salaber received the first ever Technician Award from the 2016 graduating residents.
- 11 Eye Center Employees of the Year
Clinical: Sabrina Manning
SOM: Cindy Wallace
Supervisors Choice: James Xiong



12 Mark Mannis, M.D.: Delivering the First Pan American Cornea Society Lecture in Miami, Florida (February 2017).



13 Ivan Schwab, M.D.: 2017 Charles Snyder Memorial Lecture at the Cogan Ophthalmic History Society (March 2017).



14 Mark J Mannis, M.D., delivered the SICSSO Medalist Lecture in Grosseto, Italy. The Italian Society of Stem Cells and Ocular Surface met in June 2017 in Grosseto, Italy. Dr. Mannis was one of two medalists and delivered a lecture on new treatments of ocular surface disease and their roots in medical history. Presenting the medal is Professor Vincenzo Sarnicola, President of SICSSO (Societa Italiana di Cellule Staminali e Superficie Oculare).



15 Mark Mannis, M.D., was honored by the Cornea Society with the Claes Dohlman Award.

The Dohlman Award recognizes a lifetime of teaching excellence in the field of cornea and external disease and for contributions to the profession.



Pictured: Dr. Keltner, Dr. Brandt and Kimberly Cello

16 UC Davis Visual Field Reading Center was chosen as of July 1, 2017 to do all the Quality Control and to be co-readers with University of Iowa on OHTS 3 Clinical Trial.

Under the direction of Dr. John Keltner, the UC Davis Visual Field Reading Center (VFRC) has been the OHTS reading center for both phases 1 and 2. Its primary aim is to ensure, through rigorous quality control, the validity and integrity of all visual field data. As of July 1, 2017, the VFRC was chosen once again for the 3rd phase. Both Dr. Johnson (Univ. of Iowa) and Dr. Keltner work concurrently as Readers for the OHTS 3, while Kim Plumb and Laura Leming manage the day-to-day quality control and technician training, certification and feedback.



17 EnergEYES

Mark Mannis, M.D., was honored by the Young Ophthalmologists with the EnergEYES award for 2017 at the AAO meeting in New Orleans.

Since 2009, the Academy has presented the energEYES Award to an ophthalmologist who exhibits exemplary leadership skills. The awardee demonstrates the best in ophthalmology by energizing young ophthalmologists, serving as a strong role model and motivating others to get involved.

Mentoring young ophthalmologists keeps him on his toes. “(They) don’t put up with any subterfuge,” says Mannis. “They make you honest, and they make you smart. So mentoring has really been a way to stimulate my own development as a clinician and a scientist, as well as a human being.”

To read the whole article and view the video please go to: <https://goo.gl/GP5fvi>

UC DAVIS

EYE CENTER

Announcing Our Newest Faculty Positions

Welcome Dr. Melinda Chang, M.D.



Dr. Melinda Chang has been appointed to Assistant Professor of Neuro-Ophthalmology at the UC Davis Department of Ophthalmology & Vision Science. Dr. Chang has expertise in the diagnosis and medical and

surgical treatment of neuro-ophthalmologic disorders and strabismus, in both adults and children.

Melinda Chang, M.D., grew up in Riverside, CA. She completed undergraduate studies at the University of Southern California and graduated summa cum laude with bachelor's degrees in Neuroscience and Kinesiology. Subsequently, she attended Washington University in St. Louis for medical school and was elected to the Alpha Omega Alpha Honor Medical Society. She then completed ophthalmology residency and fellowships in pediatric ophthalmology and neuro-ophthalmology at the Stein and Doheny Eye Institutes at the University of California, Los Angeles. She is the recipient of numerous awards, including the Heed Ophthalmic Foundation Fellowship Award, in addition to research awards from the North American Neuro-Ophthalmology Society (NANOS) and the Stein Eye Institute.

TRAINING

2016-2017

Doheny and Stein Eye Institutes, University of California, Los Angeles, CA
Fellowship in Neuro-Ophthalmology

2015-2016

Stein Eye Institute, University of California, Los Angeles, CA
Fellowship in Pediatric Ophthalmology and Strabismus

2012-2015

Stein Eye Institute, University of California, Los Angeles, CA
Residency in Ophthalmology

2011-2012

Riverside Regional Medical Center, Newport News, VA
Transitional Year Internship

2007-2011

Washington University in St. Louis, MO
M.D., May 2011

2001-2005

University of Southern California, Los Angeles, CA
B.S. in Kinesiology, B.A. in Neuroscience, May 2005

SELECTED HONORS AND AWARDS

2017

Fellow Research Award, North American Neuro-Ophthalmology Society (NANOS)

2016

Heed Ophthalmic Fellowship Award

2015

Stein Eye Institute Excellence in Research Award

2011

Alpha Omega Alpha Honor Medical Society

Welcome Sara Thomasy, B.S., D.V.M., Ph.D.



Dr. Sara Thomasy joined the Department of Surgical and Radiological Sciences as an Associate Professor of Veterinary Ophthalmology, effective December 1, 2014.

Dr. Thomasy received her Bachelor of Science in Biology (2000) from Ohio State University, and her DVM (2005) and Ph.D. in Pharmacology and Toxicology (2006) from the University of California, Davis. She continued her training in a rotating internship (small animal emergency, intensive care, internal medicine and surgery) at North Carolina State University (July 2006-July 2007). She completed her residency in Comparative Ophthalmology (2010) from the UC Davis School of Veterinary Medicine. Dr. Thomasy is a Diplomate of the American College of Veterinary Ophthalmologists (2011). She was previously an Assistant Professional Researcher at UC Davis in the Department of Surgical and Radiological Sciences.

Dr. Thomasy's research interests include corneal wound healing, glaucoma, ocular pharmacology, and antiviral therapy for the management of ocular viral diseases. She is actively engaged in collaborative research and resident training activities with the Department of Ophthalmology & Vision Science in the School of Medicine and looks forward to broad engagement with the diverse membership of the Center for Vision Science. She will become a trainer on the vision science training and core grants from the National Eye Institute. Dr. Thomasy will be establishing an active research program in vision science at the California National Primate Research Center (CNPRC), collaborating with core scientists in multiple areas of nonhuman

primate research. This partnership of the CNPRC with the vision science program is congruous with a broader strategic vision of the UC Davis campus to be the preeminent research center of excellence in vision science.

Announcing the appointment of Christopher J. Murphy, D.V.M., Ph.D. as Vice Chair for Innovation and Industry Relations



The Department of Ophthalmology & Vision Science at UC Davis is pleased to announce the appointment of Christopher J. Murphy, D.V.M., Ph.D., as Vice Chair for Innovation and Industry Relations.

Dr. Murphy has had a distinguished career in Veterinary Ophthalmology as a clinician-scientist. In addition, he has forged strong relationships with the ophthalmic industry and has served as a co-founder of several companies, including two focused on assisting companies in bringing ocular therapeutics towards market.

In his position as Vice Chair, Dr. Murphy will focus on the identification of novel discoveries that can be translated into clinical applications. He will be developing relationships between the private sector and experts in the department to assist in the identification and development of much needed ocular therapeutics. He brings immense experience to this task and we look forward to developing new applications that will move from bench to bedside.



UC DAVIS

EYE CENTER

OUR TEAM

LEADERSHIP



Mark J. Mannis, M.D., F.A.C.S.
Fosse Endowed Chair in Vision
Science Research
Distinguished Professor and
Chairman, Cornea and External
Disease
Research Interests:
Corneal transplant technology,
eye and skin diseases, and
artificial corneas



Michele C. Lim, M.D.
Vice Chair and Medical
Director
Professor, Glaucoma
Research Interests:
Glaucoma patient compliance
focusing on medication
adherence



James D. Brandt, M.D.
Vice Chair of International
Programs and New Technology
Director, Glaucoma Service
Professor, Glaucoma
Research Interests:
Nanotechnology for innovation
in glaucoma treatments



**Christopher J. Murphy, D.V.M.,
Ph.D.**
Vice Chair for Innovation and
Industry Relations
Professor, Comparative
Ophthalmology
Research Interests:
Bio-physical cueing and
modulation of cell behaviors

FACULTY



Annie K. Baik, M.D.
Associate Professor,
Glaucoma
Veterans
Administration, Mather
Research Interests:
Emerging glaucoma
surgical techniques,
patient education



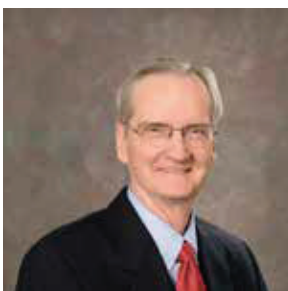
Jeffrey J. Caspar, M.D.
Director, Residency Program
Professor, Comprehensive
Ophthalmology and Refractive
Surgery
Research Interests:
Cataract surgery after refractive
surgery and new techniques for
cataract extraction



Melinda Chang, M.D.
Assistant Professor,
Neuro-Ophthalmology
Research Interests:
Disorders of the optic nerve
and binocular vision in
children and adults



Nandini Gandhi, M.D.
Associate Director,
Residency Program,
Associate Professor,
Pediatric Ophthalmology and
Strabismus
Research Interests:
International ophthalmology
and curriculum development



John L. Keltner, M.D.
Research Director
Chair Emeritus
Distinguished Professor/Emeritus,
Neuro-Ophthalmology
Research Interests:
The effects of multiple sclerosis
and cancer on vision



Esther S. Kim, M.D.
Director, Comprehensive and
Optometric Services
Professor, Comprehensive
Ophthalmology and
Ophthalmic Pathology
Research Interests: Improvement
of technology in cataract surgery



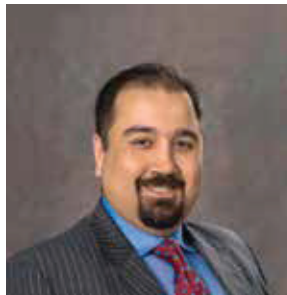
Jennifer Li, M.D.
Director, Refractive Surgery
Associate Professor,
Cornea, External Disease and
Refractive Surgery
Research Interests:
Endothelial keratoplasty and
keratoprosthesis surgery



Lily Koo Lin, M.D.
Associate Professor,
Oculoplastic Surgery
Research Interests:
Improvement of aging eyelids
and the relationship between
the orbit, globe and trauma



**Lawrence S. Morse, M.D.,
Ph.D.**
Director, Retina Service
Professor, Vitreo-retinal
Surgery and Uveitis
Research Interests:
Treatment for diabetic
retinopathy and age-related
macular degeneration



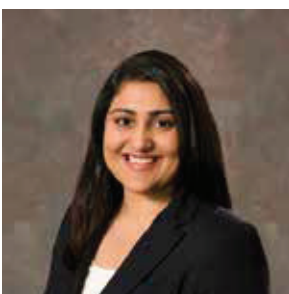
Ala Moshiri, M.D., Ph.D.
Assistant Professor,
Vitreo-retinal Surgery
Research Interests:
Genetic diseases



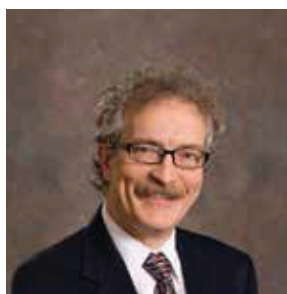
**Mary A. O'Hara, M.D., F.A.C.S.,
F.C.A.P.**
Director and Professor,
Pediatric Ophthalmology and
Strabismus Service
Research Interests:
Development of new technology
in pediatric strabismus



Susanna S. Park, M.D., Ph.D.
Professor,
Vitreo-retinal Surgery
Research Interests:
Age-related macular
degeneration, proton
beam therapy, and
stem cell therapies



Roma Patel, M.D., MBA
Chief of Ophthalmology and Eye
Care Division,
Sacramento Veterans Affairs
Hospital
Assistant Professor of
Ophthalmology,
UC Davis Eye Center
Research Interests: New models



Ivan R. Schwab, M.D., F.A.C.S.
Director, Cornea and External
Disease Service,
Professor Emeritus, Cornea
and Uveitis
Research Interests:
Limbal stem cell transplants
and comparative anatomy



Glenn C. Yiu, M.D., Ph.D.
Assistant Professor,
Vitreo-retinal Surgery
Research Interests:
Neuro-regeneration, retinal cell
biology, ocular imaging

VETERAN AFFAIRS NORTHERN CALIFORNIA FACULTY



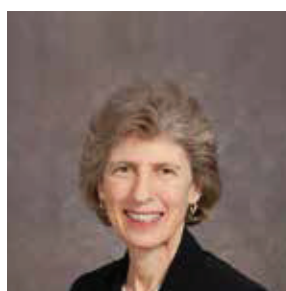
Annie K. Baik, M.D.
Associate Professor,
Glaucoma
Veterans
Administration, Mather
Research Interests:
Emerging glaucoma
surgical techniques,
patient education



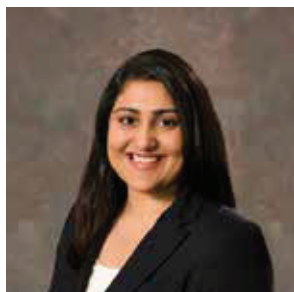
David Chu, M.D.
Health Sciences
Assistant Clinical Professor



Vivian Lien, M.D.
Clinical Assistant Professor of
Ophthalmology
Sacramento Veterans Affairs
Hospital
Assistant Professor of
Ophthalmology
UC Davis Eye Center
Research Interests: Anterior
segment reconstruction and
complex cataract surgery
techniques



Linda J. Margulies, M.D.
Professor,
Vitreoretinal Disease,
Veterans Affairs
Research Interests:
New treatment for
age-related macular degeneration



Roma Patel, M.D., MBA
Chief of Ophthalmology and Eye
Care Division,
Sacramento Veterans Affairs
Hospital
Assistant Professor of
Ophthalmology,
UC Davis Eye Center
Research Interests: New models

NOT PICTURED

Ernest Tark, M.D.
Health Sciences
Clinical Professor

Tiffany Wong, M.D.
Health Sciences
Assistant Clinical Professor

VOLUNTEER CLINICAL FACULTY



Barbara Arnold, M.D.
Clinical Professor

Robert Bellinoff, M.D.
Clinical Instructor

Craig Berris, M.D.
Clinical Professor

John Canzano, M.D.
Associate Clinical Professor

David Chu, M.D.
Health Sciences Assistant Clinical Professor

Ronald Cole, M.D.
Clinical Professor

Tyrone Glover, M.D.
Clinical Professor

Sukhjit Johl, M.D.
Assistant Clinical Professor

Jared Kelstrom, M.D.
Assistant Clinical Professor

Daniel King, M.D.
Clinical Professor

David Kira, M.D.
Clinical Instructor

Daniel Lee, M.D.
Associate Clinical Professor

Samuel Lee, M.D.
Clinical Instructor

Ashley Lesley, M.D.
Assistant Clinical Professor

Vivian Lien, M.D.
Health Sciences Assistant Clinical Professor

Jennifer Long, M.D.
Clinical Instructor

Linda Margulies, M.D.
Health Sciences Clinical Professor

Robert Miller, M.D.
Clinical Professor

Roma Patel, M.D.
Health Sciences Assistant Clinical Professor

Jonathan Perlman, M.D.
Associate Clinical Professor

James Ruben, M.D.
Clinical Professor

Bradley Sandler, M.D.
Assistant Clinical Professor

Denise Satterfield, M.D.
Clinical Professor

David Simon, M.D.
Associate Clinical Professor

Francis Sousa, M.D.
Health Sciences Clinical Professor

Ernest Tark, M.D.
Health Sciences Clinical Professor

David Telander, M.D., Ph.D.
Clinical Instructor

Tiffany Wong, M.D.
Health Sciences Assistant Clinical Professor

John Zeiter, M.D.
Clinical Professor

OPTOMETRISTS



Thomas B. Barnes, O.D., M.S.,
F.A.A.O.
Principal Optometrist



Melissa Barnett Erickson, O.D.,
F.A.A.O.
Principal Optometrist



Brooke S. Chang, O.D.
Senior Optometrist



Heidi Miller, O.D., F.A.A.O.
Senior Optometrist



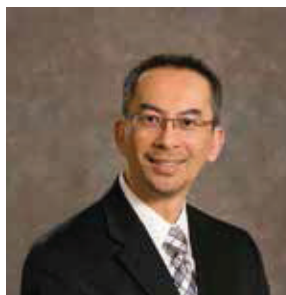
Marcia Nearing, O.D., F.A.A.O.
Senior Optometrist



Paul Nefedov, O.D., M.S.
Optometrist

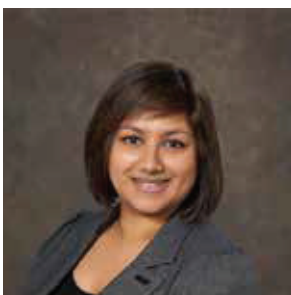


Kaaryn Pederson-Vanbuskirk,
O.D., F.A.A.O.
Senior Optometrist



Hai Tong, O.D.
Senior Optometrist

ORTHOPTIST



Tania Usner, B. Med. Sci.
Orthoptist

VISION SCIENCES



Nick Marsh Armstrong, Ph.D.
Associate Professor
Research Interests:
Basic cellular, molecular and developmental biology of retinal ganglion cells relevant to glaucoma



Marie E. Burns, Ph.D.
Professor, Retinal Physiology
Research Interests:
Photo transduction, photoreceptor adaptation, and protein movement



Paul FitzGerald, Ph.D.
Professor, Cell Biology and Human Anatomy
Director, Center for Vision Sciences
Research Interests:
The role of intermediate filaments in the biology of the ocular lenses



Mark S. Goldman, Ph.D.
Associate Professor, Neuroscience
Research Interests:
Computer models of eye movement



Leonard Hjelmeland, Ph.D.
Professor Emeritus, Molecular & Cellular Biology Ophthalmology
Research Interests:
Senescence of retinal pigment epithelium



Andrew T. Ishida, Ph.D.
Professor, Neurobiology, Physiology & Behavior
Research Interests:
Modulation of retinal ganglion cell excitability



Ravi S. Jonnal, Ph.D.
Assistant Professor
Research Interests:
Functional imaging of retinal neurons with adaptive optics



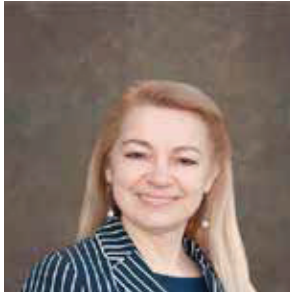
Christopher J. Murphy, D.V.M., Ph.D.
Vice Chair for Innovation and Industry Relations
Professor, Comparative Ophthalmology
Research Interests:
Bio-physical cueing and modulation of cell behaviors



Gary D. Novack, Ph.D.
Visiting Professor Pharmacology and Ophthalmology
Research Interests:
Development of new therapeutics, patient adherence and performance, regulatory affairs



Edward N. Pugh, Jr., Ph.D.
Professor, Cell Biology and Human Anatomy, Physiology & Membrane Biology, Ophthalmology
Research Interests:
Retinal photoreceptors and color vision



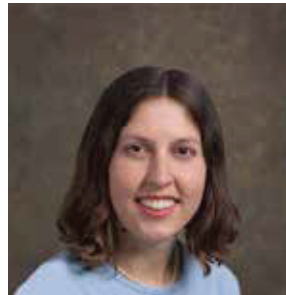
Zeljka Smit-McBride, Ph.D.
Research Scientist,
Vitreoretinal Research Lab
Research Interests:
Genomics and epigenetics
of aging and age-related eye
diseases, age-related macular
degeneration and diabetic
retinopathy



Vivek J. Srinivasan, Ph.D.
Assistant Professor,
Biomedical Engineering
Research Interests: Retinal
and optic nerve imaging,
blood flow and metabolism



Charles E. Thirkill, Ph.D.
Adjunct Professor Emeritus,
Immunology & Biology
Research Interests:
Ocular immunology



Sara Thomasy, DVM, Ph.D.
Associate Professor of
Comparative Ophthalmology
Research Interests: Corneal
wound healing, glaucoma, ocular
pharmacology, antiviral therapy
for FHV-1, large animal models of
ophthalmic disease



John S. Werner, Ph.D.
Distinguished Professor,
Visual Psychophysics
Research Interests:
Color and spatial vision, normal
aging and age-related disease,
retinal and optic nerve imaging



Robert J. Zawadzki, Ph.D.
Associate Researcher
Research Interests:
High resolution retinal and optic
nerve imaging techniques



Min Zhao, M.D., Ph.D.
Professor, Dermatology and
Ophthalmology,
Institute for Regenerative Cures
Research Interests:
Electrically stimulating cell
migration in corneal wound
healing and neuron regeneration

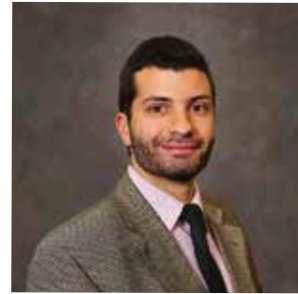
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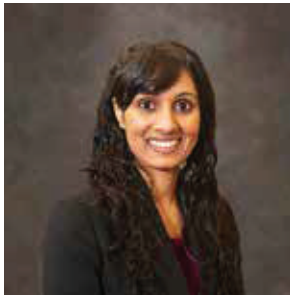
Parisa Emami Naeini, M.D., M.P.H.
Clinical Retina Fellow



Han Kim, M.D.
Clinical Glaucoma Fellow



Ralph Kyrillos, M.D.
Clinical Cornea Fellow



Lekha Mukkamala, M.D.
Clinical Retina Fellow



Sophia Wong, M.D.
Clinical Retina Fellow



Amirfarbod Yazdanyar, M.D., Ph.D.
Clinical Retina Fellow

RESIDENTS



Sophia Fang, M.D., M.A.S.
Third Year Resident



Jennifer Ling, M.D.
Third Year Resident



Jonathan Martin, M.D.
Third Year Resident



Tyson Olson, M.D.
Third Year Resident



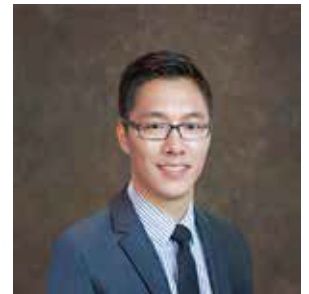
Justin Hellman, M.D.
Second Year Resident



Sangeeta Kalsi, M.D., M.P.H.
Second Year Resident



Aaron Skelton, M.D.
Second Year Resident



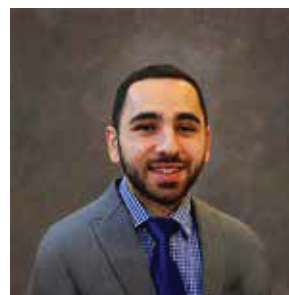
Michael Yen, M.D.
Second Year Resident



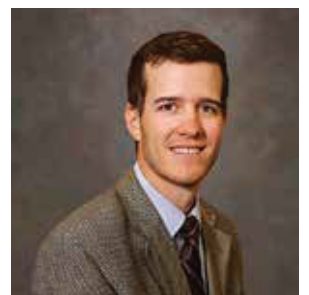
Jefferson Berryman, M.D.
First Year Resident



Michael Ellis, M.D.
First Year Resident



Abdala Sirajeldin, M.D.
First Year Resident



Alex Willoughby, M.D.
First Year Resident

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EYE CENTER

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Folsom, CA 95630
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MANAGING EDITOR

Mark J. Mannis, M.D.

CONTRIBUTING EDITORS

Erin Bauer
James D. Brandt, M.D.
Kimber Chavez

CONTRIBUTORS

Erin Bauer
Kimber Chavez
Derek Ledda
Jennifer Li, M.D.
Jennifer Ling, M.D.
Mark J. Mannis, M.D.
Shari Roeseler
Deanna Santana
Michael Schermer, M.D.
Glenn Yiu, M.D., Ph.D.

PRODUCTION MANAGER

Kimber Chavez

PHOTOGRAPHY

Bhupinder Dhillon

GRAPHIC DESIGN

Commerce Printing Services

UC DAVIS EYE CENTER

DIRECTORY

UC Davis Eye Center
4860 Y St., Suite 2400
Sacramento, CA 95817
(916) 734-6602
Eye Center Optical Shop
(916) 734-6300

UC Davis Eye Services Folsom
251 Turn Pike Dr., Suite 1070
Folsom, CA 95630
(916) 357-4880
Folsom Optical Shop
(916) 357-4888

**UC Davis Eye Services
Cadillac Drive**
77 Cadillac Drive
Sacramento, CA 95825
(916) 734-6602 Appointments
(916) 734-4642 Office
(916) 734-6650 Laser Eye Surgery
(LASIK) Appointments
Cadillac Drive Optical Shop
(916) 734-6644

UC Davis Eye Services Roseville
2261 Douglas Blvd.
Roseville, CA 95661
(916) 771-0251

**UC Davis Student Health
Services Optometry Clinic and
Optical Shop for current UC
Davis students only**
(530) 752-2349
<https://shcs.ucdavis.edu/services/optometry>

MAY 14, 2018

Clinical Treatments Using Stem Cells:
Regenerative Medicine to Cure Blindness
Drs. Susanna Park and Jan Nolte
Midtown Clinic, 3160 Folsom Blvd
Sacramento, CA 95816
6:00 PM – 8:00 PM

MAY 18-20, 2018

41st Annual Ophthalmology Symposium
Napa Valley Marriott Hotel
Napa, CA

JUNE 16, 2018

7th Annual Resident & Alumni Research Symposium
Education Building
Sacramento, CA

*Please contact Kimber Chavez for additional information
on events at (916) 734-7781 or KLChavez@ucdavis.edu.*

COMING IN NEXT enVISION ISSUE:

Location of the Ernest E. Tschannen Eye Institute Announced

Please look for the next issue of enVision in the
Spring with updates on the

ERNEST E. TSCHANNEN EYE INSTITUTE



Illustration: Artist rendering, not actual