

Berkeley

Herbert Wertheim School of
Optometry & Vision Science



ANNUAL REPORT
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ORG CHART

ACADEMIC PROGRAMS: ADMINISTRATION, FACULTY, STUDENTS

Administration

John Flanagan, Dean of the School of Optometry, successfully completed his third year of his second term on June 30, 2022. The school has three associate deans: Dr. Chris Wilmer is Associate Dean for Clinical Affairs, while Dr. Nancy McNamara is now the new Associate Dean Academic Affairs (Dr. Gunilla Haegerstrom-Portnoy has retired), and Dr. Mika Moy has been named the new Associate Dean of Admission and Student Affairs.

Monica Porter remains the Senior Assistant Dean for Operations, she is joined by our new Assistant Dean for Development and Alumni Relations, Ciel Mahoney, and Dr. Mike Hoffshire, who remains the Assistant Dean For Admissions and Student Affairs. Additionally, search is currently underway for a new position of Assistant Dean of Clinic Operations, with the expected date to fill the role in the 2023 academic year. The finance team is under the leadership of our CEO, Luis Ruiz.

Eric Craypo was promoted to Chief Communications Officer and now has a coordinator supporting his busy team. Dr. Shoge remains the director of DEIB, Matthieu Kaminski is the Director of OVLI, and Lyuda Martello remains the Director of Dean's Initiatives. Additionally, Patrick Richards is still the Director of Clinical Financial Planning and Analysis and Sherrell Gordon is the Director of Facilities. The search for a permanent director of IT is also underway, with the hope to fill the position in early 2023.

Faculty

Our long-time faculty member, Dr. Stanley Klein retired last year. Three new faculty members joined us officially in July, Dr. Jacob Yates as an Assistant Professor, Dr. Sarah Singh as an Assistant Professor of Clinical Optometry, and Dr. Debora Chen as an Associate Professor of Clinical Optometry. We are currently searching for more full-time tenure track faculty and expect to make 1 appointment in the spring of 2023. The School now has a total ladder rank faculty FTE count of 16.5, which translates to 18 people. We also have 6 faculty members in the Professor of Clinical Optometry series (only officially 1 FTE). Finally, we have 39 full time clinical faculty members with a total faculty FTE count of 54 (including optical faculty members), which translates to 82 people since many clinical faculty members are part-time.

Faculty Recruitment

The Future Senate Faculty Committee has just completed the 2022 Report of Faculty Recruitment (previous report was completed in 2013 and reapproved in 2018, for both reports see Appendix D) that has long-term plans for the recruitment of new senate faculty over the next 10 years (2022 - 2032). These plans take into account anticipated retirements, exciting new directions in the area of eye and vision research, the advancing scope of optometric clinical practice, and a set of guiding principles for faculty hiring, such as addressing the critical need to diversify the Herbert Wertheim School of Optometry and Vision Science community, the optometric profession, and the vision science workforce. The long-term goal is for Berkeley Optometry to lead the future of eye and vision research amidst a rapidly evolving landscape of advanced technologies, multi-disciplinary research initiatives, and advanced practice guidelines. To be successful in our efforts, we must

strategically recruit the highest caliber faculty who can advance our research agenda by growing in the key areas of bioinformatics, optics, ocular disease, therapeutics, neuroscience, and clinical-research related to low vision, rehabilitation, refractive error and pediatrics. To succeed, our recruitment efforts must work in concert with our mission to maintain and advance our pre-eminence in training the next generation of optometrists and vision scientists to advance the field of clinical eye care and responsible vision research.

The 2022 Report of Faculty Recruitment calls for recruitment in seven areas, prioritized by need, that will be governed by four guiding principles as follows:

Priority Areas

1. Application of bioinformatics & machine learning to basic and clinical sciences
2. Optics and imaging
3. Ocular disease, biology & therapeutics
4. Neuroscience
5. Low vision, vision rehabilitation, & geriatric vision
6. Children's vision, pediatrics and refractive error (Myopia)
7. Motor aspects of the eye and vision

Over the past 10 years Berkeley Optometry has strengthened its faculty through recruitment of individuals who are at the forefront of visual neuroscience, eye disease and treatments, and the measurement and correction of the optical aberrations of the eye. Over the next 10 years the School also has a unique opportunity to invest in its future and meet the challenges of maintaining and advancing its top international standing in optometry and vision science. Berkeley Optometry has achieved this standing through the quality of its professional training program, its teaching and research faculty, and its commitment to training the future academic leaders in optometric research related directly to the eye, to vision and to patient care. The average age of our current senate faculty will be 65 or older in 2032. Accordingly, the School will be dramatically impacted by the potential retirement of approximately 12 faculty which will affect some research areas more than others. Thus, an important consideration in future faculty recruitment is to ensure that our bases are adequately covered in teaching, and to hire strategically to keep Berkeley Optometry and Vision Science at the forefront of research.

Optometry Faculty Research

Vision Science inquiry is similarly expanding the frontiers of knowledge and thereby continuously improving vision care's potential. The Vision Science program consists of 37 faculty members in 12 different departments on the Berkeley campus with 70% from Optometry. The faculty's research areas are unusually diverse and at the forefront of vision science including high-resolution imaging of the eye at the cellular level, functional imaging of the visual brain, the molecular, cellular and genetic basis of ocular development, disorders and disease, bioinformatics, visual rehabilitation strategies, psychophysics, eye movements, vision displays, including augmented and virtual reality, deep learning and AI for clinical applications, and clinical trials research. The Vision Science faculty are exceptionally well supported with over \$103m of funding over the period of this review, with 74% from federal funding sources, principally from the National Institutes of Health (NIH). Current committed funding is over \$100 million. The program is highly productive in training PhD students and post-doctoral fellows. The Vision Science graduate group is one of the largest collectives of vision researchers on one campus in the world, in particular for a campus without a medical school and associated Department of Ophthalmology.

The NEI T32 Training Grant has been continuously funded for 44 years, and the Core Grant has been funded for 28 years. The School of Optometry has one other research training grant for optometry students (T35) which is now in year 28. The T32 and T35 grants were successfully refunded for another 5 years for August 2018 (T32) and May 2019 (T35) and the Core grant was also successfully refunded for 5 years in Sept 2018. We are putting in a competitive renewal for the NEI T32 Training Grant in May 2022 and a competitive renewal for the Core Grant in September 2022.

DIVERSITY, EQUITY, INCLUSION, AND BELONGING

Our vision is to create culturally humble clinicians and researchers for a culturally complex world. We strongly believe in academic rigor and excellence and are committed to diversity, respect for cultural differences, and promotion of social justice and in the holistic preparation of our students. We promote diversity, equity, inclusion, belonging, and justice in all that we do at the Herbert Wertheim School of Optometry and Vision Science through our teaching and research, recruitment of students, hiring and retention of faculty and staff, and our clinical care ([DEIB Webpage](#)). Health and healthcare disparities continue to plague many marginalized communities, therefore it is vital that current and future optometrists are equipped with the knowledge, skills, and attitudes needed to appropriately meet the eye care needs of our diverse communities.

Established in 2020, the Berkeley Optometry Council for DEI and Belonging led by a newly appointed Director of Diversity, Equity, Inclusion and Belonging, includes representatives from all student groups and units within the Berkeley Optometry community: Senate Faculty, Clinical Faculty, Senior Assistant Dean for Operations, Assistant Dean for Admissions and Student Affairs, Clinic Staff, Optometry Student Leadership, Vision Science Graduate Students, Postdoctoral Fellows, National Optometric Students Association (NOSA) Presidents, NOA Faculty Representatives, Berkeley Optometry Alumni Representatives. The Council has four areas of focus: (i) Recruitment and Retention; (ii) Belonging and Campus Climate; (iii) Education and Curriculum Transformation; and (iv) Community Engagement. Within each area of focus we engage with our students, faculty, staff, alumni, and local communities, and partner with UC Health and national optometric organizations to extend our programmatic goals beyond the Berkeley Campus. As part of the School's initiatives on DEIB, the Director of DEIB has developed a thorough strategic plan as can be seen in Appendix A1.

Specific actions include a revised emphasis to attend recruitment events with an intentional focus on diversifying health professional programs, e.g., National Association of Medical Minority Educators (NAMME) and expand our reach to affinity based student organizations, e.g., Black students in Health and Comunidad for Health Equity for Latinx/Hispanic students. We have also created and strengthened pathway programs for underrepresented students (ViSUR, Opto-Camp), and conduct continuous training, e.g. unconscious bias and holistic based admission practices training. In addition, we have removed perceived and structural barriers, such as making the OAT Scores optional, and revised the essay questions required in the admissions process by utilizing strengths-based perspective(s). Finally, we have launched the Berkeley Optometry Ambassadors Program, working with both current students and alumni.

More information about the program can be found here: <https://optometry.berkeley.edu/about-us/our-students/student-ambassadors/>.

Faculty Diversity

Faculty members at the School of Optometry and Vision Science vary in gender and race composition depending on the title series. In 2022, the senate faculty members are 48% female and 30% Asian, including one (4%) South Asian and one Hispanic, the remaining 66% are White. Most of these are long-term faculty members (several with more than 30 years as faculty). Senate faculty members are appointed rarely and serve usually for the rest of their lives. In the Professor of Clinical Optometry series (which has existed since 1999), 100% are female and 50% are Asian. Members of our clinical faculty are 47% White, 47% Asian, 5% Black, and 2% Latinx. The gender and race composition of the faculty is changing over time to more closely match the student population, which is predominantly female and Asian.

Additionally, we keep faculty diversity at the forefront of our new faculty hires and searches as is described in Appendix D. Specifically, "...creating an inclusive and welcoming environment is important to diversifying our faculty because it requires us to focus on how we ensure they will thrive and be valued for their contributions. This is a fundamental shift in our processes, policies, and structures of recruitment, mentoring, hiring, and promoting our faculty. Celebration of cultural and intellectual richness, diversity of thought and perspective, and human identity are essential elements of academic excellence and will demonstrate our commitment to a faculty body that is representative of our communities."

In order to attract and retain diverse faculty, especially senate faculty, we are committed to identifying, recruiting, supporting, and advancing talented individuals by being more inclusive of their perspectives, circumstances, and interests at every level - from undergraduate education to doctoral work and professorship. Ongoing mentorship will play a key role in helping our future scholars explore and cultivate their interests while providing insights into the satisfying career opportunities that exist in academia. Identifying future faculty is critical to our success and waiting to identify a good candidate for a faculty position at the application and interview stage is too late. Therefore, we are working to identify and mentor prospective faculty by continuing the thread of mentorship through undergraduate education, optometry school graduation, post-doctoral training, and navigating the faculty recruitment process. To assist in these efforts, last year we recruited Dr. Ruth Shoge as Berkeley Optometry's first Director of Diversity, Equity, Inclusion and Belonging. Dr. Shoge is working to leverage existing organizational and university programs while creating optometry-specific initiatives. Examples include:

- Organizational programs: Association of Schools and Colleges of Optometry (ASCO)
 - ASCO created the Faculty Diversity Initiative (FDI) for current Black and Latinx-identifying residents, a sister program to the Future Faculty Program for all residents. In just two short years, the FDI has shown promise for its effectiveness in mentoring Black residents into academic careers - the program helped facilitate the placement of five Black faculty members into optometry schools across the country.
- University programs
 - The University of California system offers Advancing Faculty Diversity and the Provost Postdoc Fellows program, both which provides funding to university departments to support scholars from underrepresented groups. The UC's Diversity Council is pursuing the goal to double the number of underrepresented faculty by 2026.

- Discipline-specific program
 - The Vision Science Undergraduate Research program (ViSUR) was established in 2022 and was designed for undergrad students to develop an interest in vision science. The students spend two months assigned to a lab and are mentored by the PI and other members of the lab, with a final presentation at the end of the program.
 - Young Scholars Program (not yet established) - will be used to mentor current residents to pursue an academic career with participation in clinical research and post-residency fellowship.

We believe that creating an inclusive and welcoming environment is important to diversifying our faculty because it requires us to focus on how we ensure they will thrive and be valued for their contributions. This is a fundamental shift in our processes, policies, and structures of recruitment, mentoring, hiring, and promoting our faculty. Celebration of cultural and intellectual richness, diversity of thought and perspective, and human identity are essential elements of academic excellence and will demonstrate our commitment to a faculty body that is representative of our communities.

Student Diversity

The Optometry students are: 67% Asian, 14% White, 4% Black, 11% Latinx, 1% Native Hawaiian or Other Pacific Islander, 1.5% two or more races, and 1.5% unspecified. 78% are female.

The Berkeley Optometry Diversity, Equity, Inclusion & Belonging (DEIB) Student Council was also established in 2020. This council recommends initiatives that weave DEIB into all aspects of optometric education with the goal of improving the campus experience for students of all races, ethnicities, identities and backgrounds. Furthermore, we are involved with the expansion of recruitment and outreach efforts that cultivate a more robust pipeline to our profession, with a focus on underserved communities. The council consists of optometric student representatives from every year and intimately collaborates with the general DEIB council, the Black Alumni Mentorship Council, administrators, faculty, staff, vision science graduate students and other optometric student groups such as NOSA.

Our National Optometric Student Association (NOSA) chapter is thriving. NOSA members at Berkeley Optometry continue to host instructional workshops to teach optometric Spanish and assist with vision screenings in underserved communities. NOSA also organized and presented for the ASAO at summer visits, targeting underrepresented minority high school and middle school students to learn about STEM fields. We are proud to report that in 2016 Berkeley Optometry was awarded the NOA School of the Year.

The Vision Science graduate students (currently 31) are 65% female, 16% Asian and 6% Latinx. The Vision Science Diversity, Equity, Inclusion & Belonging (DEIB) Student Council was also formed in 2020.

According to Mike Hoffshire, PhD, Assistant Dean of Admissions & Student Affairs “A diverse student body has been cited to enrich the educational experience of students, improve communication and thought-processing skills, challenge stereotypes, create empathy and better prepare students for the workforce (Brown, 2020). Additionally, as discussed at length in the literature, the representation of underrepresented optometrist(s) is essential for long-term improvement in access to and quality healthcare of patients (Lacy et al., 2012; Marshall, 2018).

When a patient shares a similar identity as a health care provider or believes they share a similar background and interest (referred to as concordance), patient care can be improved through trust in the provider, less delay in seeking care, increased use of health care services, and a better understanding of and adherence to treatment protocols (Cooper, 2003). Therefore, optometry and vision science programs have an obligation and commitment to diverse incoming student cohorts and ensure a sense of belonging in our programs.” See additional information about student diversity in the 2022 Magazine article “Diversifying Our Program(s) & Our Profession”, in Appendix F2.

Staff Diversity

The Optometry Staff are: 30% White, 24% Asian, 21% Latinx, 9% Black, 3% of two or more races with 10% unknown and 3% who declined to identify. For recruitment of new staff we follow campus guidelines, and we are compliant and up to date for the required “Search Advisory and Hiring Committee Best Practices” and “Managing Implicit Bias in the Hiring Process” for hiring managers.

ADMISSIONS AND STUDENT AFFAIRS OFFICE

Staff

The office is staffed by Associate Dean of Admissions & Student Affairs, A. Mika Moy, OD, FAAO, Assistant Dean of Admissions & Student Affairs, Mike Hoffshire, PhD, Assistant Director of Student Affairs, Sonia Moctezuma, MA, Assistant Director of Admissions, Ardi Samonte, MPH, Assistant Director of Vision Science & Residency, Alex Marquez, and Coordinator of the Optometry Program, Sandhya Andrews.

Admissions

This academic year, intentional efforts have been made to document policies and procedures and develop our respective Admission Committees through training (e.g. expectations, review of processes, stereotype threat, and implicit bias). Additionally, in Spring 2022, the Faculty voted to permanently move to be standardized test (OAT, GRE, etc.) optional and removed the Immunology prerequisite for students applying to our program. The results have assisted the School’s effort in diversifying its application and enrollment pool.

Admissions and Student Affairs continue to expand on recruitment efforts, including monthly webinars, student organization visits, Friday visits, and Ask An Advisor appointments. We continue to hire diverse and high quality Berkeley Optometry Ambassadors. Our team has returned to in person recruiting events with a focus on areas where we yield the most student applications (e.g. Southern California, Texas, Florida, etc.). We had over 50 recruitment events either in person or virtual. We continue to partner with Dr. Ruth Shoge, Director of Diversity, Equity, Inclusion, and Belonging in an effort to establish intentional metrics and outreach programming to local and national organizations to recruit underrepresented minorities in Optometry applicants. We increased our digital outreach to URIO applicants through weekly emails with personalized opportunities to engage with the School. The School hosted four groups of 150 high school students from the National Student Leadership Conference (NSLC) in July and August of 2022. The conference aims to broaden the horizons of top-notch high school students, from rising sophomores to seniors, who are interested in careers in health and medicine. We are also expanding our alumni outreach efforts to foster opportunities for their involvement in the recruitment and yield process either as contacts for prospects, partners for students to receive shadowing hours,

Optometry

We received 322 applications (with 108 admits) and enrolled 67 new Doctor of Optometry students in Fall 2022. Our quality remains high as reflected by the first year Class of 2026 demographics, OAT scores and GPAs in Biology, Chemistry and Physics.

For the Fall 2023 cycle, we received 342 applications (admits TBD). This year we streamlined the interview process and moved it entirely in house without third party applications or additional costs. We also increased our yield efforts with additional points of contact after a candidate was admitted through follow up phone calls, direct contact with current students and Identity Specific Webinars.

Vision Science

We received 54 and enrolled 9 new Doctor of Vision Science students in Fall 2022. Their backgrounds include degrees in psychology, biology, and engineering.

We received 35 applications (admits TBD) for Fall 2023. The admissions committee is standardizing their review process by creating new documents, graphics and rubrics to help with a more holistic review process.

Residency

Berkeley Optometry offers 7 residency positions in the area of low vision rehabilitation, vision therapy and vision rehabilitation, pediatrics, contact lenses, ocular disease, and primary care. For the class of 2022~23, an additional 12 residents are enrolled in the residency program at the affiliated clinics in UC San Francisco and 4 Veterans Affairs hospitals in San Francisco, Palo Alto, Fresno, and Reno. For 2023 - 2024, Residency applications are still underway and will be complete by March 2023.

Student Development & Events

Student

Support

Admissions and Student Affairs has established regular office hours and continues to meet with students. We support students of all class levels who experience personal, academic, and social obstacles.

A [new Students of Concern form](#) has been launched for faculty, staff, and students who wish to make a referral to our unit. Sonia meets monthly with each class leadership team. Additionally, our unit continues to establish relationships with various campus partners, including Financial Aid & Scholarships, the Basic Needs Center, Office for the Prevention of Harassment and Discrimination, Graduate Division, etc.

This past year, Admissions & Student Affairs has returned to offer programs on building academic skills, mindfulness, wellness, time management, etc. Additionally, several workshops were hosted for student organizations to assist in policy review and event planning procedures. A [Graduate Student Resource Guide](#) has been created.

Students enrolled in the Vision Science program continue to be supported and build community with events hosted by ASAO and VS student government. Alex monitors critical

milestones and meets with Drs. Taylor and Silver on a regular basis.

Student Milestone Events

Student milestone events (e.g. Halfway There, Old Home Week, Third and Fourth Year Award Nights, Vision Science Symposium, Graduation) returned in person for 2022 following the Covid19 pandemic. Opto-Camp 2022 continued in virtual format to allow expanded participant involvement. 110 applications were received, 85 students were selected from across the United States and world and 78 students attended. They learned about the profession of Optometry, the application process, different career paths of optometrists, and how to learn in a clinical environment. ASAO also hosted the Business Management Immersion Program (BMIP) with 30 students in attendance where students learned about networking and resume building, financial responsibility, and human resources.

The Vision Science program hosted the Bay Area Research Day (BAVRD) in September 2022 in hybrid format with esteemed speakers from across the Bay Area. Additionally, they hosted their yearly retreat in Fall 2022 in Lake Tahoe with over 50 students, post-docs, and faculty engaging in cohort building and research seminars.

Student Funding

Admissions and Student Affairs continues to offer competitive funding packages, including departmental awards, Graduate Opportunity Fellowships, and Optometric Opportunity Awards. We also partner with many local, state, and national organizations to notify students of scholarship opportunities. In partnership with our Development & Alumni Relations team, ASAO engages alumni & corporate sponsors to offset costs of many of our programs and services. We also were able to give five new incoming student scholarships (sponsored by our alumni). In 2022, we also received 140 applications for our Professional Student Support Funds (PSSFs) and awarded 100% of the students who applied.

Graduation

On May 21, 2022, 62 Optometry students and 12 Vision Science students from the Class of 2022 received their degrees at our annual Commencement celebration. The ceremony was held in Hertz Hall, with an appearance and memorable speech by Dr. Herbert Wertheim. Our 4 year graduation rate for the Class of 2022 remains high (above 90%).

In addition, the School hosted a make-up graduation for the Class of 2020 in December 2022. Over 60 Doctors of Optometry returned to celebrate.

Residents

A high proportion of graduating optometry students are successful in securing a position for residency training. For the Class of 2022, 34 of 40 students matched in the ORMS round (85%) and 4 individuals found positions post-match (10%). Therefore, 95% of the residency applicants of the Class of 2022 graduating class placed into residency positions. Of the 62 graduating Doctor of Optometry students, 61% of the class pursued residency.

Professional Student Performance

Our students continue to do well on the National Board Exams required for licensure. For each of the three parts, our students perform considerably better than the national average

NBEO Part (First Time Takers Only)	Berkeley Pass Rate	National Pass Rate
I: Applied Basic Science (Class of 2023); March 2022 Administration	71.4%	65.3%
II: Patient Assessment and Management (Class of 2022); December 2021 Administration	95.2%	85.2%
III: Clinical Skills (Class of 2022); July 2021 - June 2022 Administration	96.8%	79.0%
Ultimate Pass Rate (Class of 2022)	98.4%	87.77%

The Office of Virtual Learning Initiatives manages Continuing Education programs, school-wide production support, and A/V and educational classroom technology. Below is an overview of the programs and projects that the team supported in 2022.

CONTINUING EDUCATION SIGNATURE EVENTS				
33rd Berkeley Practicum 12 COPE-ACCREDITED CE HOURS JANUARY 15-17, 2022 337 ATTENDEES ONLINE Karen Walker-Brandreth keynote: Dr. Anthony Realini, MD Office of Virtual Learning Initiatives	37th Morgan-Sarver Symposium 10 COPE-ACCREDITED CE HOURS APRIL 22-24, 2022 410 ATTENDEES ONLINE Keynote: Andrew Iwach MD Office of Virtual Learning Initiatives	Myopia Academy 4 COPE-ACCREDITED CE HOURS SEPTEMBER 20 & 22, 2022 181 ATTENDEES ONLINE Office of Virtual Learning Initiatives with Dr. Maria Liu and Dr. Sarah Singh	Golden Conference 6 COPE-ACCREDITED CE HOURS OCTOBER 2, 2022 214 ATTENDEES ONLINE Office of Virtual Learning Initiatives with Dr. Jeremy Shumaker	Fall Alumni CE 6 COPE-ACCREDITED CE HOURS OCTOBER 15 & 16, 2022 274 ATTENDEES ONLINE Office of Virtual Learning Initiatives with DAR
Including Glaucoma Day 6 HOURS GLAUCOMA CE APRIL 23 & 24, 2022 ONLINE Office of Virtual Learning Initiatives with Dr. Carl Jacobsen, Dr. Joan Astorino, Dr. Andrew Iwach, Dr. Heather Jones, & Dr. Kerri Yoshiyama				
RESIDENCY PROGRAMS		SCHOOL-WIDE PROGRAM SUPPORT		
Resident Lectures 7 CE HOURS FEBRUARY & SEPTEMBER 2022 ~160 ATTENDEES ONLINE Dr. Kuni Kanai and Dr. Chris Wilmer	Resident Forum 7 CE HOURS JUNE 12, 2022 157 ATTENDEES ONLINE Dr. Kuni Kanai and Dr. Chris Wilmer	bTalks 13 HOURS CE MONTHLY ONLINE LECTURES ~430 CERTIFICATES ISSUED Dr. Linh Le & Dr. Chris Wilmer	MISC Production Support Faculty and dean searches Interdepartmental lectures White Coat Ceremony & ASAO productions Hybrid Meeting Support Office of Virtual Learning Initiatives & ASAO	
VISION SCIENCE PROGRAMS		A/V & EDU TECH UPGRADES		
Oxyopia Seminars 1 CE HOUR WEEKLY WITH CERTIFICATE SUPPORT Dr. William Tuten, Yoofi Mensah	Young Vision Scientist Podcast RECORDED, PRODUCED, AND PROMOTED EPISODE 1 OF THE VISION SCIENCE STUDENT-LED PODCAST Dr. Reem Almagati & Catherine McChrystal	Pre-Clinic FINAL PHASE OF CLASSROOM AND POD AV UPGRADES COMPLETED IN SPRING 2022. FACULTY TRAININGS Office of Virtual Learning Initiatives	Hybrid Meeting & Classroom Pilot DEAN'S HYBRID CONFERENCE ROOM DEPLOYED 394 CLASSROOM PILOT DEPLOYED FOR USE IN SPRING 2023 Office of Virtual Learning Initiatives	Classroom 489 PHASE 1 OF LECTURE HALL AV UPGRADES STARTED LATE FALL 2022. REPLACEMENT OF DISPLAYS AND ROOM CONTROLS Office of Virtual Learning Initiatives

Content for Continuing Education is organized by the Continuing Education Committee, co-chaired by Drs. Pam Satjawatcharaphong and Anne Tasaki with faculty members, Drs. Harry Green, Patsy Harvey, Katherine Lai, Dean John Flanagan, and, previously, Dr. Charlie Ngo. The office continues to provide a variety of high-quality online courses for optometrists to expand their knowledge and fulfill the requirements of licensure renewal by the California State Board of Optometry and as regulated by the Council on Optometric Practitioner Education (COPE).

Continuing Education Programs and Accreditation

The CE Programs are continually expanding to meet the ever-changing needs of today's optometrists and the modified certification requirements. In 2022, the UC Berkeley Optometry CE Office oversaw and accredited 45 CE hours across 57 lectures. It issued almost 13,000 individual hours of accreditation to attendees across over 1,500 certificates. The program hosted 52 speakers from across the continent, of whom 65% were female-identifying and 35% were male-identifying. According to post-event survey data across all CE programs, an average of 97% said that they learned new information about the topic, and an average of 95% said that they feel the info will be useful when providing patient care after attending the lecture.

The School's two largest CE programs continue to be the Berkeley Practicum and the Morgan-Sarver Symposium. In 2022, optometrists from all over the United States and several other countries attended the programs. Renowned speakers, including optometrists, ophthalmologists, and physicians from across the country, provided innovative presentations on a variety of topics.

Additionally, the CE Team worked with ARBO on updating COPE requirements. They provided a report summarizing data from the UC Berkeley School of Optometry's 2021 online CE webinar events to inform ARBO's 2023 guidelines for Continuing Education.

33rd Annual Berkeley Practicum

Berkeley Practicum was held online on January 15-17, 2022, with attendance of over 335 optometrists. The annual Karen Walker-Brandreth keynote lecturer was Dr. Anthony Realini, MD, Professor of Ophthalmology and Visual Sciences, West Virginia University. His lecture, *"Primary SLT: Challenging the Traditional Glaucoma Paradigm,"* provided valuable information and insight into glaucoma. Among the outstanding comments he received were:

- *"He is the best CE speaker I have heard in years. Best ever! Invite back again is a must!"*
- *"The lecturer provided cutting edge information that was timely, even if I was unable to do SLT, I can provide this information to my patients."*
- *"Really enjoyed this session, learned much, and will think ALT first, Thank you!"*

37th Annual Morgan-Sarver Symposium

The Morgan-Sarver Symposium was held online on April 22-24, 2022, drawing over 400 optometrists. The keynote lecturer was Dr. Andrew G. Iwach, MD, Associate Clinical Professor of Ophthalmology at the University of California at San Francisco (UCSF) and a faculty instructor at the California Pacific Medical Center Department of Ophthalmology. Dr. Iwach is a Fellow of the American Academy of Ophthalmology and has been its Secretary of Communications. His lecture titled *"Glaucoma 2022: Challenges, Complexities, & Opportunities"* garnered high praise from

Morgan-Sarver Symposium attendees as shown in their evaluation comments:

- *“Very interesting and engaging. Appreciated his extensive personal experience as a clinician.”*
- *“Presentation was clear and very informative. Very practical clinical advice given.”*
- *“I get the strong feeling that this man cares a lot about his patients!”*

Berkeley Glaucoma Day

The 2022 Morgan-Sarver Symposium also featured *Berkeley Glaucoma Day*, which was presented by Drs. Carl Jacobsen, Joan Astorino, Heather Jones, and Kerri Yoshiyama. The four-hour online course featured updates on secondary open angle glaucomas, and glaucoma management considerations during the COVID-19 pandemic. It provided 4 of the 10 hours of glaucoma-specific continuing education hours required for glaucoma-certified ODs in California. Among the outstanding comments the speakers received were:

- *“This warm and carefully paced interaction between two skilled and experienced presenters should serve as a model for the perfect CE experience.”*
- *“Wow! What an elegant way to tie in general information about the pandemic with eye care and glaucoma. Interesting, to the point and relevant to the times. Her case really opened my eyes about the struggle that our patients have had to get appropriate follow up care”*

Resident Forum

The Resident Forum was held online on June 12, 2022, with attendance of over 150 optometrists. The conference offered 7 CE hours and featured grand rounds presentations by 20 residents from UC Berkeley, UCSF, San Francisco VA, Palo Alto VA, Reno VA, and Fresno VA.

Myopia Academy

The Myopia Management Grand Rounds CE event was held online on September 20 and 22, 2022, with attendance of over 180 optometrists. Dr. Maria Liu and Dr. Sarah Singh, provided 4 CE hours on how to effectively integrate the principles of myopia management and recent research findings into patient care, using several typical cases of progressive myopia to illustrate the key components in clinical decision making for the target patient population. Among the outstanding comments they received were:

- *“An excellent blend of case presentation and evidence based justification. This is a very effective teaching technique. Well done!”*
- *“Please make this regular. I am very interested in updates as more information/data comes out and they present it well together.”*

Golden Conference

The Golden Conference was held online on October 2, 2022, with attendance of over 210 optometrists. The conference was focused on Traumatic Brain Injury (TBI) and included an expert panel of speakers who provided practical assessment and therapeutic tools, including prescribing considerations, to enhance optometric care of this important population and how recent research has shaped clinical practice. The speakers were organized by Dr. Jeremy Shumaker, OD and Chief of the UC Berkeley Sports Vision & Concussion Clinic. Among the outstanding comments the speakers received were:

- *“Really enjoyed the presentation by collaborating providers, the physical therapists. Looking forward to more of this type of CE, where other providers, non ODs, can share their insights*

too.”

- *“I greatly enjoyed panel discussion and allow all the speakers give their perspectives (personally or professionally) on examination clinical procedures or prescribing suggestions. Dr Shumaker was a great moderator during both sessions.”*

Alumni Reunion & Fall CE Series

The Alumni Reunion & Fall CE Series was held online on October 15-16, 2022, with attendance of over 270 optometrists. The keynote speaker was Dr. Carl Jacobsen, OD, FAAO, and Clinical Professor at the Herbert Wertheim School of Optometry & Vision Science. His lecture, “Decision-Making in Glaucoma,” provided insight and guidance on making difficult decisions in glaucoma diagnosis and treatment using a case-based format for real world examples of when to diagnose glaucoma, how to design a patient specific treatment plan, and how to monitor glaucoma patients.

Among the outstanding comments he received were:

- *“I could listen to Dr. Jacobsen all day I always learn something and he never disappoints even through a computer he makes me feel like I am right there sitting with him.”*
- *“Always enjoy Dr. Jacobsen’s talks on glaucoma. I learned some good information that I can use in clinic.”*

Expansion of the Online CE Program

As our ever-changing world shifts to education delivery via remote instruction and distance learning, it is crucial that the Herbert Wertheim School of Optometry and Vision Science develops and leads the field of online continuing education for the profession of optometry. All of the programs offered in 2022 were live (synchronous) online with positive feedback from attendees, such as:

- *“Enjoyed having live online CE. It is really convenient to be able to complete CE this way and I hope that live online CE will be allowed to continue. I do not feel any loss of effectiveness going to live online versus traditional in-person CE.”*
- *“The Live Online CE program format was wonderful! Please keep doing live CE webinars!!”*
- *“I like the live online presentations and prefer this mode over in class education. I find it easier to learn via this mode. More likely to sign up for these vs in person.”*

Additionally, in 2022, the team launched a new learning management system using Canvas Catalog, which currently houses all the live (synchronous) online programs and will also house the Digital CE Catalog (asynchronous online) in 2023. The team has worked with school faculty to record and produce ~25 hours of asynchronous CE content that will launch in 2023. Our mission is to provide superior education by leveraging multimedia formats that not only engage the learner, but also provide methods by which education is more effective. Keeping the quality of the education commensurate with the Herbert Wertheim School of Optometry and Vision Science’s standards, however, remains paramount.

Additional CE Courses and Events

In addition to their primary “live programs,” the Office of Virtual Learning also participated in accrediting, administering, marketing, and issuing certificates for other school-sponsored CE courses, including Resident Lectures, Oxyopia, and bTalks.

The team also partnered with the Vision Science program to record and produce the first episode of their student-led podcast, *The Young Vision Scientist* with host Reem Almagati. The pilot episode went live in December 2022.

A/V and Educational Technology Upgrades

In partnership with the school's IT team, the Office of Virtual Learning Initiatives worked on A/V and technology updates in the school's pre-clinic, classroom 489, and on the Hybrid Meeting & Classroom Pilot.

The pre-clinic upgrade project was completed in Spring 2022. In addition to enhancements in the classroom space, 2-way audio communication and cameras were placed in the exam pods to enable better communication between instructors and students. Training sessions and documentation were provided to pre-clinic faculty prior to the start of the Fall 2022 semester.

After assessing the School's classroom and meeting spaces, Classroom 489 (our most heavily used learning space) was identified as the room most in need of A/V upgrades due to some recurring display issues and equipment failures. A vendor was selected after a bidding process during Fall 2022, work has begun and Phase 1 (replacement of displays and room controls and installation of a webcam) will be completed prior to the start of the Spring 2023 semester. The audio system will be upgraded during Fall 2023 and a "Zoom Rooms" license will be added to enable hybrid instruction and webinar live streaming.

Embracing the prevalence and need for hybrid meetings and instruction, our team deployed a hybrid meeting space in the Dean's Conference Room during Fall 2022 and we have just completed the installation and deployment of a hybrid classroom in 394 Minor Hall. Our pilot program was devised after consultation with campus Digital Learning Services, other units on campus who have hybrid classrooms and researching appropriate technology.

CLINICAL RESEARCH CENTER

Mission Statement

The mission of the Berkeley Clinical Research Center (CRC) is two-fold: (1) to explore new models and strategies for diagnosis, treatment, and prevention of ocular anomalies by conducting patient-based clinical studies/trials as well as translational research and, (2) to provide training for young professionals who are interested in, or want to pursue careers in, clinical research.

To achieve its mission, the CRC:

1. provides an infrastructure, professional staff, and examination space as well as cutting-edge equipment for advanced clinical research;
2. promotes translational research and improves patient care by accelerating translation of lab discoveries into the clinical setting;
3. bridges the gap between academia and private industry; and
4. provides research opportunities to undergraduate and optometry students, optometry residents, and clinicians (OD, MD) through programs such as internship offered to undergraduate students, OD honor thesis, post-doctoral clinical research fellowship and vision science PhD program.

The CRC provides training at all levels that includes research rotations available for OD residents 1 day/week for 1 semester; a 1-year Clinical Research Fellowship for post-OD, MD and PhD trainees; and opportunities for conducting honor OD-thesis research projects. Through these programs, trainees and clinicians gain first-hand experience in understanding challenges that come with clinical, patient-based research and obtain skills necessary for achieving different stages of clinical trial/study as well as acquiring experience in various levels of study designs and data management and analysis. Having worked in a multi-disciplinary research team like the one in the CRC has proven an invaluable experience for our trainees.

Faculty, Researchers, Administrative Staff and Trainees

Director/Principal Investigator: Meng C. Lin, OD, PhD, FAAO

Administrative Staff: Jasmine Ng (office manager); Ilse Villacorta-Alatrisme (study coordinator); Sarah Chang (study coordinator); and Camden Amy Castagna-McLeod (departed July 2022 for graduate studies in Public Health at Vanderbilt University).

Research Staff: Vivien Tse (research manager until Aug 2022; currently enrolled in UC Berkeley Vision Science); Jenn Ding, OD (research manager); Nina Tran, OD; Tatyana Svitova, PhD (Research Specialist); Bo Tan, PhD (Research Specialist); Yixiu Zhou, PhD (Data Analyst); Andrew Graham, MS (Bio-statistician)

PhD Graduate Student: Young Kim, PhD (graduated from UC Berkeley Vision Science in May 2022); Peter Wang (PhD candidate, UC Berkeley Vision Science); Jose Vega, OD (PhD candidate, University of Valencia Vision Science); Vivien Tse (PhD student, UC Berkeley Vision Science)

Post-doctoral Fellow: Anisha Pradhan, OD

Optometry Student Employees: Alisa Molina (Class of 2025; NIH T35 Trainee; OD Thesis); Helen Tasho (Class of 2024; NIH T35 Trainee; OD Thesis)

Undergraduate Student Employees: Sarah Chang (URAP student; graduated in May 2022; currently employed as Study Coordinator); Devin Leung; Kaleigh Lin; Even Sun; Tiffany Yuan

Research

In 2022, despite COVID-related challenges, the CRC continues to secure funding to support its research activities and PhD/Post-doctoral training. We work closely and productively with Industry in developing projects, both by responding to the interests of Industry as well as developing ideas of particular interest to the CRC. As a result, one-third of our research efforts supports investigator-initiated projects; one-third for investigations requested by Industry; and the remainder for the NIH-NEI project. We have established new and maintained strong relationships with Cooper Vision, Johnson and Johnson, Alcon, Verily, Essilor USA, Tarsus Pharmaceuticals, BioTissues and TheaPharma. In addition to Industry sponsored clinical trials, our multidisciplinary research team works on developing cutting-edge and innovative tools for dry eye management, including an new methodology of measuring tear aqueous production rate (compared to tear aqueous volume measured by the Schirmer's test), quantitative tear-lipid-film dynamic assessment *in vivo* (compared to the current method of qualitative visual inspection of the tear-lipid film), and an quantitative measurement of meibomian gland morphology (compared to the current subjective assessment of meibography images). Machine learning, specifically deep learning, has been employed to develop various software programs to help translate these novel tools from research to clinical setting. These new tools can make accurate assessment of critical clinical end points that are important for dry eye disease diagnosis and treatment.

The CRC also has collaborative research projects with UC Berkeley CIVO (Center for Innovation in Vision and Optics) to understand the effect of chromatic aberration on accommodative response and visual performance in emerging presbyopes, as well as with UCSF Glaucoma Service to investigate the effect of scleral lens on intraocular pressure of healthy and glaucomatous patients.

Publications & Presentations

In 2022, the CRC has submitted 6 manuscripts to scientific peer-reviewed journals – 5 published, and 1 currently in revision process. The CRC has also presented 8 paper/poster at ARVO and AAO. Our scientific presentation titled “AI Provides Deeper Understanding of Meibomian Gland Morphology and Function” has been selected by the Academy Communications Committee as one of the ten most newsworthy at AAO 2022 San Diego. We were invited to present our work at the American Academy of Optometry Press Conference.

Manuscript Publications

1. Kim YH, Nguyen T, Lin MC, Peng C-C, Radke CJ. Protection against corneal hyperosmolarity with soft-contact-lens wear. *Prog Retin Eye Res.* 2022;87:101012.
2. Kim YH, Lin MC, Radke. CJ. Central-to-Peripheral Corneal Edema During Wear of Embedded-Component Contact Lenses. *Cont Lens Anterior Eye.* 2022;45(1):101443.
3. Kim YH, Lin MC, Peng C-C, Radke CJ. Prevention of localized corneal hyperosmolarity spikes by soft-contact-lens wear. *Cont Lens Anterior Eye.* 2022 Jun 16:101722. PMID: 35718682

4. Kim YH, Nguyen T, Lin MC, Peng C-C, Radke CJ. Midday Lens Removal and Reinsertion Cannot Prevent Post-Lens Tear-Film Hyperosmolarity During Soft-Contact-Lens Wear. *Optom Vis Sci*. 2022 Jul 14. PMID: 35849056
5. Wang J, Graham AD, Yu SX, Lin MC. Predicting demographics from meibography using deep learning. *Sci Rep*. 2022 Sep 20;12(1):15701. PMID: 36127431

Conference Presentations

1. Kim YH, Lin MC, Peng C-C, Radke CJ. Protection Against Localized Corneal Hyperosmolarity Spikes with Soft-Contact-Lens Wear. Association for Research in Vision and Ophthalmology Annual Meeting; 2022 May 1-4; Denver, CO. [Paper]
2. Radke CJ, Kim YH, Nguyen T, Lin MC, Peng C-C. Dynamic Salt Accumulation in the Post-Lens Tear Film with Soft-Contact-Lens Wear: Implications for Protection Against Corneal Hyperosmolarity. Association for Research in Vision and Ophthalmology Annual Meeting; 2022 May 1-4; Denver, CO. [Poster]
3. Tse V, Litvin T, Chung L, Zhou Y, Han Y, Lin MC. Pressures Changes at the Central Cornea and Sclera during 5 hours of Scleral Lens Wear. Association for Research in Vision and Ophthalmology Annual Meeting; 2022 May 1-4; Denver, CO. [Paper]
4. Lin MC, Wang J, Kothapalli T, Graham AD, Yu S. AI provides deeper understanding of Meibomian gland morphology and function. American Academy of Optometry Annual Meeting; 2022; San Diego [Paper]
5. Tse V, Litvin T, Chung L, Zhou Y, Han Y, Lin MC. Short Term Scleral Lens Wear Induces Intraocular Pressures Changes at the Central Cornea and Superotemporal Sclera. American Academy of Optometry Annual Meeting; 2022; San Diego [Poster]
6. Litvin T, Tse V, Chung L, Han Y, Lin MC. Correlation Between Corneal and Scleral Intraocular Pressure Measurements Using Pneumotonometry. American Academy of Optometry Annual Meeting; 2022; San Diego [Paper]
7. Vega JA, Graham AD, Alemany AL, Lin MC. Importance of Evaluating Pre-ocular Tear Film Stability in Symptomatic and Aymptomatic Contact Lens Wearers. American Academy of Optometry Annual Meeting; 2022; San Diego [Poster]
8. Kothapalli T, Shou C, Ding J, Wang P, Graham AD, Svitova T, Yu SX, Lin MC. Tracking the Dynamics of the Tear Film Lipid Layer. Medical Imaging Meets Neural Information Processing Systems (NeurIPS) Workshop; 2022 December 2; New Orleans, LA. [Paper]

DEVELOPMENT & ALUMNI RELATIONS

Staff

The Development and Alumni Relations Office is currently staffed by Assistant Dean Ciel Mahoney, Director of Annual Fund Samantha Zepeda, Director of Foundation Relations and Strategic Initiatives Benjamin Harwood, Associate Director of Alumni Engagement and Annual Fund (TBD), as well as Development Associate and Advancement Events Manager Sherrie Stewart.

Donors

In 2021, the UC Berkeley School of Optometry received the largest gift ever by a school of optometry in the country, with a \$50 million pledge from Dr. Herbert and Nicole Wertheim Family Foundation. The commitment is the lead gift for a 10-year, \$100 million investment that will expand the school's ability to train the next generation of optometric physicians and educators. The funds will elevate the school's training and research programs by investing in innovative vision care, teaching, and discovery models. Recognizing this transformative gift, the school was renamed the Herbert Wertheim School of Optometry and Vision Science.

Propelled by this \$50 million landmark commitment from the Wertheim Family Foundation, the school is embarking on an ambitious campaign to prepare the next generation of trailblazing optometrists and vision scientists. Our Vision, Our Future, is the theme of the campaign. We aim to raise \$25 million over the next ten years to complete our \$100m campaign. In conjunction with generous pledges from the Wertheim Family Foundation and the Chancellor, this campaign will support transformational improvements, featuring a new state-of-the-art satellite clinic in Emeryville, exciting initiatives such as a novel model of integrated, optometry-led children's eye care and vision health, and new student scholarships.

Camaraderie

As the School continues to be resilient in addressing the challenges brought about by the pandemic, we hosted a modified and hybrid version of our Reunion and CE celebration, offering a series of engaging online lectures in September and October. The reunion celebration, dubbed "Brilliance of Berkeley Optometry," welcomed the Wertheim family, alumni, and friends to a new era as the School launched the Herbert Wertheim School of Optometry and Vision Science. The School made sure that enhancements for safety included vaccination requirements and indoor masking. The Alumnus of the Year was awarded to Janet Carter, OD, Class of 1979, Dr. Robert Greer received the Annual Mert Flom Teaching Award from the class celebrating their 25th reunion. Drs. Cristen Adams, Sheryl Guillory Reaves, Farah Gulaid, and Joy Harewood received the Michael G. Harris Distinguished Service Award for their essential work in diversity, equity, & inclusion.

Website

For 2022 the school's main website and the clinic website have recently been updated in partnership with the campus accessibility team to reflect the highest standards of accessibility. Going forward, the communications team will monitor national web standards and update the websites to ensure that they remain in compliance with all accessibility standards.

Magazine

The 2022 edition of the Berkeley Optometry magazine introduces inspirational individuals who are change agents both within the school, and nation-wide. Articles feature the work being done by Dr. Teresa Puthussery, who recently received an Audacious Goals grant from NIH for her collaboration to cure blindness with retinal cell transplants; the unique and fascinating career of recent vision science alumna Billie Beckwith-Cohen, who is doctor of veterinary medicine finishing up a residency in comparative ophthalmology; and an interview with Dr. Jeremy Shumaker, Chief of the Sports Vision Clinic, who together with his colleagues is helping top athletes and weekend warriors improve performance.

Day in the Life Videos

Over the summer we produced four new Day in the Life videos. We now have a total of 8 Day in Life Videos. These videos help prospective students visualize what it's like to be an optometry student.

Volunteers

The Alumni Board continues to assist with alumni events, enable student/alumni interaction, advise Dean Flanagan on top priorities for the school and the profession, and serve as Berkeley Optometry Ambassadors beyond the walls of Minor Hall. The 2022 Alumni Board was made up of the following members: Drs. Deanne Alexander, Kristine Eng, David Geffen, Michael Harris, Vicki Hughes, Tim Jankowski, Eleanor Kung, Rosemary Melrose, plus (Assistant Dean, Development and Alumni Relations) and optometry student leadership. The Alumni Board represents class years, skills, interests, expertise, and a cross-section of geographic locations.

Throughout the year, alumni volunteers give of their time, talents, and means to work with students, the Dean, and the Office of Development & Alumni Relations to engage alumni and students in a lifelong connection with one another and with the school, providing value and fostering support to advance the school's preeminence for generations to come. As we celebrate our centennial year, we will continue to expand our volunteer program and create a broader network of alumni volunteers.

AWARDS AND HONORS

Emily Cooper

Hellman Fellows Award | Society of Hellman Fellows, UC Berkeley

In support of early career faculty who have shown evidence of their promise for distinction in research.

Clyde Oden

Alumnus of the Year | Herbert Wertheim School of Optometry & Vision Science, UC Berkeley
For extraordinary contributions to the profession and society.

Melanie Mason

OD of the Year | ACCCOS

Alameda Contra Costa Counties Optometric Society Award

Jennifer Fisher

Young OD of the Year | COA
California Optometric Association

Jorge Otero-Millan

Excellence in Postdoctoral Mentoring | UC Berkeley

Marvin Poston

VSP Legacy Recognition Award | VSP

On June 30th, VSP and the Poston Family celebrated the legacy of Dr. Marvin R. Poston with the installation of an original bronze sculpture by artist, Zoe Dufour, at the VSP Vision Headquarters in Rancho Cordova, CA.

Herbert Wertheim

Builders Award | UC Berkeley

The Builders of Berkeley Monument was created in 2003 to honor our university's leading benefactors.

Deborah Orel-Bixler

Dolan Award

The Dolan (Resident Mentor of the Year) Award was established in 2008 to honor Dr. Bernie Dolan for his outstanding service in the education and mentorship of optometry residents. The award is presented annually to a residency mentor who has demonstrated excellence in teaching, mentorship, and service to the residency program and the profession of optometry.

Berkeley Optometry continues to provide top clinical education and patient care. Engagement continues to be broad with training and eye care being provided on-campus, within the UC operated community clinics, through the digital health retinal screening program and via the UCBest Vision Screening throughout a number of Bay Area School Districts. Patient care numbers in all clinics in 2022 reached 127,639 encounters and have exceeded both our 2020 and 2021 numbers with an increase of 22% and 12% respectively. Patient encounters in 2019 were higher than current although on campus eyewear center numbers are inflated due to the appointing practices implemented at that point and in years prior. It is estimated that in 2019 one third of all eyewear center appointments resulted in no engagement due to the center being routinely over capacity which resulted in patients leaving after long waits.

The clinical training program has been consistently structured for an assumed class size of 65-69 trainees throughout the years. The third year class of 2024 entered the summer clinic with 49 trainees compared to 69 in the class of 2023. This reduction in clinicians impacted the number of patient encounters available both in the eyewear center and the clinic. Although additional clinic days were not assigned to the class of 2024, to make up for the lower class size, the interns did see more patients in the clinic and did more optical orders per person than the previous class. For example, as third year students, during May-December the class of 2024 saw 362 patients while the class of 2023 saw 291. In optical the class of 2024 did 79 jobs each while the class of 2023 did 73 during the same time period. Teaching ratios have been generally similar this year to previous although there have been times that the teaching ratio has been slightly more favorable with a 3 or 3.5 vs a 3.5 or 4 to 1. The slightly lower teaching ratio, at times, may contribute to the higher efficiency of the student clinicians.

Changes to On-Campus Clinics

On campus clinics are relatively unchanged in comparison to 2021 with all clinics working at full capacity. A few changes have occurred in 2022.

- In the summer 2022, Dry Eye and Advanced Cornea and Contacts remained as a combined clinic, and Myopia Control was removed from the 3-clinic rotation to improve clinician learning.
- Sports Vision continues to operate at the Tang Eye Center on Wednesday, Thursday and Friday with plans to remain in this location until the Emeryville clinic is completed. Sports Vision expanded to Mondays for spring semester of 2022 only and will expand to Tuesdays in January of 2023. Sports Vision was added to the Binocular Vision resident curriculum which has diversified the training for this track and has been a large draw during the 2023 residency admissions cycle.
- In Fall 2021 a late Myopia Control clinic was introduced on Wednesdays to provide additional convenience for patients. This initial pilot clinic has been led by Drs. Celia Gong and Karen Molina with the support of patient services staff. As of Summer 2022, late Myopia Control is staffed by Dr. Karen Molina and Dr. Sarah Singh.
- Optical services at Tang were reinstated in late 2021 with a small curated frame inventory although this has been difficult to adopt without the professional presence of an optician. Bringing a full service optical online at Tang is planned for the summer of 2023.
- Urgent care patient triage is being done via Tiger Connect between patient services and daily provider groups. This system has allowed providers to determine and communicate with patient services regarding next steps. Urgent telehealth visits are being implemented when appropriate to reduce the burden on already busy clinics.

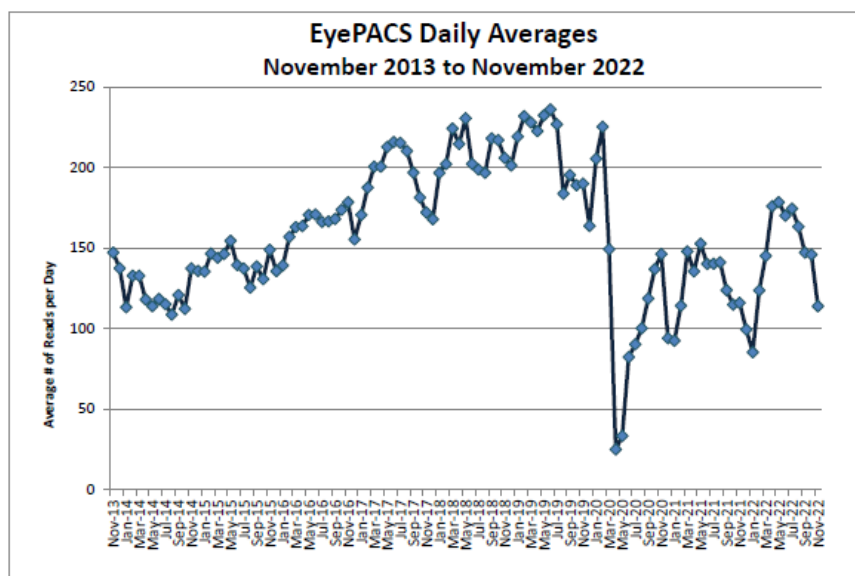
Community Clinics

As leaders in optometric clinical education, the objective is to teach students to provide excellent primary and specialty vision care to all patients, including those traditionally underserved by mainstream health care systems. To help strengthen and diversify this training program, Berkeley Optometry has partnered with several community health care systems. The Berkeley Optometry clinical program has partnered with several off-campus Federally Qualified Health Centers (FQHC), including the Alameda Health Care System at Hayward and East Oakland, the Marin Community Clinic at Novato and San Rafael, the West Oakland Health Clinic, and the Lifelong Medical Care Over 60 Clinic in Berkeley.

In addition to our FQHC partners Berkeley Optometry is engaged in clinical operations at UC Santa Cruz, Lighthouse for the Blind and the Berkeley Outpatient Clinic.

Trends in Digital Health

Due to the COVID-19 pandemic many of DHC's contracted clinics temporarily stopped diabetic retinopathy screening services, decreasing projected consults to approximately 36,000 in 2022. The program has continued to recover, which has been slowed by the persistence of the pandemic and resistance of the populus to vaccination. The DHC is also active in teaching optometry students and optometric residents in telemedicine.



Clinical Faculty

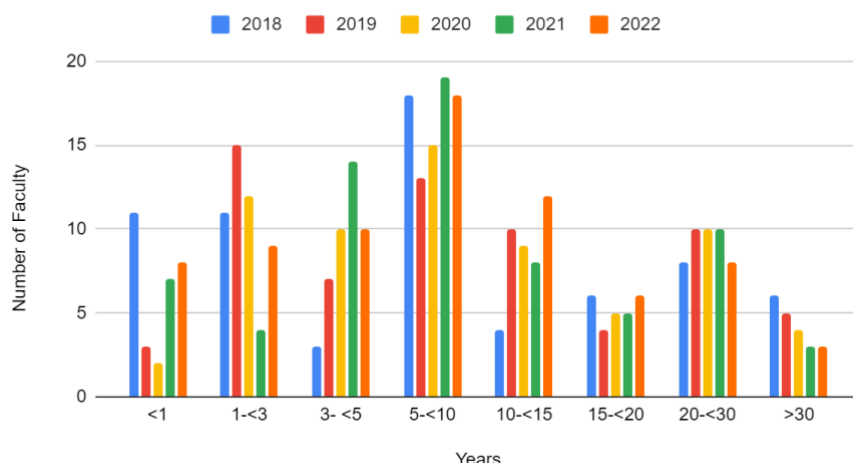
As in previous years, the clinic maintained a dedicated clinical faculty that met and exceeded the requirements for their level of experience. As of July 1, 2022, twenty-one (21) clinical faculty received a merit step increase (2 optical faculty, 19 optometry faculty), one optical faculty achieved promotion in rank, and two WOS clinical faculty earned promotion in rank.

Clinical Faculty are constantly striving for excellence in clinical teaching and patient care and are provided a number of feedback mechanisms. Each faculty member is evaluated by each student taught through deidentified evaluations on Meditrek with faculty continuing to receive scores above

6.7 on average in Overall Teaching Effectiveness. Each faculty member also participates in a regular quality assurance review of patient records (evaluation of patient care skills by auditing of patient encounters) in a peer review process with all QA reviews scoring within the highest category of “excellent care”. This is completed twice a year, once in the spring and fall. Six vertical meetings were scheduled to provide time for clinical faculty meetings, planning and training. In addition bTalks are provided at least 12 times per year providing faculty engagement and development.

On-Campus Faculty

Faculty Years of Service



2022 Clinical Faculty Recruitments

- Dr. Adrienne Coulter, Residency in Primary Care & Community Health, UC Berkeley
- Dr. Jeffrey Kong, Residency in Cornea & Contact Lens, University of Houston College of Optometry
- Dr. Sam Lee, Residency in Primary Care & Contact Lens, UC Berkeley
- Dr. Kristina Lin, Residency in Ocular Disease & Primary Care, UCSF
- Dr. Mareena Roufail, Residency in Low Vision Rehabilitation, UC Berkeley
- Dr. Michael Wong, Residency in Cornea & Contact Lens, UC Berkeley
- Dr. Celia Yeung, Residency in Vision Therapy & Vision Rehabilitation, UC Berkeley

2022 Optical Faculty Recruitments

- Ricardo Collado Vergara, ABOC
- Romnel Balabis, ABOC

Externship Faculty Changes

- Dr. Piper Bahr was added as a faculty member at Bay Area Community Health.
- Dr. Samantha Fernandez replaces Dr. Kasey Zann at VA Miami Medical Center.
- Dr. Roger Juarez was added as a faculty member at VA Kernersville Health Care System.

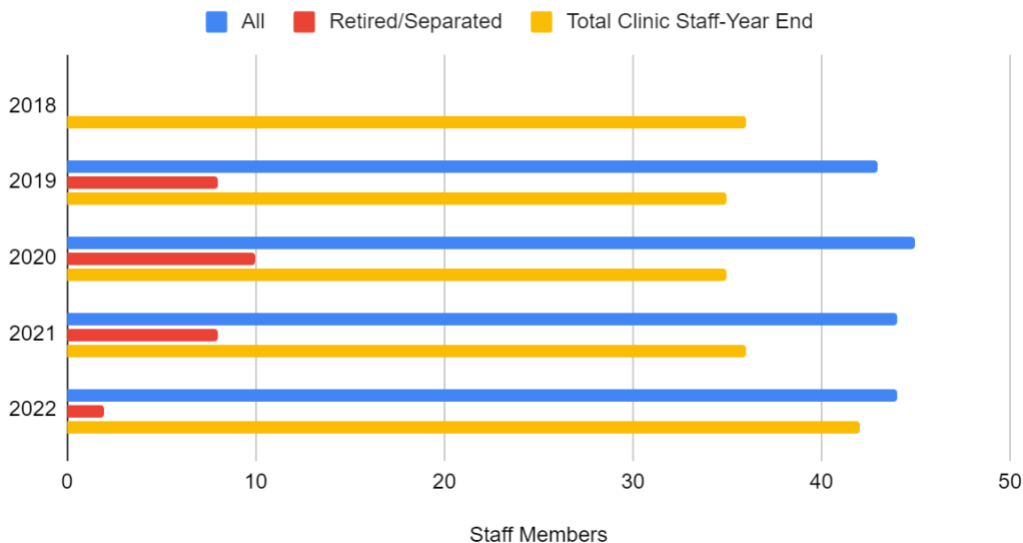
- Dr. Saidivya Komma was added as a faculty member at VA Kernersville Health Care System.
- Dr. Tawna Roberts was added as a faculty member at Byers Eye Institute for the pediatric rotation.
- Dr. Kiana Saqr was added as a faculty member at VA Southern Oregon Rehabilitation Center and Clinics.
- Dr. Helen Zhou was added as a faculty member at Kaiser Permanente Point West.

Clinic Staff

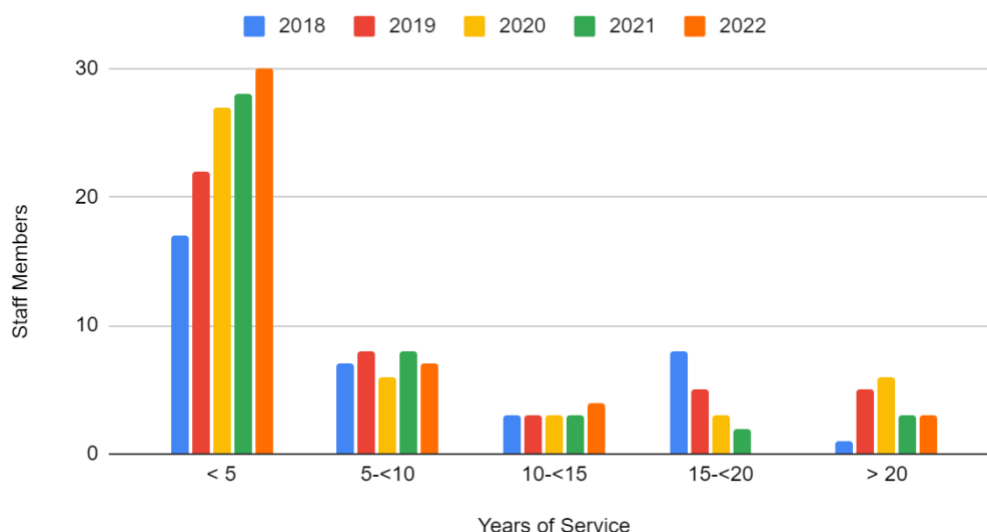
The clinic staff are critical to the success of the clinic and the training of the students. The cohesive team approach, high productivity and positive working environment has contributed to the excellent patient service outcomes.

In the analysis of the clinic staff workforce the trend continues to reveal a large percentage of workforce members with fewer than 5 years of experience. The rebuilding of the patient services team was a goal for 2021 and 2022 which is reflected in the higher number of staff members throughout the clinic as well as the low attrition and high retention. End of year totals reveal a larger and more stable workforce than 2021 which is reflected in high employee morale, productivity in all departments, excellent patient communication trends and patient satisfaction surveys.

Clinic Staff Retention Trends



Clinic Staff Years of Service



Trends in Patient Satisfaction and Communication

Overall, over 50,000 incoming calls were received in 2022, a 35% increase compared to 2021. Out of these incoming calls, 72% were answered, an 11% increase from last year, and 28% were missed, a 20% reduction.

Compared to 2021, there was an 80% increase in the number of survey responses received in 2022, totaling over 6800 submissions. Despite the significant increase in total responses, reflecting the increased patient volume, an overall satisfaction rate of 95% was maintained. Moreover, seven of eight categories exceeded 90% satisfaction, an improvement compared to 2021 where six out of eight exceeded 90%.

The category with the lowest satisfaction rate was ease of appointment booking, with 20.4% of patients reporting dissatisfaction, a 7% improvement compared to 2021 with 27.41% of patients reporting dissatisfaction. In 2022, several efforts were made to improve the booking experience for patients by implementing an online portal and rearranging staffing to increase availability to answer calls. As per the graph below based on survey respondents, 25.1% booked online, a 7% decline compared to 2021. Although systems have been developed to ease online booking, these systems are still in the early stage of implementation and are continually refined based on patient accessibility feedback and Patient services comments. Contrastingly, 61% of patients booked by calling the clinic, a 4% increase compared to 2021. This indicates that patient services have shown improvement in triaging and managing the high volume of calls incoming on a daily basis.

How likely is it that you would recommend us to a friend or colleague?	92.63%	7.37%
Will you be returning to see us?	98.65%	1.26%

Trends in Clinical Education

Optometry students see approximately 1,400 independent patient encounters throughout their third and fourth year of clinical training. Fourth year students engage in five rotation periods with three being externship rotations and two inhouse rotations. All fourth year students must complete one medical rotation and one primary care rotation. Thirty-one externships were available for the 2021-2022 academic year. Selection of externships is done by a student designed lottery system where students take turns selecting their externships and In-House clinics to arrive at a complete 4th year clinic schedule.

Changes to Clinical Training Sites and Externships

- An affiliation agreement was established with Bay Area Community Health.
- An affiliation agreement was established with The Vision Center of West Phoenix, a private practice. The first student will attend in May 2023.

Clinical Performance

As evidenced by average student clinical grades in 2022, clinical performance and professionalism among third and fourth year clinicians continues to be high. Of the 782 evaluations for the graduating class of 2022 during their third year, the average student grade in each category was consistently meeting expectations. When clinical students enter their fourth year and begin their clinical rotations, often among students from other optometry schools, their performance is even stronger. Of 1131 evaluations for fourth year students, the average student grade in each category exceeded expectations.

Residency Training

Seven residents completed their 1-year residency training at the end of June 2022. Resident patient encounters ranged from 722 to 1305 from June 2021 to June 2022. Depending on the subspecialty, the pace of patient encounter is different - for example, patient care in the primary care clinic could be fast-paced while services in the low vision clinic tend to be lengthy.

Residency Class of 2022 Achievements:

- Michael Wong, OD, MS - 2022 Sheldon Wechsler Contact Lens Residency Award
- Sam Lee, OD - 2022 George W. Mertz Contact Lens Residency Award

Trends in the Eyewear Center

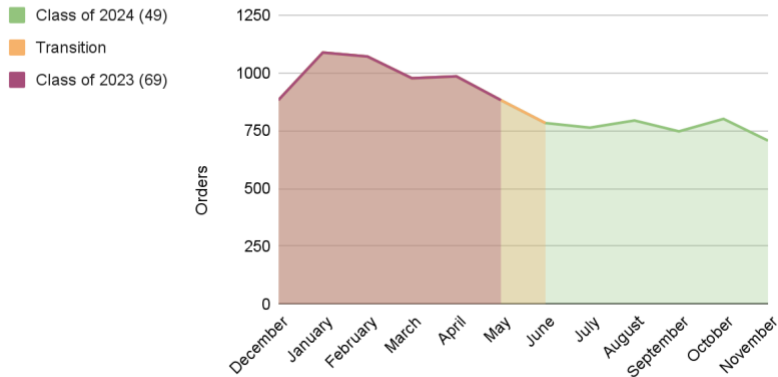
Third year students rotate and train within the eyewear center throughout the year. They are trained within all areas of the optical including dispensing, the optical floor and the fabrication lab. Optical faculty mentor students, develop curriculum and assess clinical learners. Optical faculty continue to receive high evaluations from students with an average of 6.79 in 21-22 and 6.85 for the first half of the 22-23 academic year.

The class of 2024, entering the clinic in the summer of 2022 has received excellent eyewear center evaluations and have contributed to a large number of patient encounters and optical jobs within the center this year despite the smaller class size. The eyewear center had 22,608 patient visits in 2022, up 5% from 2021 and 11% from 2020. Visits include frame and lens select, eyewear dispenses, adjustments and consults. Patients are appointed for all visits, minimizing the

overcrowding and long waits. Dispensing has been expanded to seven days a week to reduce the delay patients were experiencing when picking up glasses. In addition walk-in patients are taken whenever possible with dispensing accepting them routinely.

EWC Orders By Class Size 2022

Class of 2023 and 2024



FTE during 2022 are reflected below with an emphasis on streamlining patient encounters, in particular the dispensing of glasses, problem solving and adjustments occurring in the dispensing room. A reduction in FTE remained within the retail area, which was compounded by the smaller class size that entered in the summer of 2022.

Optician Faculty and Staff FTE 2022 and 2023 Planned

2022 Spring	2022 Summer/Fall	2023 Spring	2023 Summer/Fall	Location	Operational Days/Week
4.8	4.4	6.4	5.4**	Minor Retail Floor	7
1.4	1.4	1.4	1.4	Dispensing	7
0	0	0	1	Tang	0
1	1	1	1	Minor Lab	5

Although recruitment for optician faculty members was ongoing it was unsuccessful until two faculty hires were made in late 2022. **Additional faculty hires will be prioritized in the spring of 2023 as we aim to bring the Tang Center optical back on line as of summer 2023.

In the summer of 2021 an optical review process was initiated utilizing outside reviewers from two schools of optometry and the optical industry. This process was aimed at providing an evaluative process that reviewed business, operational, curricular and workforce activity within the eyewear center at Minor Hall. An onsite visit was conducted in January of 2022 with a final report provided by the team in late spring of 2022. The report has been evaluated and changes have been implemented and will continue to be implemented based on recommendations revealed by the review.

New Technology

On December 17, 2021, we implemented our system using Eyecare Advantage's E-Rx functionality. Since that date 109 doctors have been approved to issue electronic prescriptions and 1646 prescription orders were placed between December 17, 2021 and December 5, 2022.

In October of 2022 a soft launch of Review Wave, an online appointment platform, was completed. The platform has improved the process of patient appointments removing some burden from patient services with the hope of a more robust product in the future as modifications continue to be made to the solution.

TigerConnect has been leveraged for urgent care patient triage, connecting patient services and the daily provider team to streamline decision making and improve the patient and provider experience.

Clinic Expansion

The naming of the school and the Herbert Wertheim Foundation Gift has resulted in the acquisition of the Emeryville Intersection site which is a cold shell that will be built out to house a new Berkeley Optometry clinic site. It will include a number of primary care and specialty clinics for pediatric populations as well as adult primary care clinics. In addition it will house the Academy for Advanced Optometric Education. Currently the project is on track for groundbreaking in 2023. The completion of the new clinic will allow for the renovation and modernization of the Minor Hall Clinic.

SUMMER RESEARCH TRAINING PROGRAMS

NEI Summer Research

Goals

Berkeley Optometry invites current OD students to apply to our summer research training program funded by the National Eye Institute (National Institutes of Health). The goal of this program is to introduce students to vision and eye-related clinical and/or translational research, as well as to opportunities for research as a career goal. The overriding goal of the program is to increase the number of OD graduates pursuing advanced postgraduate research training, and ultimately making research part of their career, either based in an academic setting or in industry, engaged in biomedical or behavioral research. Some participants also co-author publications or present their work at the American Academy of Optometry or other scientific meetings.

The goals of the program are achieved by way of developing in our trainees, interest, awareness, and enthusiasm for research. Affiliated with this training program are 23 faculty in the School of Optometry, many of whom are also involved in the training of pre-doctoral research students in the Vision Science Graduate Program, with their laboratories also hosting postdoctoral fellows. As some faculty are also involved in the training of graduate students from other programs and disciplines (e.g., neuroscience, computer science, molecular and cell biology, psychology and infectious disease), and many also have faculty collaborators from other disciplines, their laboratories also provide a window into the cross-disciplinary research environment for trainees.

The research disciplines represented by the laboratories affiliated with this training program vary

widely, encompassing both basic science and clinical research, thereby offering numerous opportunities for involvement by the short-term trainees, both through direct involvement in the research of their host laboratory and second hand, via the activities of their fellow trainees. Pre-COVID, students from Optometry schools across the country were targets of our recruitment efforts, aimed at attracting a diverse pool of talented health professional students to our short-term training program. In 2022, recruitment was restricted to Berkeley students in the interest of minimizing challenges related to the on-going COVID pandemic. The long-term goal is to encourage clinicians to pursue advanced research training and/or continue involvement in research after completion of their professional training. As a stepping-stone to research careers, we encourage UC Berkeley trainees to enroll in research honors after completing this summer training program.

Funding Support & Recruitment

Our summer research-training program is supported largely by a National Eye Institute (National Institutes of Health) T35 training grant. One of the best indices of its success is its record of continuous funding — 29 years, with an application for a further 5 years of funding from the NEI to be submitted in 2023. This training grant supports the recruitment annually of 10 trainees from Optometry programs from around the US, with the specific target being first-year students.

Unfortunately, this grant does not allow for the appointment of students who are not U.S. citizens or permanent residents. To cater to the needs of this excluded group, UCBSO has used alternative funds to support an average of one student every other year. Recruitment from the ranks of more senior students is precluded due to other competing course commitments for the students of most programs. Nonetheless, every effort is made to support the continued involvement in research of UC Berkeley trainees, with the UC Berkeley Honors in Research Program proving to be a suitable conduit.

Faculty mentors for both Optometry and Vision Science programs are recruited from the pool of established vision science and clinical science researchers, with most mentors being faculty members in the UC Berkeley School of Optometry and also members of the Vision Science Group. Each T35 trainee is assigned a faculty mentor, matched according to research interests where possible, with faculty mentors only rarely assigned more than one trainee to ensure there is time for quality mentorship, which is frequently supplemented by mentorship from clinician scientists, post- doctoral fellows and/or graduate students.

Applicants, Trainees & Projects

This program remains highly competitive, with the applicant pool rarely dipping below 20, when opened to OD students across the US. In 2022 when applications were limited to UC Berkeley School of Optometry, there were 18 applicants, of whom 2 were not eligible for support from the training because of their international status. While ethnic diversity was still somewhat limited within our pool of trainees, the final cohort included one white trainee, one black trainee and two Latino trainees, the remainder being Asian and all but one of the trainees being females. This greater diversity reflects at least in part, the success of strategies within UC Berkeley School of Optometry to improve the diversity of its student group, with outreach to faculty involved in equity/diversity activities in the various programs on-going. Another strategy to improve performance on this front is to use, as communication channels, student chapters of the National Optometric Association (NOSA), whose membership is largely composed of minorities. It is hoped that these strategies will continue to yield a more diverse applicant pool, going forward.

The included table provides details of the successful applicants, the titles of their research projects and their mentors. The wide range of research undertaken by trainees reflects the equally wide range of on-going research within the School of Optometry/Vision Science Program. The strong translational emphasis of their research is also noteworthy. While the heavy course load carried by our 2nd year OD students is a significant deterrent to remaining active in research on completion of the T35 summer research program, at least two students have remained active in research and a number of the trainees are expected to apply for research honors at UC Berkeley, after completion of their 2nd year.

Planning for the Future & an Opportunity for Networking

As an initiative begun in 2021, to overcome some of the limitations on trainee opportunities imposed by the COVID pandemic, our program worked with the faculty organizers of the equivalent NEI T35 summer research training program at the University of Houston College of Optometry (Professors Laura Frishman and Lisa Ostin) to host two virtual sessions, one involving a tour of selected research laboratories on each of the two campuses, and another involving short talks by Alumni from both institutions on the topic, “Research after OD-training.” Researchers based in both industry and academia were included in the latter line-up. The feedback on both sessions was overwhelmingly positive and thus likely to be continued in the coming year, even though the recruitment restrictions imposed by COVID will be removed, and once again, OD students from non-UC Berkeley programs invited to apply to its program.

Summer 2022 T35 grant Sponsored Trainees			
Isabel Groth	BERK	Retinal Motion Direction & Visual Acuity	William Tuten
Jennifer Hwang	BERK	Challenges of Measuring Choroidal Thickness, a Promising Biomarker for Myopia Control Efficacy	Yue Liu
Lauren King	BERK	<i>An Investigation of the Diurnal Regression of Orthokeratology Lenses</i>	Sarah Singh
Joanna Lopez	BERK	Patient Education for Diabetic Retinopathy Screenings using Artificial Intelligence	Jorge Cuadros
Alisa Molina	BERK	Factors Affecting Contact Lens Discomfort: An Investigation	Meng Lin
Adrienne Ngo	BERK	Investigating Retinal Structure-Function Relationships using MAIA and OCT with Co-Registration	Susan Chung
Svetlana Nunez-Flores	BERK	Effects of Daily Transient Lens-Induced Myopic Defocus on the Inhibition of Myopia Progression in Chicks	Christine Wildsoet/ Yan Zhang
Ina Wang	BERK	Effects of Exogenous Attention in a Uniform Ensemble Perception Task	Michael Silver
Jessica Zhang	BERK	Comparison of Two Pediatric Stereoacuity Tests: the BEST Way	Debora Orel-Bixler

		to PASS a Stereoacuity Test	
Amy Zheng	BERK	Mechanisms driving Aberrant Neural Activity in Retinal Degeneration	Teresa Puthussery

STUDENT LIFE

American Academy of Optometry (AAO)

The Academy's membership is comprised of optometrists, vision scientists, and other qualified professionals who have committed themselves to the rigorous process required to achieve its prestigious designation, Fellow of the American Academy of Optometry (FAAO).

Academy

More than a hundred students attended the annual American Academy of Optometry meeting in San Diego from October 25 - 31, 2022.

Student American Academy of Optometry (SAAO)

The Student American Academy of Optometry (SAAO) reflects the values of AAO at the student level by encouraging optometrists in training to maintain and enhance excellence in optometric practice. We promote the art and science of vision care while encouraging personal growth, education, and active participation within the optometric community. Each year members organize educational meetings and help with group travel and lodging arrangements for the annual Academy meeting. Helen Tash (Class of 2024) serves as President.

American Optometric Association (AOA)

The AOA is the acknowledged leader and recognized authority for eye and vision care around the world. By promoting doctors of optometry through advocacy, professional development, and practice management tools, the AOA is able to assist optometrists in improving the quality and availability of eye care to the public. The AOA not only serves optometrists, but also students of optometry, paraoptometric assistants, and technicians, helping its members conduct patient care efficiently and effectively.

American Optometric Student Association (AOSA)

The American Optometric Student's Association is the national optometric student organization, and the local Berkeley chapter represents Berkeley students on the national level. The AOSA works to ensure optometry students gain the knowledge needed and have the resources to thrive in this great profession. Melissa Rezk (Class of 2024) serves as the AOSA trustee and Isabel Groth (Class of 2025) serves as trustee-elect.

This year, our School hosted the Western Regional Conference on behalf of AOSA. AOSA's Western Regional Conference (WRC) is an annual event that complements the scholastic goals of optometry students in the western United States through educational lectures as well as professional and social networking opportunities. WRC 2022 welcomed approximately 50 students from UC Berkeley, Herbert Wertheim School of Optometry and Vision Science, Southern California College of Optometry, and Western University College of Optometry. Undergraduate pre-optometry organizations in the area were also invited to attend. AOSA President, Easy Anyama and Executive Director, Stacey Struckhoff flew in to join us for the event. Additionally, we collaborated with the California Optometric Association and the Bay Area Optometric Council. We had engaging lecturers and morning speakers, educational pop-up sessions, lunch for the students to network with doctors, an exhibition hall, and lively social events.

The Berkeley Optometry AOSA chapter hopes to continue fulfilling its goals. We are currently promoting the 2022 Optometry's Meeting that will be held in collaboration with AOA on Capitol Hill. We will also be hosting the annual Berkeley Optometry Student Bowl, where we will have a school-wide academic competition where the winner will represent the school at OM's National Student Bowl.

Student Quiz Bowl

First through third year students compete in a Jeopardy style contest for the chance to represent Berkeley Optometry at Student Bowl, the national competition at AOA's annual Optometry Meeting. A panel of distinguished faculty members moderate and judge the event, bringing the whole school together for a night of class rivalry. In 2022, the students cheered on Emmy Tian (Class of 2023) as the representative for Berkeley Optometry in Chicago.

Bay Area Optometric Council (BAOC)

Originally conceived as the Bay Area Optometric Coordinating Council to serve as a repository of ideas and dialogue between Optometric Societies in the Bay Area, BAOC's mission was, and still is, to serve as a network and informational resource for member doctors that form its core. Bay Area Optometric Council (BAOC) views itself as an excellent source for sharing information about what each of the Bay Area Optometric Societies are doing; what issues, be they legislative or professional concern affecting the profession and its patients. And as such, BAOC is increasingly aware of the need to share the successes of each of its member societies and offer them as resources and contact information with each other.

Bay Area Optometric Society (BAOS)

This club is dedicated to bringing students professional guidance. We have a committed group of local doctors from many different scopes of practice available to answer our questions about the next steps after graduation. Jennifer Lam (Class of 2024) serves as President. Additionally, BAOC has a mentoring program where each student is paired with a mentor, who they must meet with a minimum of 2 times throughout our October - April cycle

Beta Sigma Kappa (BSK)

BSK is an optometric honor society whose mission is to help student peers achieve academic and clinical success. Michelle Hoang (Class of 2024) serves as current BSK President. Our Berkeley chapter has 145 members, and this semester, we tutored 353 hours! We also put on clinical skills bootcamps for the 1st-3rd year classes, including for retinoscopy, BIO, and advanced procedures. Our goal for next semester is to continue providing didactic and pre-clinical tutoring resources, with a special focus on helping prepare the 2nd year class for clinic.

California Optometric Association (COA)

The California Optometric Association (COA) is dedicated to making optometry a stronger, more cohesive, and visible profession. The mission is to support and advance the profession of optometry to assure quality health care for all Californians. Thanks to the efforts of the COA, California Optometrists are able to:

- dilate patients' eyes
- treat allergic, bacterial, or viral conjunctivitis (red eyes)
- prescribe analgesics for patients
- treat glaucoma
- get paid by most major medical insurances
- provide certain vaccinations

California Optometric Student Section (COSS)

The Student Section attends the House of Delegates in February, Legislative Day, and other key political events. Graham Chung (Class of 2023) won the George I. Dean award for Leadership, Alumnus Dr. Michael Mendoza was elected to the COA Board of Trustees who will join Drs. Chris Gee, Richard Hom, and Mika Moy on the Board.

Gold Key National Honor Society

The Gold Key National Honor Society was founded in 1965. Berkeley Optometry represents the 16th chapter nationally for the purpose of recognizing upperclassmen who demonstrated outstanding professional and ethical attitude through leadership and service to their class, college, and profession as a whole. Graham Chung (Class of 2023) serves as President. Membership induction is limited to no more than 10% of one class, and occurs only in the 2nd semester of your 3rd year of optometry school. We will aim to host OPTOx in 2023, a TEDx style talk, to share ideas worth spreading that are open to Berkeley students, faculty and alumni.

Equipment Fair

To help students make a well-informed purchasing decision, the UCOSA Equipment Committee held multiple informational sessions hosted by equipment representatives from ophthalmic instrument companies such as Pioneer, Heine, Keeler, Welch Allyn, and Ocular Instruments. These informational sessions were held to inform students about the companies and their products to assist their equipment purchasing decisions. The annual Spring Equipment Fair was held in early February, where equipment distributors and vendors came to UC Berkeley to showcase their equipment and inform students in a hands-on manner.

EyeChat

EyeChat is dedicated towards bringing student awareness and insight to unconventional career paths that exist after graduating from optometry school. Guest speakers from industry, research, and other non-private practice fields come to share their career experience, educate students on technological advances in optometry, and network with students. We plan to provide a meeting 3-4 times per semester with a different guest lecturer who can share their unique experience in their optometric career path. Tiffany Lau (Class of 2025) serves as the current President.

Eye-ball

Eyeball is an annual gala organized by the first-year optometry class towards the end of the year where students enjoy an evening with friends, significant others, and classmates. In 2022, the "Under the Stars" themed Eyeball was a major success at Hotel Shattuck, leaving many looking forward to this upcoming year's Eyeball tradition.

National Optometric Association (NOSA)

The National Optometric Association (NOA) serves to increase the number of minority optometrists available to deliver eye and vision care services to residents of urban and underserved communities. This is accomplished through assisting in recruitment efforts of underrepresented students in Optometry to Schools and College across the country. Additionally, they assist organizations of optometry towards the advancement of the art, science, and practice of professional optometry.

National Optometric Student Association (NOSA)

The student chapter of the National Optometric Association at UCB, our main focus is on serving minority and underserved communities through vision health care while promoting diversity and inclusion. We enhance optometry students' experience by providing language workshops (Spanish, Mandarin, Vietnamese, etc.) to allow for better patient care. We also provide mentorship, career development, networking opportunities to underrepresented undergraduate students who are interested in pursuing optometry. Emily Bui (Class of 2025) serves as President.

NBEO Berkeley Study Guide

UCOSA continually revises, updates, and improves a study guide trilogy that is designed to prepare all students of optometry for both Part 1 and Part 2 National Board Examination of Optometry (NBEO).

Optometric Business Management Club (OBM)

Berkeley's Optometric Business Management Club, or OBM, aims to help students prepare for and make the transition from clinical education to the real world of optometry. Although there is an emphasis on private practice optometry, we also try to inform and educate our members regarding anything business related in our profession. We accomplish this through our club meetings and some of our best ones have included team building exercises, panel discussions, and personal stories from speakers. In 2023 we hope to continue our mission, as well as host more meetings that can provide new perspectives and experiences to our members. Upcoming planned meetings include "Designing Your Dream Private Practice" and presentations from our own clinical faculty! Brian Phan (Class of 2024) serves as President.

Sib Fest

Sib Fest is an annual tradition where optometry "siblings" have an opportunity to meet one another, while enjoying food, beverages, and games. At the beginning of the year each entering first-year student at Berkeley Optometry is assigned to a big brother or sister who serves as a mentor. Sibs provide valued advice on courses, optometric equipment, and clinical experience. Berkeley Optometry families can be traced back to 1999!

Sponsor Fair

The Admissions & Student Affairs Office and Development and Alumni Relations teams hosted the first ever Sponsor Fair in September 2022 where our first year students had the opportunity to interact with our Partners in Education and other corporate sponsors.

University of California Optometric Student Association (UCOSA)

Comprised of student representatives from each class, the University of California Optometric Student Association (UCOSA) represents the interests of students to the faculty. UCOSA also organizes vision care services through student-sponsored activities, student activities, textbook sales, and publication of the Berkeley Study Guide for national board exams. Outside of academics, UCOSA creates a yearbook, designs and sells Berkeley Optometry merchandise, and hosts school-wide social events to bring our community together. Ahmad Ahmadzada (Class of 2024) serves as President.

Vision Development Club (VDC)

In Berkeley Optometry's Vision Development Club, we aim to introduce students to the prospects of binocular vision as a subfield within optometry. In 2022, approximately 40 optometry students spanning from first through third year were in our organization. During our meetings, we provide opportunities to network with optometrists who specialize in areas such as vision therapy, sports vision, neuro-rehabilitation, and management of visual-perceptual deficits. We also offer shadowing and internship opportunities in private practices across the Bay Area. Ina Wang (Class of 2025) serves as President.

In the upcoming year, we hope to increase membership, attendance, and social media presence among students. One of our major initiatives is to advance our partnership with the College of Optometrists in Vision Development (COVD) to expand our networking base to a national level. Together, we create a community that fosters a passion and pursuit for binocular vision.

Volunteer Optometric Services to Humanity (VOSH)

The student chapter for Volunteer Optometric Services to Humanity (VOSH) aims to provide vision to underserved communities locally and internationally through free outreach clinics and vision screenings. We have been preparing for a 4-day VOSH clinic to San Juan del Sur, Nicaragua in January 2023. Our group consists of 17 UCBSO optometry students, one UCBSO clinical faculty optometrist, one UCBSO faculty member, and many other volunteers. Along with this expedition, we have another upcoming clinic to Jamaica during the summer of 2023. Our goals for 2023 are successfully completing our January Nicaragua expedition, organizing preparations for a return to Nicaragua in 2024, successfully completing our summer expedition to Jamaica, and adding more local vision screening volunteer options throughout the year. Landen Longson (Class of 2025) serves as President.

Intro to Clinic

The upperclassmen volunteered their time to help orient incoming third year students into clinic to make the transition smoother.

Contact Lens Workshops

The STAPLE Program (Soft Toric and Presbyopic Lens Experience) workshops were hosted for third year students to gain valuable lens fitting experience on live patients as they enter summer clinic. A lecture presentation followed by hands-on fitting with faculty mentoring in the Contact Lens Clinic were held on different evenings for soft toric (June) and soft multifocal (July) categories. Students were able to fit lenses from four manufacturers at each workshop.

The SCLERAL Workshop was hosted for third and fourth year students in September. The program called “Everyday Challenges of Scleral Lenses” included a presentation by a speaker from the Scleral Lens Society and a hands-on workshop in the Contact Lens Clinic. There were three stations, each with a real scleral lens patient, sponsored by a lab to highlight the design and fit assessment of a scleral lens by the manufacturer. A fourth station guided students on skills for troubleshooting and use of equipment.

The Ortho-K Workshop was hosted for third and fourth year students in October. Sponsored by Paragon and Euclid, the workshop consisted of a 2-hour evening program followed by a 1-hour early morning case discussion. The workshop focused on ortho-K design principles, hands-on experience in the initial fitting with diagnostic lenses or empirically ordered lenses, troubleshooting tips and what to expect at the 1 day follow up visit.

Keratoconus Workshop

iCKC (Continuum of Keratoconus) was hosted for third and fourth year students in August. Sponsored by Glaukos and Oculus, the workshop on keratoconus consisted of two modules: 1) detection, diagnosis, patient education, monitor progression and 2) medical management, surgical procedures, patient education. The lecture portion was followed by two demonstration stations on corneal crosslinking and Pentacam corneal tomography.

NBEO injections practice

With supervision from Dr. Meredith Whiteside and assistance from Dr. Madi Sachs, UCOSA organizes groups of fourth year students to have private practice time for the Injections Station on Part 3 of the National Board Examination of Optometry (NBEO). The Injections Station on NBEO assesses the student’s ability to perform intravenous injection for fluorescein angiography and intramuscular injections on a model arm.

VISION SCIENCE

A rich diversity of academic backgrounds -- including neuroscience, biology, engineering, computer science, psychology, optometry, and others -- is a hallmark of the group.

Students

- As of December 15, 2022, there have been 334 graduate students enrolled in the Vision Science program, one of whom is an OD student.
- The annual student stipend was raised \$41,000 in Fall 2022

Faculty

- 47 current faculty appointments

Admissions

- 54 applicants, 25 candidates interviewed, 14 offers of admissions
- 9 applicants enrolled for Fall 2022 with funding from NASA, Veterans Affairs, National Institutes of Health, among others
- 2 deferred Admission for Fall 2023
- Average GRE%: 73.5 (Verbal Writing)/83.2 (Quantitative Reasoning)/52.3 (Analytical Reasoning)
- Average GPAs: 3.34 (advanced) / 3.75 (graduate) / 3.47 (undergraduate)

Funding

- \$577,310 in T32 Vision Science Training Grant
- \$170,900 in Block Grant
- \$164,050 in Graduate Division Awards (1 Berkeley Fellowship, 1 Diversity Fellowship, 1 Mentored Research Award)
- \$628,000 in CORE Grant (provides research supports through 3 modules)
- \$125,000 in School of Optometry Funds (Sweigert Fund and Morgan Fund)
- \$133,303 in FSREP
- >\$22 Million in Vision Science faculty research support funds. Annual support for research for Vision Science Faculty with a primary appointment in the School of Optometry was ~\$10 million.

Student Awards Received

- UC Berkeley's Chancellor's Fellowship: Etchi Ako (2022)
- UC Berkeley Fellowship: Lawrence Man (2022)

- NSF Fellowship: [Galen Chuang](#)(2021-22)

Degrees Conferred (2022)

- PhD - Avigael Aizenman (Chair: Dennis Levi)
- PhD - Norick Bowers (Chair: Austin Roorda)
- PhD - Maria Theresa Canas-Bajo (Chair: David Whitney)
- PhD - Vasha DuTell (Chair: Bruno Olshausen)
- PhD - Angelica Godinez (Chair: Dennis Levi)
- PhD - Young Hyun Kim (Chair: Meng Lin & Clayton Radke)
- PhD - Tsung-Wei Ke (Chair: Stella Yu & David Whitney)
- PhD - Elizabeth Lawler (Chair: Michael Silver)
- PhD - Justin Theiss (Chair: Michael Silver)
- PhD - Baladitya Yellapragada (Chair: Jitendra Malik & Stella Yu)
- MA - April Myers (Chair: Na Ji)
- MA - Julie Self (Chair: Michael Silver)
- MA - Lauren Spano (Chair: Dennis Levi)
- MA - Julian Ho (Chair: Karsten Gronert & John Flanagan)

Vision Science Summer Undergraduate Research Program (ViSUR)

The Vision Science Summer Undergraduate Research Program was launched in Summer 2022 with 3 students participating from California and Maryland. In conjunction with the School, Dr. Shoge, and Graduate Division, this 8-week, in person program allows undergraduate students to work in a lab with a faculty advisor on a research project while gaining valuable skills in research and health professions. Students who participate in the program receive housing and a stipend.

Bay Area Vision Research Day (BAVRD)

BAVRD is an annual one-day conference (free and open to the public), which is hosted and organized entirely by the 1st year Vision Science graduate students. BAVRD is devoted to bringing the vision research community of the San Francisco Bay Area together in order to present and discuss new and exciting findings in the fields of optometry, ophthalmology, visual psychophysics, neuroscience, biology, immunology, and computer vision. 183 individuals registered for the conference.

The 34th annual BAVRD featured a Keynote Lecture by Dr. Jacob Yates (Assistant Professor of Optometry and Vision Science, UC Berkeley) and alumnus of the University of Texas, Austin. The day-long event featured speakers from different institutions in the Bay Area and beyond, an outstanding poster session and a reception. Best lightning talk was awarded to Hannah Doyle (EECS PhD Student, UC Berkeley) and Chris Kymn (EECS PhD Student, UC Berkeley).

BAVRD is funded by donations raised by Vision Science graduate students. The 34th annual BAVRD fundraised over \$10,000 this year. BAVRD was made possible by generous donations from CIVO, Student Fund LEADs Center, ThorLabs, Wertheim School of Optometry & Vision Science, and others.

Vision Science Retreat

This year the VS retreat was a highly anticipated event due to the fact that it was the first year that this event was able to be held in person, since the start of the pandemic. This weekend away from campus provides students with a space to engage with their fellow VS peers and faculty and share the research that they have been working on. This year the two night retreat was held at Granlibakken Tahoe where students had the opportunity to give a five minute “lightning talk” or a fifteen minute “short platform presentation”. Awards were given to the best talks of both categories. Students were also able to hear presentations from four faculty members throughout the weekend.

The weekend started out with a presentation from one of the newest Vision Science faculty members, Professor Jacob Yates. With the desire to have the Vision Science faculty to get to know him a little better, Yates shared his academic journey since graduating from undergrad at UC Berkeley. Resonating with many students, Yates described his research and journey of getting his PhD at the University of Texas, Austin. His research of the neural mechanisms of active visual processing opened up the start of the academic discussion on this retreat. Aside from these formal activities, students were able to connect with one another through our night time socials and free time to explore the Lake Tahoe area.

Attendee Numbers (Total: 58)

- VS Faculty: 18
- VS Post-Docs: 7
- VS Staff/Researcher: 2
- VS Students: 30

Outstanding Teaching Awards

- 2020 - 2021: Charlotte Wang

Presentation Awards

Awards based on popular acclaim

- Best Lightning Talks (equal): Matangi Kumar (Gronert/Flanagan lab) and Raul Rodriguez (Otero-Millan Lab)
- Best Short Talk: Charlotte Wang (Roorda/Tuten/Duncan Lab)

Visit Days & Buddies

In 2022, the Vision Science program chose to host independent visit days for candidates who were admitted to the program (due to Covid19 guidelines at the time). Candidates were welcomed to campus for two days and had personally curated meetings and tours with students, faculty and staff.

Each Vision Science student enrolled in the program is paired with an upper-class continuing student to assist them in transitioning to the School and campus, answer questions and serve as a source of support.

Vision Science Student Government

Over the course of the year, Vision Science meets every 2 weeks in Minor Hall to discuss new initiatives, successes and challenges among the community, and even how to improve student-faculty-staff communication. We began seeing more Vision Science representation on social media, as 2 student government members, Sonali and Matangi, became social media representatives from the VS department. We worked ASAO to renew the student lounge. Several broken-down pieces of furniture were removed and new storage pieces, white boards, a microwave, and a fridge were added. JT spearheaded the initiative to have a student-led prevention of sexual violence/sexual harassment trainings. Charlotte applied for and was approved for funds at a sum total of \$3000+ from the Graduate Assembly (GA) and other student organization funding opportunities. These funds were used for several social and DEIB events.

Our main social event of the year doubled as a mental health awareness initiative. The 30-day 10K step challenge, led by Reem, took place early to mid April of 2022 (two start dates to fit everyone's preference). 26 people signed up for the challenge, including VS students, postdocs and faculty members. Prizes were awarded to those who completed the challenge.

The DEIB committee has received significant funding from the Chancellor's Advisory committee on Student services & Fees (CACCSF) in 2021 - 2022, which was used for museum visits, a book club, arts and crafts nights, a movie night, inviting speakers to campus, and other community events. Major initiatives included a visit of the Afrofuturism exhibit at the Oakland Museum of California, a guest lecturer from the Ohlone tribe and ViSUR skill building sessions with undergraduate students

2021 - 2022 Board

President: JT Pirog

VP of Administration: Sonali Singh

VP of Finance: Charlotte Wang

Social Committee: Reem Almagati, Matangi Kumar, Alex Belsten

DEIB Committee: Max Greene, Stephanie Reeves, Pabita Dhungel, Leah Johnston

2021 - 2023 Board

President: Sonali Singh

VP of Administration: Vivien Tse

VP of Finance: Charlotte Wang

Social Committee: Reem Almagati, Matangi Kumar, Alex Belsten, Terence Tyson

DEIB Committee: Max Greene, Stephanie Reeves, Pabita Dhungel, Leah Johnston, Peter Wang