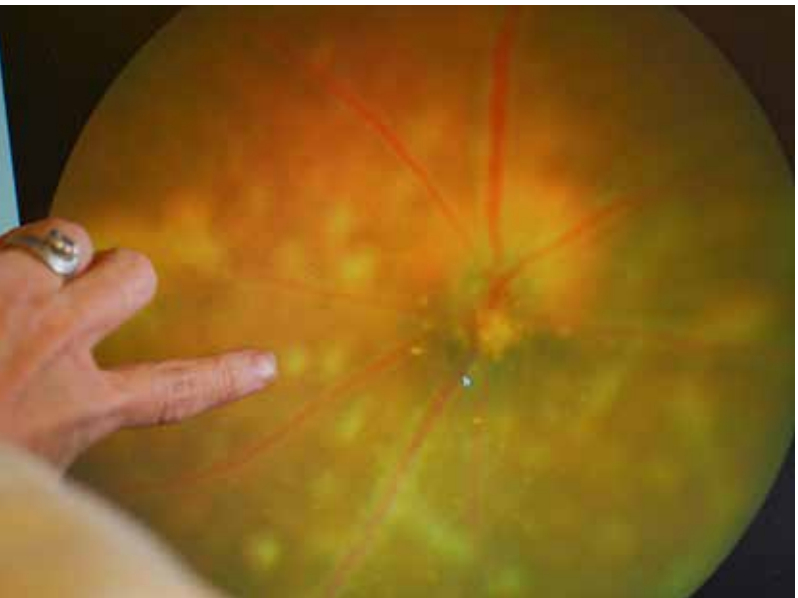
InSight

UW Medicine
DEPARTMENT OF OPHTHALMOLOGY

2022 Community Report



UW OPHTHALMOLOGY FAST FACTS

UW Medicine Department of Ophthalmology faculty at their December 2022 annual retreat.

PATIENT CARE

>112,000
Patient visits per year

>3,000
Surgical procedures

EDUCATION

20 residents

5 fellows

9,000 hours of training per resident

The UW Medicine Department of Ophthalmology is the only full-service ophthalmology training program and trauma service in the states of Washington, Wyoming, Alaska, Montana and Idaho.

FACULTY

51 faculty members

38 attending physicians

100+ patient care staff

8 patient care locations

RESEARCH

22,000 square feet of dedicated lab space

175 papers published during the 2021-22 academic year

$10 million average annual total grant funding during the last three years

Message from the Chair, Russell N. Van Gelder, MD, PhD

On behalf of the Department of Ophthalmology at UW Medicine, it is my pleasure to present our Community Report for 2022.

Because of the COVID-19 pandemic, this is the first Community Report in three years. Despite the significant challenges during this time, we have continued to pursue our singular mission: to alleviate suffering from eye disease. We continue to do this through our robust research programs, outstanding patient care, educational programs to train the next generation of physicians, and by gifts from generous donors and grateful patients. We have had a remarkable year in the department in each of these areas and are delighted to share our progress with you.

Our vision scientists are committed to improving diagnosis, treatment, and ultimately finding cures for diseases of the eye and visual system. Collectively, the department published 175 papers during the 2021-22 academic year. This year our department rose to #3 in the nation in NIH funding among ophthalmology departments, and the University of Washington rose to #2 for National Eye Institute funding.

Learn more in this report about how our South Lake Union campus and the Karalis Johnson Retina Center (pictured on the front cover) support four pillars of research in its mission to eradicate retinal blindness: advanced optics imaging, computational ophthalmology, accelerating the therapeutic pipeline, and vision restoration research.

Our faculty provide care at eight major sites of practice: the UW Medicine Eye Institute at Harborview; the Harborview Medical Center 4W Clinic (which includes our consult and trauma services); the Eyes on James optical shop; UW Medical Center Eye Center; VA Puget Sound Health Care System (Seattle and American Lake); Seattle Children's; the Karalis Johnson Retina Center at South Lake Union, and the UW Medicine Primary Care Clinics. Our faculty and trainees provided over 112,000 patient visits and performed over 3,000 surgeries.

The Roger and Angie Karalis Johnson Retina Center at South Lake Union continues to flourish. This center, supported by a remarkably generous gift from Angie Karalis Johnson, opened in January 2019. In the past year, it supported more than 10,000 patient visits and an ambitious research program.

We serve as a major referral center, seeing patients from the five-state WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) region. We continue to provide many services rare in the community, including managing eye cancer (ocular oncology), uveitis, and medical and hereditary retinal disease.

Our faculty remain highly committed to the educational mission of the Department. We currently train 20 residents, five fellows, and scores of medical students annually. Our residency training program remains one of the most competitive in the country.

We appreciate our philanthropic partners, whose generosity accelerates our ability to conduct cutting-edge research, provide excellent patient care, and train the next generation of ophthalmologists. Endowments and individual gifts are gratefully acknowledged in this report.

Finally, in this report you will have the opportunity to meet our Community Action Board, a group of committed volunteers who advance the Department's mission by serving as ambassadors in our community, advising faculty on matters of strategic importance, and generously supporting our mission with gifts. Philanthropic gifts help to accelerate innovation in the form of seed grants for our faculty research. We are honored and privileged to work with such a fine group of individuals as we aim to eliminate blinding eye disease.

Russell N. Van Gelder, MD, PhD
Boyd K. Bucey Memorial Professor and Chair
Department of Ophthalmology, University of Washington
Director, UW Medicine Eye Institute
Director, UW Vision Science Center

RESEARCH

Our research scientists and ophthalmologist-clinician scientists are committed to the goal of improving diagnosis, treatment, and ultimately finding cures for diseases of the eye and visual system. The Vision Science Center at UW Medicine's South Lake Union research facility provides collaborative opportunities, bringing together scientists from across departments to work on research that is leading to the discovery of next-generation tools for diagnosing, preventing, and treating all types of eye disease.

The Vision Science Center and the Karalis Johnson Retina Center support four pillars of research in its mission to eradicate retinal blindness: advanced optics imaging, computational ophthalmology, accelerating the therapeutic pipeline, and vision restoration research.

Advanced Imaging. The retina is the only visible component of the central nervous system outside of the human brain. This tissue-paper thin structure is essential to normal vision. Visualization of the retina has been central to diagnosis of retinal disease for over a century, but advances in digital optics and imaging allow unprecedented ability to detect and characterize retinal disease.

Research Associate Professor Ram Sabesan, PhD and his lab use adaptive optics imaging borrowed from astronomy to fully correct the optics of the eye, and image the retina at the level of single cells. George and Martina Kren Endowed Chair of Ophthalmology Ricky Wang, PhD and his lab developed the now widely-used technique of optical coherence tomography angiography. These two technologies are together advancing our ability to image the retina to single-cell resolution.

Computational Ophthalmology. The availability of huge datasets such as the American Academy of Ophthalmology's IRIS registry allows C. Dan and Irene Hunter Endowed Professor Aaron Lee, MD and Klorfine Family Endowed Chair Cecilia Lee, MD to determine real-world outcomes of treatments and identify risk factors and trends in disease on an unparalleled scale. Combined with machine learning approaches, we anticipate that personalized precision retinal medicine will become a reality – finding the best possible treatment options for patients based on analysis of millions of similar cases.

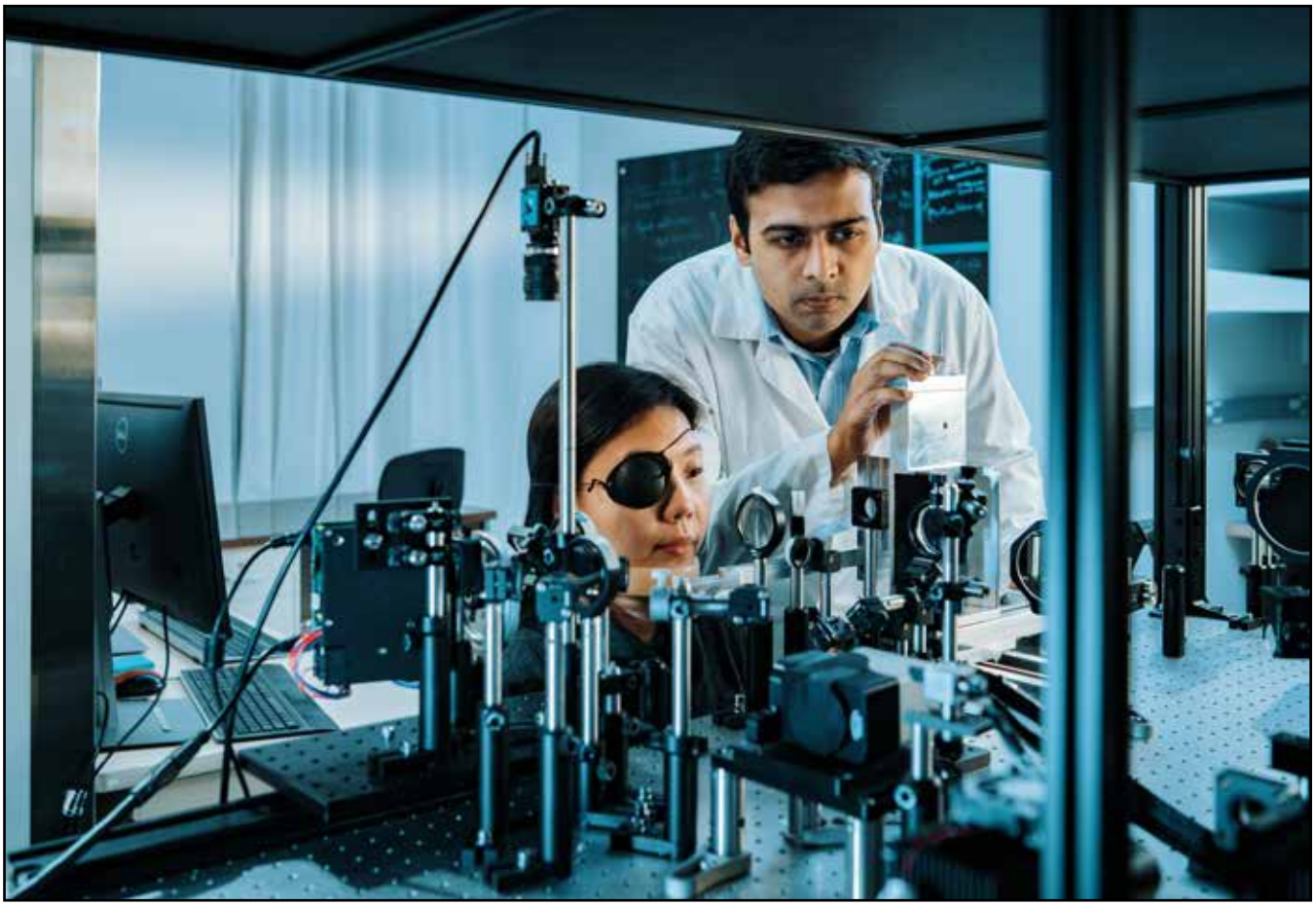
Accelerating the therapeutic pipeline includes the work of Gordon and Joan Bergy Professor Jennifer Chao, MD, PhD. This lab is able to take blood samples from patients affected by retinal diseases to create patient-specific stem cells, which they can then grow into small copies of the retina in the laboratory. These cells can then be tested with available drugs, or even nutritional supplements, to look for agents that might slow or stop degeneration. Such interventions can then be tested in the clinic with the sensitive imaging techniques of the first pillar to identify promising treatments. This technique also has potential for transplantation – repairing damaged tissues with the patient's own cells.

The work of Dr. Kathryn Pepple, Associate Professor of Ophthalmology, also accelerates the therapeutic pipeline, by characterizing animal models of ocular inflammatory disease which can be used for drug development.

Vision restoration describes methods to reintroduce light sensitivity to retinas blind from degeneration. Gene therapy approaches pioneered by Bishop Professor Jay Neitz, PhD and Ray Hill Chair Maureen Neitz, PhD have been shown to correct color blindness and have potential for correcting other forms of blindness. Research from the laboratory of Bucey Chair Russell Van Gelder, MD, PhD's laboratory is using small molecules to 'reanimate' the remaining cells in the degenerated retina to restore light responsiveness.

Learn more about the research in select faculty labs in the following pages.

The Sabesan Lab



Ram Sabesan, PhD
Research Associate Professor

The Sabesan lab investigates the functional mechanisms by which photoreceptors and their ensuing neural circuits mediate the most fundamental aspects of vision and how these visual capacities are affected by retinal diseases. To this end, the Sabesan lab develops and uses novel cellular imaging tools which enable the visualization of the structure and function of living retinal cells at unprecedented spatial scales.

The backbone of the methods pursued by the lab is a technology called adaptive optics – the same tool used by astronomers to peer at small objects in space. Using adaptive optics, one can overcome the optical imperfections that exist in the human eye, converting the eyeball essentially into a microscope objective. By combining adaptive optics with other microscopy techniques, one obtains the ability to probe living cells in the retina of humans, which are about 10 times finer than the diameter of a human hair. This allows the probing of retinal cells in diseased human eyes at high resolution, thus serving as sensitive biomarkers for early disease diagnosis and monitoring of cellular events involved in disease progression. Learn more at depts.washington.edu/sabaolab.

Computational Ophthalmology:

Strengthening the power of artificial intelligence through intentional data collection

Associate Professors of Ophthalmology Aaron and Cecilia Lee have been awarded a $33 million, four-year grant as part of the Bridge to Artificial Intelligence (Bridge2AI) program, a new initiative by the National Institutes of Health to expand the use of artificial intelligence (AI) in biomedical and behavioral research. It is the largest grant award in department history.

AI holds great promise for enabling research breakthroughs and improving clinical care. The power of AI lies in its ability to analyze vast amounts of data and extract otherwise undetectable information, but this power is limited by the quality of the data used to develop AI models. Although exciting progress is being made in this field, the need for large, thoughtfully curated datasets remains a significant challenge.

The NIH Common Fund developed the Bridge to Artificial Intelligence (Bridge2AI) initiative to address this critical need. The Drs. Lee have been awarded one of the four Bridge2AI data generation grants for new biomedical and behavioral datasets designed for AI analysis.

"We will lead multi-site efforts to create an ethically sourced, state-of-the-art dataset for type-2 diabetes mellitus (T2DM) research in this unprecedented project," notes Dr. Cecilia Lee. "We will recruit 4,000 participants with diverse racial/ethnic backgrounds representing all stages of T2DM disease severity and collect complex multimodal data. This collaboration is structured with cross-disciplinary modules focusing on several interconnected aims, including team building, ethical oversight, training new AI researchers, and creating tools and standards for data collection. We hope that this dataset, while designed for T2DM, will also serve as a model for AI-based research into other diseases."

The Lees' computational ophthalmology lab has examined deep-learning models' value in medical practice. In 2021, investigators tested seven algorithms designed to detect diabetic eye disease from retinal scans and found that just one met the performance of human screeners.

"These worked fairly well in the screening context. There didn't seem to be any bias in detecting disease in people of different races, but there was a decrease in performance concerning people's age. That is what this new project hopes to address," Dr. Aaron Lee said. "If you don't have a well-constructed, balanced dataset, then the AI models will tend to fail in underrepresented groups."

The Lee Lab

Cecilia Lee, MD, MS
Associate Professor, Klorfine Family Endowed Chair
Aaron Lee, MD, MSCI
Associate Professor, C. Dan and Irene Hunter Endowed Professor

Aaron and Cecilia Lee collaborate on the mining of large clinical data sets and registries from around the world and unlocking the power of Big Data through recent breakthroughs in machine learning and artificial intelligence. Their major research focuses include bioinformatics, deep learning, next generation sequencing, clinical epidemiology, and data visualization. The Lee Lab's recent published work includes clinical outcomes research in age-related macular degeneration and diabetic retinopathy. Learn more at comp.ophthalmology.uw.edu.

The Neitz Lab

Maureen Neitz, PhD
Ray Hill Chair

Jay Neitz, PhD
Bishop Foundation Professor

The Neitz lab is developing genetic tests and treatments for common vision disorders, and investigating the retinal circuitry for vision. Jay and Maureen Neitz collaborate in their studies of the visual system, taking a multidisciplinary approach that uses techniques ranging from molecular genetics to human and animal psychophysics. Major focus areas include developing gene therapy for cone-based vision disorders, investigating the role of genetic variability in the cone photo pigments in common eye diseases including AMD, myopia, and glaucoma, understanding the physiological basis for color perception. The Neitz lab is also developing treatments for myopia, the most common vision problem globally. In addition, the Neitzes are developing genetic tests to identify individuals at risk for developing common eye diseases so that therapeutic interventions can be started before symptoms appear. Learn more at neitzvision.com.

The Manookin Lab

Michael Manookin, PhD
Assistant Professor

The Manookin lab is investigating the structure and function of neural circuits within the retina and developing techniques for treating blindness.

Many blinding diseases, such as retinitis pigmentosa, cause death of the rods and cones, but spare other cell types within the retina. Thus, many techniques for restoring visual function following blindness are based on the premise that other cells within the retina remain viable and capable of performing their various roles in visual processing. There are more than 80 different neuronal types in the human retina and these form the components of the specialized circuits that transform the signals from photoreceptors into a neural code responsible for our perception of color, form, and motion, and thus visual experience. The Manookin lab is investigating the function and connectivity of neural circuits in the retina using a variety of techniques including electrophysiology, calcium imaging, and electron microscopy. This knowledge is being used to develop more effective techniques for restoring visual function following blindness.

The Mustafi Lab

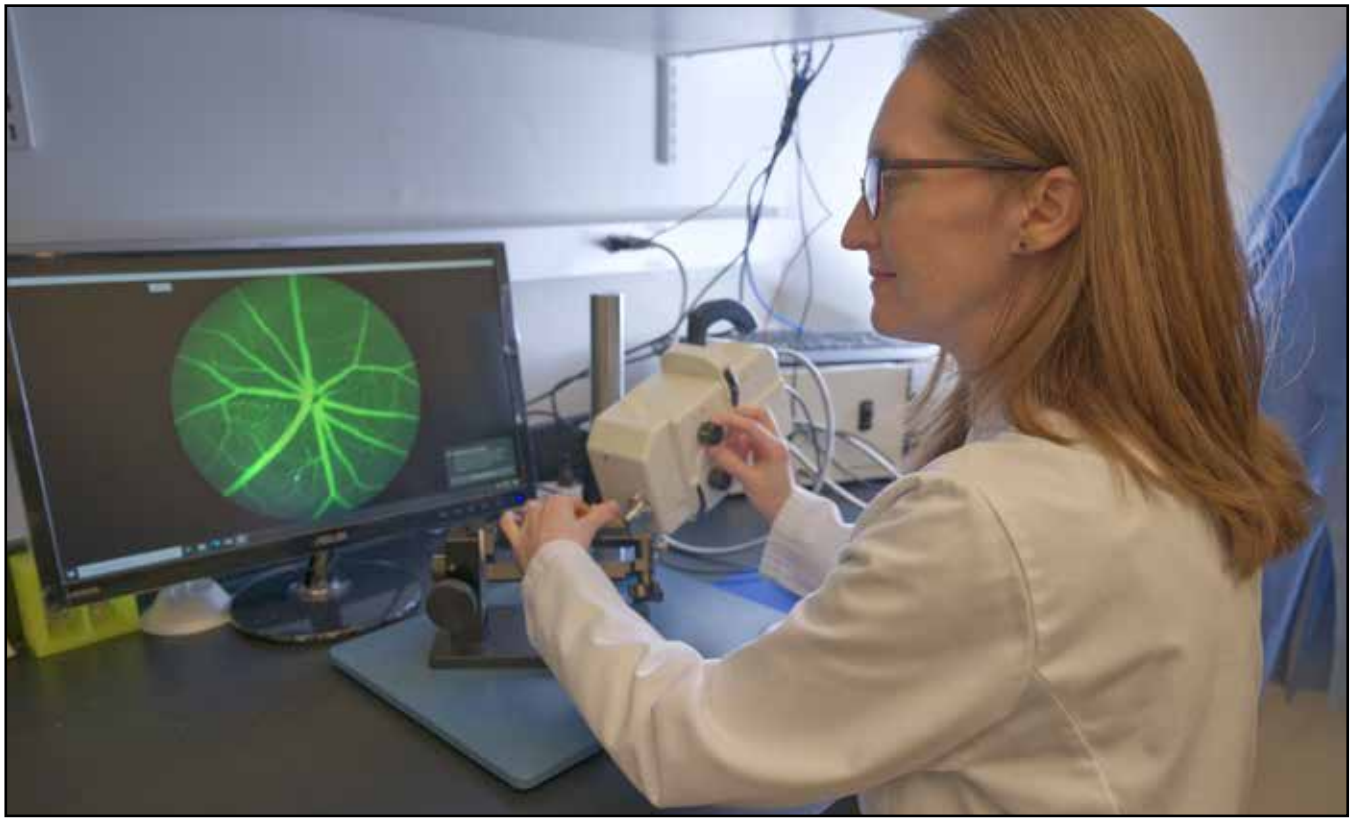
Debarshi Mustafi, MD, PhD
Assistant Professor of Ophthalmology

The Mustafi lab is investigating the genetic basis of inherited retinal degeneration and potentials for therapeutic intervention to prevent progression of blindness.

Inherited retinal degenerations (IRDs) are a heterogeneous group of predominantly monogenic disorders that feature loss or dysfunction of photoreceptor cells as a primary or secondary event and have a prevalence of 1 in 2,000 to 1 in 3,000 individuals. In the pediatric population, IRDs are a major cause of visual impairment and can be one of the first presenting features of a syndromic condition.

Using isolated blood samples from affected IRD patients and their families, the lab is able to carry out genome sequencing to identify novel pathogenic variants of disease and reconstruct disease haplotypes, which has implications for the interpretation of disease risks in IRDs. The isolated blood samples can also be used to generate patient-specific stem cells and retinal organoids. Overall, the goal of the lab is to uncover the mechanistic details of IRDs to allow development of targeted therapeutics to benefit patients. Learn more at mustafilab.org.

The Pepple Lab



Kathryn Pepple, MD, PhD
Associate Professor of Ophthalmology

The Pepple Lab is investigating the role of the innate immune system in ocular inflammation and studying new anti-inflammatory treatments for patients with uveitis.

Ocular inflammation, or uveitis, is potentially blinding disease that can affect people of all ages. Using cutting edge molecular methods, including multiplex cytokine analysis, optical coherence tomography angiography, in vivo bioluminescence imaging, and multicolor flow cytometry, the Pepple lab is studying animal models of uveitis to determine the key mediators of ocular inflammation. The lab is also testing compounds that target these key mediators to find promising new therapies for patients.

SELECT CURRENT AND RECENT GRANTS AND TRIALS

Clinical trials and grants are the tools of translation between patient care and research. The UW is second in the nation in the federal funding it spends annually on research and development according to the Higher Education Research and Development (HERD) Survey. The UW Medicine Department of Ophthalmology ranks third in the nation in total NIH grant funding.

NATIONAL INSTITUTES OF HEALTH (NIH)

Ethan Buhr, PhD
The role of OPN5 in extraocular circadian photoentrainment in mammals

Jennifer Chao, MD, PhD
Human RPE metabolism and metabolite transport

Aaron Lee, MD, MSCI
Bridge2AI: Uncovering the details of how human health is restored after disease, using Type 2 diabetes as a model.

Cecilia Lee, MD, MS
Aging eyes and aging brains in studying Alzheimer's disease: Modern ophthalmic data collection in the adult changes in thought (ACT) study

Michael Manookin, PhD
Function, diversity, and circuitry of parallel retinal ganglion cell pathways

Maureen Neitz, PhD
CORE grant for vision research
Role of dual splicing and amino acid code in myopia, cone dysfunction and cone dystrophy associated with L/M opsin interchange mutations

Jay Neitz, PhD
Linking retinal circuits to perception

Kathryn Pepple, MD, PhD
The role of the innate and adaptive immune system in a novel mouse model uveitis
Functional significance of NETosis to intraocular inflammation
Immune mechanisms of post-infectious uveitis

Ram Sabesan, PhD
In vivo photoreceptor physiology in the human retina
Contribution of the trichromatic cone mosaic to human vision

Tueng Shen, MD, PhD
Optical coherence elastography of corneal dynamics

Russell Van Gelder, MD, PhD
Molecular epidemiology of adenoviral pathogenesis in keratoconjunctivitis

RESEARCH TO PREVENT BLINDNESS

Aaron Lee, MD, MSCI
RPB career development grant

Michael Manookin, PhD
Two-photon imaging and electrophysiological recording to study the functional mechanisms that mediate vision in the retina and to develop techniques for restoring visual function following eye disease.

Russell Van Gelder, MD, PhD
Unrestricted Departmental Award

OTHER GRANTS AND MAJOR SPONSORS

Jennifer Chao, MD, PhD

Brightfocus Foundation
RPE Modeling on a Perfusable Microvessel Network

Aaron Lee, MD, MSCI

University College London
UK EMR medical retinal collaboration

Lowy Medical Research Institute
Application of machine learning to the MacTel project for the UK Biobank and pathogen discovery

Zeiss
Advanced deep learning with ocular imaging

Raghu Mudumbai, MD

Jaeb Center for Health Research
Diabetic retinopathy clinical research network

Debarshi Mustafi, MD, PhD

Knights Templar Eye Foundation
Phased human genomes

Jay Neitz, PhD

University of Southern California
EAGER: Bioelectric color vision

Medical College of Wisconsin
Developing cone-dominant retinal disease models as a resource for translational vision research

Maureen Neitz, PhD

Tietze Family
Gene therapy vector development for efficient transduction of retinal cells via intravitreal injection

Medical College of Wisconsin
Assessing photoreceptor structure and function in normal and diseased retina

SightGlass Vision
Color vision genetics

Kathryn Pepple, MD, PhD

Alpine Immune Sciences
Efficacy of T-cell inhibition with ALPN-101 in the treatment of experimental uveitis

Ram Sabesan, PhD

Burroughs Wellcome Fund
Studying visual function on a cellular scale

Foundation Fighting Blindness
Imaging macular photoreceptor function in RP and normal controls using an optoretinogram

University of California, Berkeley
Interferometric optophysiology of the human retina

ACTIVE IRB APPROVED STUDIES

ADVISE - Adalimumab vs. Conventional immunosuppression for corticosteroid-sparing for uveitis (ADVISE) Trial
Randomized clinical trial that compares different types of treatments for non-infectious uveitis.

Chalazia - Local 5-fluorouracil injection for the treatment of chalazia: a prospective, comparative study
Randomized clinical study comparing four types of treatment for the stye incision and drainage; local injection of corticosteroid; local injection of 5-fluorouracil; or a combination of corticosteroid and 5-fluorouracil.

DOVETAIL - a multi-center, non-randomized, open-label, multiple ascending dose study to investigate the safety, tolerability, pharmacokinetics and pharmacodynamics of ro7200220 in monotherapy and in combination with ranibizumab, following intravitreal administration in patients with diabetic or uveitic macular edema.

DRCR Protocol AF - A randomized clinical trial evaluating fenofibrate for prevention of diabetic retinopathy worsening (Protocol AF)
This study is testing whether use of fenofibrate in patients with diabetic retinopathy can prevent worsening of the retinal disease.

Eye in AD - Ophthalmic examination and imaging in cognitive decline and dementia.
The study is evaluating possibility of surrogate markers for Alzheimer's disease.

Explore - a phase 2, outcomes assessor-masked, multicenter, randomized study to evaluate the safety and efficacy of two doses of gt005 administered as a single subretinal injection in subjects with geographic atrophy secondary to age-related macular degeneration.

MacTel - a natural history observation and registry study of macular telangiectasia type 2.

MacTel SAFE - Phase 2a study of the effect of serine supplementation and fenofibrate treatment on serum deoxysphinganine levels in patients with macular telangiectasia (MacTel) Type 2.

Nanodropper - use of nanodropper vs. standard eyedropper in patients with glaucoma and ocular hypertension. The study compares nanodropper eyedropper attachment, which creates smaller eyedrops, with the standard eyedropper in patients with open-angle glaucoma or ocular hypertension.

Nicox Denali - a phase 3, randomized, multi-regional, double-masked, parallel-group trial evaluating the safety and efficacy between a new glaucoma drug (NCX 470) and an existing drug (Latanoprost) in patients with open-angle glaucoma or ocular hypertension.

Viridian - A multiple ascending dose (MAD) safety, tolerability and efficacy study of VRDN-001, a humanized monoclonal antibody directed against the IGF-1 receptor, in normal healthy volunteers (NHVs) and subjects with thyroid eye disease. Interventional clinical trial for patients with thyroid eye disease.

Stoke FALCON - A prospective natural history study of patients with autosomal dominant optic atrophy. The study follows patients with optic atrophy caused by the OPA1 gene mutations.

VISION SCIENCE RESEARCH FACULTY & ASSOCIATES

OPHTHALMOLOGY PRIMARY

Ethan Buhr, PhD
Research Associate Professor

Michelle Cabrera, MD
Associate Professor

Jennifer Chao, MD, PhD
Gordon and Joan Bergy Associate Professor

Murray Johnstone, MD
Clinical Professor

Jim Kuchenbecher, PhD
Acting Instructor

Aaron Lee, MD, MSc
C. Dan and Irene Hunter Endowed Professor
Associate Professor

Cecilia Lee, MD, MS
Associate Professor
Klorfine Family Endowed Chair

Mike Manookin, PhD
Assistant Professor

Debarshi Mustafi, MD, PhD
Assistant Professor

Jay F. Neitz, PhD
Bishop Professor

Maureen E. Neitz, PhD
Ray H. Hill Endowed Chair

Vimal Pandiyan, PhD
Acting Instructor

Kathryn Pepple, MD, PhD
Associate Professor

Ram Sabesan, PhD
Research Associate Professor

Tueng T. Shen, MD, PhD
Graham and Brenda Siddall Endowed Chair

Russell Van Gelder, MD, PhD
Boyd K. Bucey Memorial Chair

Ruikang "Ricky" Wang, PhD
George and Martina Kren Endowed Chair in Ophthalmology

Yue Wu, PhD
Acting Instructor

ADJUNCT

Susan E Brockerhoff, PhD
Professor, Biochemistry

John I. Clark, PhD
Professor, Biological Structure

Ione Fine, PhD
Professor, Psychology

Jim Hurley, PhD
Professor, Biochemistry

Dirk Keen, MD, PhD
Professor, Pathology

Thomas A. Reh, PhD
Professor, Biological Structure

Frederick M. Rieke, PhD
Professor, Physiology and Biophysics

Kathryn Scherpelz, MD, PhD
Assistant Professor, Pathology

Rachel Wong, PhD
Professor and Chair
Biological Structure

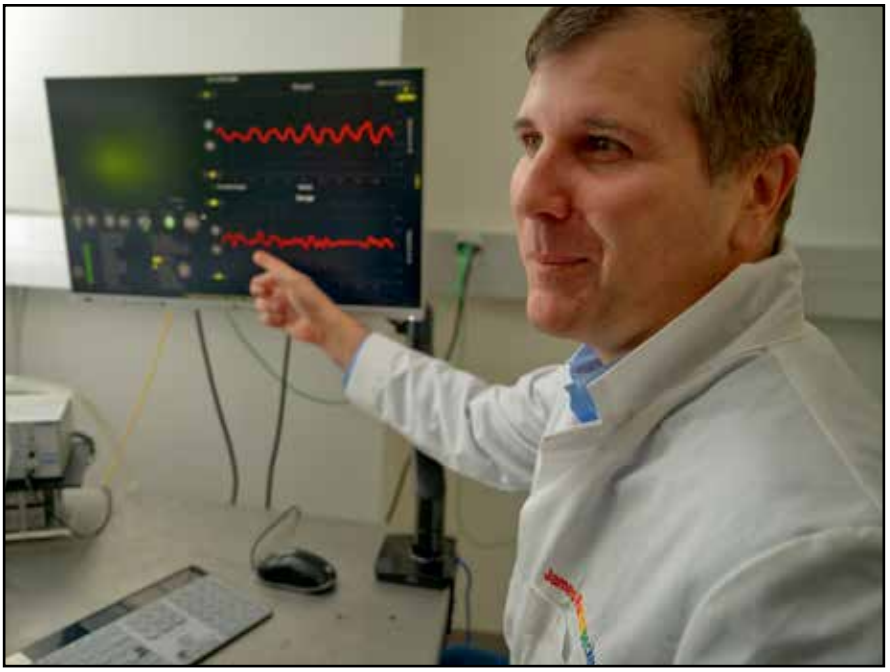
EMERITI

Robert E. Kalina, MD
Professor Emeritus
Ophthalmology

Ann Milam, PhD
Professor Emerita
Ophthalmology

Michael Mustari, PhD
Research Professor Emeritus
Ophthalmology

John C. Saari, PhD
Professor Emeritus
Ophthalmology



Vision scientist Jim Kuchenbecker, PhD.

PATIENT CARE

As faculty physicians, we take great pride in the quality of our care and our patients' satisfaction. At the UW Medicine Eye Institute and the Karalis Johnson Retina Center, we treat each patient as our own family member, applying compassionate, state-of-the-art medical and surgical care. Other sites associated with the department are located at Harborview Medical Center, University of Washington Medical Center, UW Medicine Primary Care Clinics, Seattle Children's and the VA Puget Sound Health Care System.

Motivated patient finds expert care at UW Medicine Eye Institute

Following 12 surgeries over three years, Blaine Peacock feared he might completely lose his vision due to repeated retinal detachments in his left eye.

Moving to Seattle in 2021, he turned to the UW Department of Ophthalmology for help.

"I had heard about the outstanding reputation of the UW Department of Ophthalmology and the Karalis Johnson Retina Center and knew I would receive excellent care," Mr. Peacock said.

He was referred to Yewlin Chee, MD, Associate Professor of Ophthalmology and specialist in vitreoretinal surgery. "After previous surgeons have done the same thing over and over, and it hasn't worked, I told her to do what you think is right," he said.

"We needed to take a different approach in Mr. Peacock's case," Dr. Chee said. "There was a tremendous amount of scar tissue from his previous detachments. We made a large cut in the retina to remove it, and that allowed the retina to heal much more securely."

Dr. Yewlin Chee with patient Blaine Peacock.

Less than a year after the surgery, "my left eye is better than it has been in three years," Mr. Peacock said. "It continues to heal, and I can see much more clearly now."

He is grateful for the care he received from Dr. Chee and her team.

"Dr. Chee is a miracle worker, so dedicated and focused and easy to talk to. She explains things so you can understand them; she has literally single-handedly saved the vision in my left eye," Mr. Peacock said.

Dr. Chee said motivated patients like Mr. Peacock make a big difference in outcomes.

"It's teamwork, not just the surgeon, but a patient doing the right things that Mr. Peacock did following surgery makes a big difference."

UW MEDICINE OPHTHALMOLOGY PATIENT CARE FACULTY

COMPREHENSIVE OPHTHALMOLOGY

Eric R.H. Duerr, MD
Assistant Professor

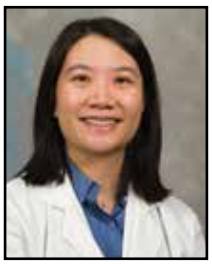
PATIENT CARE PHILOSOPHY
"I am passionate about educating patients and helping guide them through decision-making and personalized treatment plans to optimize their vision and quality of life."

Shu Feng, MD
Assistant Professor
Director, Medical Student Clerkship Program

PATIENT CARE PHILOSOPHY
"I understand that vision and eye health are crucial to one's quality of life. My goal is to partner with patients to address their eye concerns with compassion and empathy."

Anne Ko, MD
Clinical Assistant Professor

PATIENT CARE PHILOSOPHY
"My role as a physician involves giving patients the information they need to make an informed decision about their care."



Deborah L. Lam, MD
Associate Professor
Chief of Eye Care Services, VA Puget Sound Health Care System

PATIENT CARE PHILOSOPHY
"I like to develop a partnership with my patients in their care."

Thellea Leveque, MD, MPH
Clinical Professor

PATIENT CARE PHILOSOPHY
"Patient education and participation in care is vital to eye health. I will do everything I can to explain your eye condition in a way that makes sense to you. There is no such thing as a dumb question!"

Whitney Lomazow, MD
Assistant Professor

PATIENT CARE PHILOSOPHY
"I strive to provide the highest quality eye care, which of course involves compassion, empathy, and a commitment to treating each patient as I would like a member of my own family to be treated."

COMPREHENSIVE

Parisa Taravati, MD
Robert E. Kalina MD Associate Professor
Vice Chair, Education
Director, Residency Program
Chief of Service, UW Medical Center

PATIENT CARE PHILOSOPHY

"I believe in educating my patients on their eye conditions and making them active participants in their medical care."

Jennifer T. Yu, MD, PhD
Clinical Associate Professor
Chief of Service, 4W Ophthalmology Clinic

PATIENT CARE PHILOSOPHY

"I believe that good patient care starts with listening to the patient and addressing his or her concerns. I also believe that health care is a partnership between the physician and the patient. This involves patient education and helping the patient

CORNEA AND EXTERNAL DISEASE

Tueng T. Shen, MD, PhD
Professor
Graham and Brenda Siddall Chair In Cornea Research In Ophthalmology
Adjunct Professor In Bioengineering & Global Health
Associate Dean for Medical Technology Innovation

PATIENT CARE PHILOSOPHY

"I strongly believe that patients deserve a physician who listens, keeps them well-informed and is a partner in accomplishing the best treatment plan customized to their needs."

Miel Sundararajan, MD
Assistant Professor

PATIENT CARE PHILOSOPHY

"I strive to offer the most thorough care possible, combining compassion, clinical aptitude, and surgical excellence customized to each patient's needs."

GLAUCOMA

Karine Duarte Bojikian, MD, PhD
Assistant Professor

PATIENT CARE PHILOSOPHY

"I believe in the power of a kind word, a smile, a sympathetic look, and a listening ear – I am here to provide you with the highest quality in medical and surgical care while supporting you through the journey of glaucoma care."

Andrew Chen, MD
Assistant Professor

PATIENT CARE PHILOSOPHY

"I am passionate about preserving vision to allow one to live their life to their fullest extent."

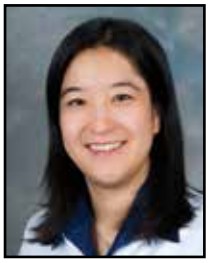
Philip P. Chen, MD
Professor
Grace E. Hill Endowed Chair
Vice Chair for Clinical Services

PATIENT CARE PHILOSOPHY

"My passion is to prevent blindness caused by glaucoma."

PATIENT CARE

MEDICAL AND SURGICAL RETINA



Jennifer Chao, MD, PhD
Associate Professor
Gordon and Joan Bergy Professor
Vice Chair, Research

PATIENT CARE PHILOSOPHY
"My goal is to provide the most advanced and compassionate care to each of my patients with the goal of improving their quality of life."

Yewlin Chee, MD
Associate Professor

PATIENT CARE PHILOSOPHY
"I aim to provide excellent care for my patients by first understanding how their retinal disease affects their quality of life, and then by educating my patients such that they have a clear understanding of their condition and treatment options."

Debarshi Mustafi, MD, PhD
Assistant Professor

PATIENT CARE PHILOSOPHY
"My goal is to provide patient centered care to children and their families afflicted with retinal disease. Knowledge of the specific disease-causing genetic variants in patients plays an increasingly important role in the diagnosis and management of disease in an era of emerging options for genetic diseases."

Aaron Lee, MD, MSc
Associate Professor
C. Dan and Irene Hunter Endowed Professor

PATIENT CARE PHILOSOPHY
"As a clinician scientist, I am excited to help translate the latest breakthroughs in research into clinical care and to leverage the resources and facilities of the University of Washington to provide excellent patient care."

Cecelia Lee, MD, MS
Associate Professor
Klorfine Family Endowed Chair

PATIENT CARE PHILOSOPHY
"I love participating in my patients' healthcare by providing personalized, up-to-date medical care. I enjoy translating next generation research tools in medical retina to the clinic and providing deeper insights in each patient's care. "

Lisa Olmos de Koo, MD, MBA
Associate Professor
Director, Retina Fellowship

PATIENT CARE PHILOSOPHY
"As a retina surgeon, I am committed to excellence, drawing upon my experience and training as well as the latest scientific and technological advances to provide the best individualized care for my patients. As a medical educator and researcher, I also hope to benefit future generations of patients."

Kasra Rezaei, MD
Associate Professor

PATIENT CARE PHILOSOPHY
"It is a great honor to participate in the care of patients and improve their vision and quality of life."

Dong (Dawn) Yang, MD
Assistant Professor

PATIENT CARE PHILOSOPHY
"It's a true privilege to care for my patients. I aim to treat each individual in the same way that I would want to be treated."

NEURO-OPHTHALMOLOGY

Courtney Francis, MD
Associate Professor

PATIENT CARE PHILOSOPHY

"I enjoy being able to educate my patients, residents and medical students about neuro-ophthalmologic diseases. The multidisciplinary approach we have here at UW really helps to provide the best care for our patients, many of whom have complex conditions."

Eugene May, MD
Clinical Associate Professor

PATIENT CARE PHILOSOPHY

"My goal at work every day is to make sure that each of my patients is fully heard. Not only do I want to understand and treat their neuro-ophthalmic medical problem, but also to address their functional and emotional needs, and empower them to live their fullest lives."

Raghu Mudumbai, MD
Associate Professor

PATIENT CARE PHILOSOPHY

"I take a patient-centered approach that empowers my patients through extensive education of their condition, thereby enabling my patients to be part of a team that provides optimal care."

OCULOPLASTIC AND RECONSTRUCTIVE SURGERY

Christopher Chambers, MD
Associate Professor
Director, Oculoplastic and Reconstructive Surgery Fellowship

PATIENT CARE PHILOSOPHY

"Outstanding medical care should focus on treating the disease as well as the individual patient."

Shu-Hong (Holly) Chang,MD
Clinical Associate Professor

PATIENT CARE PHILOSOPHY

"When it comes to the face, each patient's concerns, whether medical or aesthetic, are unique. I love my work because I have the privilege of tailoring proven surgical techniques, cutting-edge science, and artistic sensibilities to create an individualized treatment plan for each patient."

Matthew Zhang, MD
Assistant Professor

PATIENT CARE PHILOSOPHY

"Patients always come first."

PATIENT CARE

OPTOMETRY

Susan Dini, OD
Teaching Associate

PATIENT CARE PHILOSOPHY

"Eye care is an important element of general health and quality of life. I'm committed to helping you maintain lifelong healthy eyes with valuable information and resources for your total eye health."

Nancy Ross Anibarro, OD
Teaching Associate

PATIENT CARE PHILOSOPHY

"I believe that individual attention and compassion are critical in providing patients with the highest level of comprehensive eye care. That includes giving patients a thorough explanation and providing them with the tools to be proactive in their care. I am thankful to work with a team of specialists that allow each patient to experience seamless continuity of care."

Hoi Yee (Zoe) Leung, OD
Teaching Associate

PATIENT CARE PHILOSOPHY

"I believe in treating patients with respect, and empowering patients to make the best choices for their eye health through patient education."

Vivian Manh, OD, MS
Clinical instructor

PATIENT CARE PHILOSOPHY

"Vision is a crucial aspect of a child's overall development. It is a privilege to be able to provide my young patients with clear and comfortable access to their visual environment and to help families maximize their children's potential for learning and growth."

ONCOLOGY AND OCULAR TUMORS

Andrew W. Stacey, MD, MSc
Associate Professor

PATIENT CARE PHILOSOPHY

"An appointment with your doctor can be stressful. When your eyes and vision are affected, the stress can be magnified. I enjoy teaching my patients about what I see in their eyes and providing them with information and options, then together we can come up with the best course of action."

The UW Medicine South Lake Union research and patient care facility, home of the Roger and Angie Karalis Johnson Retina Center, with the nearby Space Needle in the background.

PEDIATRIC OPHTHALMOLOGY

Swati Agarwal-Sinha, MD
Associate Professor

PATIENT CARE PHILOSOPHY

"I treat every patient with same dedication, passion and commitment I would invest in those close to me. As a clinician scientist, I use scientific evidence to translate clinical care to parents so they can understand and participate in providing the best care for their child."

Francine M. Baran, MD
Cinical Associate Professor

PATIENT CARE PHILOSOPHY

"I love making a difference in children's lives by helping care for one of their most precious abilities, their sight."

Michelle Cabrera, MD
Associate Professor, Chief, Division of Ophthalmology, Seattle Children's

PATIENT CARE PHILOSOPHY

"I believe that a child's ocular health depends on my establishing a good relationship with both the family and the patient. I believe in open communication and discussion with everyone involved. Keeping your child's eyes healthy is my priority. Finally, eye care should be fun, and your child should enjoy the experience!"

Erin Herlihy, MD
Associate Professor
Director, Pediatric Ophthalmology Fellowship

PATIENT CARE PHILOSOPHY

"A fun and non-threatening environment is essential in engaging children and their families to participate in their eye care. Families need to have a thorough understanding of their child's or their own condition to be effective partners in ensuring eye health and maximizing visual development."

Kristina Tarczy-Hornoch, MD, DPh
Professor

PATIENT CARE PHILOSOPHY

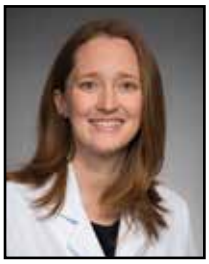
"One of the most rewarding experiences for a physician is being able to teach families and empower them to make informed decisions about a child's care."

Laura C. Huang, MD
Assistant Professor

PATIENT CARE PHILOSOPHY

"From developing that individual relationship with a child to communicating with the patient's family, I believe in the importance of cultivating the patient-physician relationship to help optimize children's visual development."

UVEITIS AND OCULAR INFLAMMATION



Kathryn L. Pepple, MD, PhD
Associate Professor
Director, Uveitis Fellowship

PATIENT CARE PHILOSOPHY

"My goal is to prevent vision loss and blindness by providing high quality clinical care and developing new treatments for patients with uveitis. "

Russell N. Van Gelder, MD, PhD
Boyd K. Bucey Memorial Professor and Chair, UW Medicine Department of Ophthalmology,
Director, UW Medicine Eye Institute
Director, UW Vision Science Center

PATIENT CARE PHILOSOPHY

"My goal is to give each patient the care I would give my family; to apply the best scientific evidence and most appropriate treatments; and to help the patient make the best medical decisions."

Dr. Andrew Stacey, specialist in oncology and ocular tumors, examines a patient at the UW Medicine Eye Institute at Harborview Medical Center.

Comprehensive ophthalmologist Dr. Anne Ko performs an eye exam at the UW Medicine Eye Institute.

EDUCATION

PREPARING THE NEXT GENERATION OF PHYSICIANS AND VISION SCIENTISTS

The University of Washington Department of Ophthalmology has trained more than 170 eye physicians and surgeons since 1966. Our committed faculty members, modern teaching facilities, and volume of pathology make the University of Washington an ideal learning environment.

RESIDENT AND FELLOW PHYSICIANS

RESIDENCY PROGRAM

The Ophthalmology residency program is designed to develop clinicians well trained in medical and surgical ophthalmology and prepared to excel as community practitioners, or to follow a career track that will lead them to academic medicine or biomedical research. With our outstanding faculty and state of the art facilities, our residents are exposed to a wide variety of pathology from the greater WWAMI region (Washington, Wyoming, Alaska, Montana, Idaho).

FELLOWSHIP PROGRAMS

Hargiss Ophthalmic Plastic & Reconstructive Surgery Fellowship

This competitive ASOPRS-approved two-year training program is designed to provide exposure to all aspects of ophthalmic plastic surgery.

Kinyoun Retina Fellowship

This AUPO-approved two-year training program is designed to provide exposure to all aspects of medical retina disease, vitreoretinal surgery, uveitis, and ocular tumors.

Pediatric Ophthalmology Fellowship

Seattle Children's and the University of Washington Department of Ophthalmology offers a one-year, comprehensive medical and surgical Pediatric Ophthalmology and Strabismus fellowship. This competitive training program is designed to provide exposure to all aspects of pediatric ophthalmologic and adult strabismic disease.

Gensheimer Endowed Fellowship in Ocular Inflammatory Diseases

The University of Washington Department of Ophthalmology offers a one- or two-year, comprehensive AUPO FCC (Association of University Professors of Ophthalmology Fellowship Compliance Committee) approved uveitis and ocular inflammation fellowship.

Residency program director Dr. Parisa Taravati leads a surgical wet lab for UW Ophthalmology residents.

UW MEDICINE DEPARTMENT OF OPHTHALMOLOGY FELLOWS 2022-23

Alexandra Van Brummen, MD
Pediatric Ophthalmology

Matthew McKay, MD
Retina

Erin Godbout, MD
Ophthalmic Plastic & Reconstructive Surgery

Kareem Sioufi, MD
Retina

Gabrielle Turski, MD
Uveitis

PUBLICATIONS

Our faculty are drawn to the UW for its rich academic culture and its facility to translate the creative process into clinical practice. We thrive in discovery and innovation.

ACADEMIC YEAR 2021 (JULY, 2021 TO JUNE, 2022)

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3: Meirick TM, **Mudumbai RC, Zhang MM, Chen PP**. **Punctal stenosis associated with topical netarsudil use**. Ophthalmology. 2022 Jul;129(7):765-770.

4: **Lee AY**, Yuan A. Automated Retinal Fluid Volume Quantification: **A nod to present and future applications of deep learning.** JAMA Ophthalmol. 2021 Jul 1;139(7):741-742.

5: Zarbin MA, **Lee AY**, Keane PA, Chiang MF. **Data science in translational vision science and technology**. Transl Vis Sci Technol. 2021 Jul 1;10(8):20.

6: Juliano J, Burkemper B, Lee J, Nelson A, LeTran V, Chu Z, Zhou G, Jiang X, **Wang RK**, Varma R, Richter GM. **Longer axial length potentiates relationship of intraocular pressure and peripapillary vessel density in glaucoma patients.** Invest Ophthalmol Vis Sci. 2021 Jul 1;62(9):37.

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9: Zambrano AI, Church EC, McKay KM, Carnes SK, Morse RJ, **Leveque TK**, Roxby AC. **A Disfiguring Rash.** Open Forum Infect Dis. 2021 Jul 8;8(7):ofab332.

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11: Bagdasarova Y, **Lee AY**, Maring M, Wen J, Lacy M, **Lee CS**, **Chen A**; **IRIS Registry Analytic Centers Study Group. Cataract Surgery Is Not Associated with Decreased Risk of Retinal Vein Occlusion**. Ophthalmol Sci. 2021 Jul 14;1(3):100041.

12: McKay KM, Apostolopoulos N, Chou B, **Leveque TK, Van Gelder RN. Anti-adalimumab antibodies in patients with non-infectious ocular inflammatory disease: a case series.** Ocul Immunol Inflamm. 2021 Jul 16:1-5.

13: Fabian ID, Khetan V, **Stacey AW**, Allen Foster, Ademola-Popoola DS, Berry JL, Cassoux N, Chantada GL, Hessissen L, Kaliki S, Kivelä TT, Luna-Fineman S, Munier FL, Reddy MA, Rojanaporn D, Blum S, Sherief ST, Staffieri SE, Theophile T, Waddell K, Ji X, Astbury NJ, Bascaran C, Burton M, Zondervan M, Bowman R; **Global retinoblastoma study group. Sex, gender, and retinoblastoma: analysis of 4351 patients from 153 countries.** Eye (Lond). 2022 Aug;36(8):1571-1577.

14: Díaz NM, Gordon SA, Lang RA, **Buhr ED. Circadian oscillations in the murine preoptic area are reset by temperature, but not light**. Front Physiol. 2022 Jul 22;13:934591.

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24: Bordt AS, Patterson SS, Girresch RJ, Perez D, Tseng L, Anderson JR, Mazzaferri MA, **Kuchenbecker JA,** Gonzales-Rojas R, Roland A, Tang C, Puller C, Chuang AZ, Ogilvie JM, **Neitz J**, Marshak DW. **Synaptic inputs to broad thorny ganglion cells in macaque retina.** J Comp Neurol. 2021 Aug 1;529(11):3098-3111.

25: Habibi RN, **Lee MD. Treatment of dry eye from laser-assisted in situ keratomileusis with recombinant human nerve growth factor (cenegermin).** Cornea**.** 2021 Aug 1;40(8):1059-1061.

26: McKay KM, Apostolopoulos N, Dahrouj M, Nguyen HV, Reddy A, Blazes M, Lacy M, **Pepple KL, Lee AY, Lee CS**. **Assessing the uniformity of uveitis clinical concepts and associated ICD-10 codes across health care systems sharing the same electronic health records system.** JAMA Ophthalmol. 2021 Aug 1;139(8):887-894.

27: Owen JP, Blazes M, Lacy M, Yanagihara RT, **Van Gelder RN, Lee AY, Lee CS**; IRIS Research Analytic Center Consortium. **Refractive outcomes after immediate sequential vs delayed sequential bilateral cataract surgery.** JAMA Ophthalmol. 2021 Aug 1;139(8):876-885.

28: Schwartz R, Warwick A, Olvera-Barrios A, Pikoula M, **Lee AY**, Denaxas S, Taylor P, Egan C, Chakravarthy U, Lip PL, Tufail A; of the UK EMR Users Group. **Evolving treatment patterns and outcomes of neovascular age-related macular degeneration over a decade. Ophthalmol Retina**. 2021 Aug;5(8):e11-e22.

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30: Owen JP, Blazes M, Manivannan N, Lee GC, Yu S, Durbin MK, Nair A, Singh RP, Talcott KE, Melo AG, Greenlee T, Chen ER, Conti TF, **Lee CS, Lee AY**. **Student becomes teacher: training faster deep learning lightweight networks for automated identification of optical coherence tomography B-scans of interest using a student-teacher framework.** Biomed Opt Express. 2021 Aug 2;12(9):5387-5399.

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32: Tom ES, McKay KM, **Saraf SS**. **Bilateral ampiginous choroiditis following presumed SARS-CoV-2 infection.** Case Rep Ophthalmol Med. 2021 Aug 5;2021:1646364.

33: Le TP, Feng J, Ding L, Hu R, Lou XB, Ulrich JN, **Cabrera MT**. **Survey of current retinopathy of prematurity practices in China.** Int J Ophthalmol. 2021 Aug 18;14(8):1241-1247.

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37: Baxter SL, **Lee AY**. **Gaps in standards for integrating artificial intelligence technologies into ophthalmic practice.** Curr Opin Ophthalmol. 2021 Sep 1;32(5):431-438.

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41: Hwang PH, Longstreth WT Jr, Thielke SM, **Francis CE**, Carone M, Kuller LH, Fitzpatrick AL. **Ophthalmic conditions associated with dementia risk: The Cardiovascular Health Study.** Alzheimers Dement. 2021 Sep;17(9):1442-1451.

42: Liu B, Hong A, Rieke F, **Manookin MB**. **Predictive encoding of motion begins in the primate retina.** Nat Neurosci. 2021 Sep;24(9):1280-1291.

43: Ferrara D, Newton EM, **Lee AY**. **Artificial intelligence-based predictions in neovascular age-related macular degeneration.** Curr Opin Ophthalmol. 2021 Sep 1;32(5):389-396.

44: Schaffer LR, Wells JR, **Francis CE**. **Superior ophthalmic vein thrombosis secondary to hyperhomocysteinemia.** J Neuroophthalmol. 2021 Sep 1;41(3):e312-e313.

45: Meier K, **Tarczy-Hornoch K**. **Recent treatment advances in amblyopia**. Annu Rev Vis Sci. 2022 Sep 15;8:323-343.

46: Kirby MA, Pitre JJ Jr, Liou HC, Li DS, **Wang RK**, Pelivanov I, O'Donnell M, **Shen TT**. **Delineating corneal elastic anisotropy in a porcine model using noncontact OCT elastography and ex vivo mechanical tests.** Ophthalmol Sci. 2021 Sep 22;1(4):100058.

47: Randhawa JK, Kim ME, Polski A, Reid MW, Mascarenhas K, Brown B, Fabian ID, Kaliki S, **Stacey AW**, Burner E, Sayegh CS, Poblete RA, Ji X, Zou Y, Sultana S, Rashid R, Sherief ST, Cassoux N, Garcia J, Coronado RD, López AMZ, Ushakova T, Polyakov VG, Roy SR, Ahmad A, Reddy MA, Sagoo MS, Al Harby L, Astbury NJ, Bascaran C, Blum S, Bowman R, Burton MJ, Gomel N, Keren-Froim N, Madgar S, Zondervan M, Berry JL. **The effects of breastfeeding on retinoblastoma development: results from an international multicenter retinoblastoma survey.** Cancers (Basel). 2021 Sep 24;13(19):4773.

48: Akkina SR, Saurey TG, Middleton NA, Mattson NR, Brummet S, Phillips JO, **Chambers CB**, Moe KS, **Mudumbai RC**. **Factors associated with ocular injury in orbital fracture patients: who requires urgent ophthalmic evaluation?** Facial Plast Surg Aesthet Med. 2021 Sep 27.

49: Boland MV, Corcoran KJ, **Lee AY**. **Changes in Performance of Glaucoma Surgeries 1994 through 2017 Based on Claims and Payment Data for United States Medicare Beneficiaries.** Ophthalmol Glaucoma. 2021 Sep-Oct;4(5):463-471.

50: McKay KM, Lim LL, **Van Gelder RN**. **Rational laboratory testing in uveitis: A Bayesian analysis.** Surv Ophthalmol. 2021 Sep-Oct;66(5):802-825.

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54: Van Brummen A, Owen JP, Spaide T, Froines C, Lu R, Lacy M, Blazes M, Li E, **Lee CS, Lee AY**, **Zhang M.** PeriorbitAI: **Artificial intelligence automation of eyelid and periorbital measurements.** Am J Ophthalmol. 2021 Oct;230:285-296.

55: Swanson EC, Friedly JL, **Wang RK**, Sanders JE. **Optical coherence tomography for the investigation of skin adaptation in lower limb prosthesis users.** JProsthet Orthot. 2021 Oct;33(4):255-265.

56: Huynh AV, **Buhr ED**. **Melatonin adjusts the phase of mouse circadian clocks in the cornea both ex vivo and in vivo.** J Biol Rhythms. 2021 Oct;36(5):470-482.

PUBLICATIONS

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58: Tang P, **Wang RK**. **1700 nm broadband laser source enables deep brain optical biopsy**. Light Sci Appl. 2021 Oct 4;10(1):205.

59: Lo J, Yu TT, Ma D, Zang P, Owen JP, Zhang Q, **Wang RK**, Beg MF, **Lee AY**, Jia Y, Sarunic MV. **Federated learning for microvasculature segmentation and diabetic retinopathy classification of OCT Data**. Ophthalmol Sci. 2021 Oct 8;1(4):100069.

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Faculty named to endowed positions thanks to generous gifts

Department of Ophthalmology faculty members Dr. Jennifer Chao and Dr. Ruikang (Ricky) Wang have been named to endowed appointments at the University of Washington.

Joan Bergy, center, presents the check for the Joan and Gordon Bergy Endowed Professorship to Dr. Russell Van Gelder and Dr. Jennifer Chao.

Dr. Chao, MD, Ph.D., Vice Chair for Research, was appointed to the Gordon and Joan Bergy Endowed Professorship in Ophthalmology. Dr. Chao has been on the faculty at UW since 2009.

A retinal disease specialist, Dr. Chao has an active laboratory that studies retinal degenerative disorders. The Chao Lab is investigating potential applications of induced pluripotent stem cells (iPSCs) for treating eye diseases and identifying new drug therapies for eye diseases.

Inherited retinal degeneration is a significant cause of blindness. The Chao laboratory is working to create models of retinal degenerative diseases that can be used to discover potentially therapeutic drugs. The laboratory takes blood samples from volunteers to create patient-specific stem cells and grow them into retinal cells to study.

In support of the Department of Ophthalmology, in 2012, Joan Bergy provided funding for the Joan and Gordon Bergy Visiting Professorship series, which brings three outstanding vision scientists to visit and deliver scientific lectures each year. Several years ago, Joan moved to the Aljoya community on Mercer Island. She and Gordon had a beloved home in Hansville, Washington. After she made the difficult decision to sell the house, she decided to use the proceeds to fund an endowed professorship. Dr. Chao is Joan's retina specialist at the Karalis Johnson Retina Center at South Lake Union.

A UW faculty member since 2011, Dr. Ruikang (Ricky) Wang, Ph.D., was recently appointed to the George and Martina Kren Endowed Chair in Ophthalmology Research. Wang is a professor with appointments in the Departments of Bioengineering and Ophthalmology at the UW and directs the Biophotonics and Imaging Laboratory.

The Wang lab is dedicated to developing biomedical imaging techniques for early diagnosis, treatment, and management of human diseases, especially retinal diseases.

His efforts have contributed to retinal findings in infants and adults with unprecedented precision, speed, and imaging resolution. Dr. Wang is widely credited with being the inventor of optical coherence tomography angiography (OCTA), a technique in which blood flow can be measured in all blood vessels in the eye non-invasively. This technique is now a standard testing modality in ophthalmology offices worldwide.

George Kren was born in Prague, Czech Republic, and emigrated to the U.S. in the early 1970s. In 1976 he co-founded Tencor Instruments, a company that later merged into KLA-Tencor. He was also instrumental in founding the Surfscan Division and acquiring the companies Censor in Lichtenstein and NanoPro in Germany. For many years he had a leading role in SEMI Standards, where he received the SEMI Lifetime Award in 2004. George is now retired and lives with his wife, Martina, in Monterey, California. George serves on the UW Medicine Eye Institute Community Action Board, and he and Martina are also helping to support an endowed professorship in advanced ocular imaging within the Department of Ophthalmology.

ENDOWMENTS: A LASTING LEGACY

In addition to establishing an enduring UW Medicine legacy for the donor, endowments provide a lasting and reliable source of support for the Department of Ophthalmology. We are honored to recognize many generous supporters who have invested in vision science research, patient care, and training. Endowments listed are those fully vested as of December 1, 2022. To learn more about establishing an endowment at UW Medicine, please visit give.uwmedicine.org.

Ora Lee Anderson Endowed Ophthalmology Fund

Gordon and Joan Bergy Endowed Professorship in Ophthalmology

Frank and Elizabeth Bret Endowed Fund for Ophthalmology Research

Boyd K. Bucey Memorial Endowed Chair in Ophthalmology

John Colen M.D. Endowed Fund for Ophthalmology

Dr. Melvin I. and Nanette D. Freeman Endowed Fund in Ophthalmology

Sidney Futterman Endowment

Gensheimer Endowed Fellowship in Ocular Inflammatory Diseases

James L. Hargiss Ophthalmic Plastic & Reconstructive Surgery Fellowship

James Hargiss, M.D., Endowed Fund in Ophthalmology

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Grace E. Hill Chair in Vision Research

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University of Washington Department of Ophthalmology Outstanding Medical Student Scholarship

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CURRENT-USE FUNDS

We are honored to receive support through named current-use funds including:

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COMMUNITY ACTION BOARD: MAKING A DIFFERENCE

The Community Action Board (CAB) is a group of committed volunteers who advance the Eye Institute's mission by serving as ambassadors in our community, advising faculty on matters of strategic importance, and generously supporting our mission with gifts. Philanthropic gifts help to accelerate innovation in the form of seed grants for our faculty research. We are honored and privileged to work with such a fine group of individuals as we pursue our mission of eliminating blinding eye disease.

2021-2022 CAB HIGHLIGHTS

- Engaged community members in faculty presentations about inherited retinal diseases, ocular oncology, and computational ophthalmology.
- Supported Vision Innovation Research Awards.
- Donated devices to support curriculum materials for residents.
- Other projects board members have previously funded and worked on include attracting talented new faculty; funding innovative research projects led by junior faculty; supporting the work at the Karalis Johnson Retina Center; holding community events and symposiums about specific eye conditions; and raising funding to expand opportunities for medical students across the country to complete ophthalmology rotations at UW.

CAB MEMBERS

Rich Bebee, Ph.D.
Carleton Bulkin
Lois Craig
Phil Erickson
Juliana Gensheimer
James Hedden
Frederick Huntsberry
Jack Jolley, Immediate Past Chair
Norma Klorfine
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Suzanne Stevens
Rahel Tesfahun, CAB Chair
Russell Van Gelder, MD, PhD
Susan Whitford

To learn more about the CAB or how you can get involved, please contact An Tran at (206) 221-3286 or antran03@uw.edu.

The Community Action Board has supported the research at the Karalis Johnson Retina Center at UW Medicine South Lake Union.

UW Medicine

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Department of Ophthalmology | Eye Care Locations

UW Medicine Eye Institute at Harborview

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Seattle, WA 98104
206.744.2020

Karalis Johnson Retina Center at South Lake Union

750 Republican Street
Building F, 1st Floor
Seattle, WA 98109
206.744.2020

Eye Center at UWMC

University of Washington Medical Center
NN 300
1959 N.E. Pacific St.
Seattle, WA 98195
206.744.2020

Ophthalmology (Eye) Clinic at Harborview

Harborview Medical Center
4th Floor, West Clinic
325 Ninth Ave.
Seattle, WA 98104
206.520.5000

UW Medicine Primary Care Clinics

Ravenna
4915 25th NE, Suite 300W
Seattle, WA 98105
206.525.7777
Shoreline
1355 N. 205th St.
Shoreline, WA 98133
206.520.5000

Eyes on James Optical Shop

Ninth & Jefferson Building
908 Jefferson St., Suite 101
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Seattle Childrens Ophthalmology Clinic

4800 Sand Point Way NE
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