Message from the Chair

On behalf of the Department of Ophthalmology at UW Medicine, it is my pleasure to introduce our Community Report for academic year 2017-18.

Our Department’s mission is to alleviate suffering from eye disease. We do this through our direct patient care; through our educational programs; and through our robust research programs. In each of these areas, we have had a banner year in the department, and are delighted to share our progress with you.

In the clinical arena, our faculty provide care in 7 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; Puget Sound VA Medical Center (including American Lake campus); Seattle Children’s Hospital; and the UW Neighborhood Clinics. In total, our faculty and trainees saw over 60,000 patient visits and performed over 3,000 surgeries last year, providing a substantial amount of ophthalmologic and optometric care in the Puget Sound region. We also continue to serve as a major referral center, seeing patients from throughout the 5 state WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) region. We continue to provide many services rare in the community, including management of eye cancer (ocular oncology), uveitis, and medical and hereditary retinal disease. The quality of our care remains outstanding and patient satisfaction continues to be high.

In education, our faculty remain highly committed to the educational mission. We currently train 15 residents, five fellows, and scores of medical students annually. This year saw the successful start of our cornea and external disease fellowship, started in collaboration with SightLife, the nation’s largest eye bank for corneal tissue (which itself grew out of the department’s original Northwest Lions Eye Bank many years ago). We also gained approval for a second retina fellow position and now have two outstanding fellows on this service. Our residency training program remains one of the most competitive in the country, under the strong leadership of Dr. Parisa Taravati. We are also extremely fortunate to have support from our community for our training programs, which includes support for resident research from our Community Action Board, as well as named fellowships for uveitis, cornea, and oculoplastics, (and soon for our retina fellowship as well). We are indebted to Cary and Janet Rayment for their very generous endowment to support fellow training at UW. We will be naming the inaugural ‘Rayment Fellow’ later this year. Our department has continued to teach the wider community as well, hosting 7 speakers in collaboration with the Washington Academy of Eye Physicians and Surgeons, Sidney Futerman Lectures and Gordon F. Bergy, MD, Lectures in basic science, a very successful Resident Alumni Day (including awarding of the Roger Johnson Macular Degeneration Award to Dr. Phil Rosenfeld from Bascom Palmer Eye Institute), and co-organizing an excellent ‘Gained in Translation’ meeting in Vancouver, BC with our colleagues at University of British Columbia and Oregon Health & Science University.

We have had a true banner year for our research endeavors. Collectively, the department published over 140 papers last year, many in high profile journals. We currently have 12 NIH funded investigators in the department – an all-time high – with a vibrant research program. Junior faculty members, Drs. Ram Sabesan, Mike Manookin, Ethan Buhr, Kathryn Pepple, Cecilia Lee, and Aaron Lee have all received new awards within the past year to further their research. We were also delighted this year to welcome Ricky Wang, PhD as joint faculty in ophthalmology (with the department of bioengineering). Dr. Wang is the inventor of OCT angiography, and is now the inaugural holder of the Stein Professorship in Ophthalmology. We are also delighted to have the inaugural Cornea Endowed Professorship bestowed on Dr. Tueng Shen, Professor of Ophthalmology in our cornea division.

As we look forward to the next academic year, much of our effort will be focused on the successful launch of the Roger H. and Angie Karalis Johnson Retina Center. This 5,000 sq. ft facility will be a combined clinical and research facility located at UW Medicine’s South Lake Union 3.2 campus. Supported by an extraordinarily generous gift from Angie Karalis Johnson, this facility will house a superb research program directed at vision restoration in retinal disease. It is planned to open in January 2019.

On behalf of our department, I thank you for your interest in our programs. Please enjoy this community report, and please don’t hesitate to contact me if I can be of service to you.

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

Our vision research scientists and 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 will lead to the discovery of next-generation tools for diagnosing, preventing, and treating all manner of eye disease.
This is the central question being studied by the Buhr laboratory in the Department of Ophthalmology. Ethan Buhr, PhD, is Research Assistant Professor in the Department. He has been studying circadian rhythms – the daily, near 24-hour rhythms of physiology and behavior that are a nearly universal feature of life – since his graduate school training at Northwestern University.

Since joining UW Ophthalmology as a postdoctoral fellow in Dr. Russell Van Gelder’s laboratory in 2009, Dr. Buhr has focused his attention on understanding the role of novel photoreceptors in the eye and elsewhere in the body in synchronizing circadian clocks to the daily light-dark cycle. In 2014, Dr. Buhr was lead author on a paper in the Proceedings of the National Academy of Sciences (PNAS) showing that the mouse retina could synchronize its circadian rhythms with the light-dark cycle even when kept in tissue culture for weeks. Remarkably, this synchronization did not require the classical photopigments of the retina – rhodopsin, cone opsin, or melanopsin. This suggested the existence of a new photopigment in the retina. In 2015, Dr. Buhr was lead author on another paper published in PNAS showing that neuropsin (an ‘orphan’ opsin to that point) was responsible for this effect. More recently, Dr. Buhr’s laboratory has shown that neuropsin is expressed not just in the retina, but in the cornea, and even the skin.

Understanding how the circadian clock synchronizes to external light-dark cycles has strong implications for improving health. Jet lag and shift work represent two very common conditions where the internal circadian clock and the external light-dark cycle may be out of sync with each other, causing excessive sleepiness and other health problems. Seasonal affective disorder (SAD) – a very common condition in which patients become depressed during the short days of winter – also seems to involve the circadian clock and the eye. Mutations in the photopigment melanopsin have been associated with an increased risk of this condition.

Dr. Buhr joined the faculty of UW’s Department of Ophthalmology in 2015 as a Research Assistant Professor. “It’s remarkable how complex the eye really is,” he notes. “Just a few years ago, we thought there were only rods and cones as our photoreceptors, we now know there are many different photoreceptors in the eye, serving many different functions. We’re now convinced these photoreceptors are expressed throughout the body. Figuring out how these photoreceptors affect health and disease is a major focus of my laboratory going forward.” Dr. Buhr was recently awarded his first R01 from the National Institutes of Health, entitled “The role of OPN5 in extraocular circadian photoentrainment in mammals.”
RESEARCH

Ethan Buhr, PhD
Research Assistant Professor

Dr. Buhr’s long-term interests center around ways in which circadian oscillators entrain to their environments. He studies the pathways by which mammalian circadian clocks are synchronized to light.

Jennifer Chao, MD, PhD
Associate Professor

The Chao Lab is investigating potential applications of induced pluripotent stem cells (iPSCs) for treating eye diseases and identifying new drug therapies for eye disease. Like many faculty at UW Medicine, Jennifer Chao, Ph.D., M.D., a specialist in retinal diseases, sees patients and conducts research. She hopes that precision-medicine approaches will help prevent retinal degeneration.
Cecilia S. Lee, MD, MS
Assistant Professor

Dr. Lee's research interests are focused in diseases of the retina and uveitis. She is dedicated in improving knowledge on pathogens' roles in various ocular conditions and predicting the clinical outcome. She is also interested in using non-invasive imaging modalities to find new biomarkers to predict the outcomes of different retinal diseases. Dr. Lee has received a prestigious K23 clinician-investigator award from the National Institutes of Health.

Aaron Lee, MD, MSc
Assistant Professor

Dr. Aaron Lee is interested in the intersection of large clinical medical datasets and using non-traditional computational techniques to both analyze and visualize the results. He has created programs to process next-generation sequencing data in supercomputing environments and analyzed numerous Big Data sources including CMS, US Census, and NLM MEDLINE archives.
Michael Mustari, PhD
Research Professor

The Mustari lab is directed at understanding the neural mechanisms that support vision and eye movement function across the life span. We are committed to conducting research related to the development of normal vision and eye movements in children. At least 5% of children born in the United States have disorders related to eye alignment and visual acuity. In collaborative studies, we are seeking to advance novel treatments for common pediatric disorders including strabismus and amblyopia.

Murray Johnstone, MD
Clinical Professor

The Johnstone lab studies regulation of aqueous outflow in glaucoma through studies of tissue biomechanics and related morphology.

Studies of tissue biomechanics involve subjecting aqueous outflow system tissues and fluids to loading forces induced by changing pressure relationships, then observing resulting tissue deformation. Morphologic studies use brightfield microscopy of 1-µm plastic embedded sections, SEM and TEM. Tissues constituents and relationships are further studied by immunohistochemistry techniques; 3D images are obtained by confocal microscopy and serial registered 1µ sections followed by Fiji, Imaris and Resolution technology 3D projections.
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.

Jay Neitz, PhD  
*Bishop Professor*

Maureen Neitz, PhD  
*Ray Hill Professor*

The Neitz Labs are 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. 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.
RESEARCH

Kathryn L. Pepple, MD, PhD
Assistant Professor

Dr. Pepple's laboratory is interested in understanding the pathogenesis of ocular inflammation, and developing new therapies to treat patients with uveitis. Her lab is also interested in novel applications of advanced imaging modalities such as optical coherence tomography (OCT) and IVIS in clinical and pre-clinical studies of uveitis. Dr. Pepple holds a prestigious K08 Clinician-Scientist training award from the National Institutes of Health.

Ram Sabesan, PhD
Assistant 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 ten 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. Ultimately, the lab's overarching goals are to develop novel, sensitive and objective outcome measures for vision restoration techniques aimed at repairing blinding eye diseases.
Russell N. Van Gelder, MD, PhD

Boyd K. Bucey Memorial Chair

The Van Gelder Lab is developing photochemical methods to treat blindness and discovering new microorganisms associated with eye disease.

Ocular infectious diseases, including microbial keratitis, conjunctivitis, and endophthalmitis, are a significant cause of potentially blinding disease. Most infectious organisms causing ocular disease originate in the ocular surface. Using cutting edge molecular methods, including deep sequencing, the Van Gelder lab is performing an unprecedented analysis of the microbiome in eyes with a normal versus disturbed ocular surface.

Degenerative blinding diseases, including age-related macular degeneration, are caused by death of rods and cones. The Van Gelder lab is investigating the therapeutic potential of synthetic small molecule photoswitches for restoring light sensitivity to degenerated retinas.

The Van Gelder lab is also working to understand mammalian circadian rhythms. Research on the neuroanatomy of these cycles includes mouse studies on clock synchronization using light, cell-level research of light perception, and issues related to seasonal affective disorder.

Tueng T. Shen, MD, PhD

Endowed Professor in Cornea Research, Bioengineering & Global Health/Director, Refractive Surgery Center

The Shen Lab is developing artificial corneas and ocular biosensors for preventing blindness on a global scale.

Corneal opacity is a major cause of blindness. Using donor corneas is often not feasible due to availability and cultural barriers. Artificial corneas developed to date have shown serious limitations. The development of a new biomaterial structure with greatly improved sclera tissue integration and excellent optics shows potential to overcome many of these issues and allow construction and application of an improved prosthesis that can eventually be used to restore sight to a much wider population than is possible now. The Shen lab is also developing microelectronic wi-fi biosensors to allow physicians to monitor the health of patients remotely. The overarching goal is to treat global blindness by leveraging technological advancements in polymer sciences.
THE WANG LABORATORY

Ruikang “Ricky” Wang, PhD is the newest member of the Department of Ophthalmology – although he is a veteran eye researcher and long-time partner to the Department.

In vivo OCT imaging of Retina and Choroid
Dr. Wang joined the faculty of the Department of Bioengineering at UW in 2011, having been recruited from Oregon Health & Science University. Dr. Wang holds a PhD in engineering from University of Glasgow. He began his academic career in the United Kingdom, holding a professorship at Cranfield University. In 2005 he moved to Oregon where he directed the biophotonics and imaging laboratory. Since 2011 he has been an Adjunct Professor in the Department of Ophthalmology. This past year, he was named the inaugural Doris and Jules Stein Professor of Ophthalmology. He also holds the Washington Research Foundation and Nancy Auth Innovator Chair in the Department of Bioengineering.

Dr. Wang’s research largely revolves around the use of optical coherence tomography (OCT) in the study of blood flow, particularly in the eye. Dr. Wang is widely credited with being the inventor of OCT-angiography, a technique in which blood flow can be measured in all blood vessels in the eye non-invasively. This technique has been widely adopted in the past several years and is now a standard testing modality in ophthalmology offices around the world. In his laboratory, this technique is used for many other studies, including measures of blood flow in skin and even in brain. He has also collaborated with Endowed Cornea Professor Tueng Shen, MD, PhD on the development of a phase-OCT-based method to measure the structural integrity of the cornea.

Dr. Wang’s laboratory is phenomenally productive. He has authored or co-authored over 600 papers in the peer reviewed literature. In addition to holding the Stein Professorship, Dr. Wang is a fellow of the Optical Society of America, the International Society for Optics and Photonics, and the American Institute for Medical and Biomedical Engineering. He is author of the book “Advanced Biophotonics: Tissue Optical Sectioning”. Dr. Wang’s group is currently collaborating with many other Department of Ophthalmology researchers on cutting-edge imaging work in the eye. Dr. Wang currently holds three NIH R01 grants, two from the National Eye Institute, in addition to being collaborator on a number of other funded projects.

The Wang lab is dedicated to developing novel and clinically useful biomedical imaging techniques for early diagnosis, treatment and management of human diseases. By exploring the properties of light, tissue, and their interactions, the Wang lab invented, discovered or pioneered optical microangiography, full-range complex Fourier domain optical coherence tomography, optical clearing of biological tissue, optical elastography, phase-sensitive optical coherence vibrometry, multifunctional nanoparticle contrast agents and their applications in imaging tissue morphology, tissue blood microcirculation (brain, retina, cochlea, skin, muscle etc), tissue mechanical properties and embryonic heart development.
### Clinical trials and grants are the tools of translation between patient care and research

<table>
<thead>
<tr>
<th>Name</th>
<th>Role and Research Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maureen Neitz, PhD</strong></td>
<td>CORE grant for vision research</td>
</tr>
<tr>
<td></td>
<td>Role of a dual splicing and amino acid code in myopia, cone dysfunction and cone dystrophy associated with L/M opsin interchange mutations</td>
</tr>
<tr>
<td></td>
<td>Cone opsin gene therapy for XL-myopia, XL-cone dystrophy, and XL-incomplete achromatopsia</td>
</tr>
<tr>
<td></td>
<td>Gene therapy vector development for efficient transduction of retinal cells via intravitreal injection (Tietze Family Award)</td>
</tr>
<tr>
<td></td>
<td>Assessing photoreceptor structure and function in normal and diseased retina</td>
</tr>
<tr>
<td><strong>Jay Neitz, PhD</strong></td>
<td>Adaptive optics imaging</td>
</tr>
<tr>
<td></td>
<td>Linking retinal circuits to perception</td>
</tr>
<tr>
<td><strong>Russell Van Gelder, MD, PhD</strong></td>
<td>Functions of OPN5 and OPN3 in the eye</td>
</tr>
<tr>
<td></td>
<td>HHMI Medical Research Fellow Program</td>
</tr>
<tr>
<td></td>
<td>Molecular epidemiology of adenoviral pathogenesis in keratoconjunctivitis</td>
</tr>
<tr>
<td></td>
<td>Efficacy of VNAR TNF and ICOSL inhibitors in the treatment of animal models of uveitis</td>
</tr>
<tr>
<td></td>
<td>Molecular Photoswitches for Vision Restoration</td>
</tr>
<tr>
<td><strong>Tueng Shen, MD, PhD</strong></td>
<td>Optical coherence elastography of corneal dynamics</td>
</tr>
<tr>
<td><strong>Jennifer Chao, MD, PhD</strong></td>
<td>Human RPE metabolism and metabolite transport</td>
</tr>
<tr>
<td></td>
<td>NAD metabolism in normal and disease-specific human RPE</td>
</tr>
<tr>
<td><strong>Raghu Mudumbai, MD</strong></td>
<td>Diabetic Retinopathy Clinical Research Network</td>
</tr>
<tr>
<td><strong>Kathryn Pepple, MD, PhD</strong></td>
<td>The role of the innate and adaptive immune system in a novel mouse model uveitis</td>
</tr>
<tr>
<td></td>
<td>Development of an immune cell-type-specific in vivo bioluminescence assay for quantitative analysis of inflammation in animal models of uveitis</td>
</tr>
<tr>
<td><strong>Courtney Francis, MD</strong></td>
<td>A phase 2/3, randomized, double-masked, sham-controlled trial of QPI-1007 delivered by single or multi-dose intravitreal injection(s) to subjects with acute nonarteritic anterior ischemic optic neuropathy</td>
</tr>
<tr>
<td><strong>Cecilia Lee, MD, MS</strong></td>
<td>The ocular surface microbiome in potentially infectious ophthalmic disease</td>
</tr>
<tr>
<td><strong>Ruikang Wang, PhD</strong></td>
<td>Non-invasive real-time label-free 3D imaging of retinal microcirculation</td>
</tr>
<tr>
<td><strong>Ram Sabesan, PhD</strong></td>
<td>Career Awards at the Scientific Interface</td>
</tr>
<tr>
<td></td>
<td>In vivo optophysiology of human cone photoreceptors</td>
</tr>
<tr>
<td></td>
<td>In vivo photoreceptor physiology in the human retina</td>
</tr>
<tr>
<td><strong>Ethan Buhr, PhD</strong></td>
<td>Role of neuropsin in peripheral photoreception</td>
</tr>
<tr>
<td><strong>Aaron Lee, MD, MSc</strong></td>
<td>UK EMR medical retinal collaboration</td>
</tr>
<tr>
<td></td>
<td>Application of machine learning to the MacTel project for the UK Biobank and pathogen discovery</td>
</tr>
<tr>
<td><strong>Michael Manookin, PhD</strong></td>
<td>Function, diversity, and circuitry of parallel retinal ganglion cell pathways</td>
</tr>
</tbody>
</table>
# Vision Science Center Research Faculty & Associates

**Ethan Buhr, PhD**  
*Research Assistant Professor (Ophthalmology)*

**Susan E Brockerhoff, PhD**  
*Adjunct Professor (Biochemistry)*

**John I. Clark, PhD**  
*Adjunct Professor (Biological Structure)*

**Jennifer Chao, MD, PhD**  
*Associate Professor (Ophthalmology)*

**Ione Fine, PhD**  
*Adjunct Professor (Psychology)*

**Jerome Fleuriet, PhD**  
*Acting Research Assistant Professor*

**Jim Hurley, PhD**  
*Adjunct Professor (Biochemistry)*

**Murray Johnstone, MD**  
*Clinical Professor (Ophthalmology)*

**C. Dirk Keen, MD, PhD**  
*Adjunct Associate Professor (Pathology)*

**John P. Kelly, PhD**  
*Affiliate Assistant Professor Seattle Children’s Hospital*

**Aaron Lee, MD, MSc**  
*Assistant Professor (Ophthalmology)*

**Cecilia S. Lee, MD, MS**  
*Assistant Professor (Ophthalmology)*

**Mike Manookin, PhD**  
*Assistant Professor (Ophthalmology)*

**Ann Milam, PhD**  
*Professor Emerita, (Ophthalmology)*

**Mike Mustari, PhD**  
*Research Professor (Ophthalmology)*

**Jay F. Neitz, PhD**  
*Bishop Professor (Ophthalmology)*

**Maureen E. Neitz, PhD**  
*Ray Hill Professor (Ophthalmology)*

**Roberta Pagon, MD**  
*Adjunct Professor (Clinical Genetics, Pediatrics)*

**Kathryn Pepple, MD, PhD**  
*Assistant Professor (Ophthalmology)*

**Thomas A. Reh, PhD**  
*Adjunct Professor (Biological Structure)*

**Frederick M. Rieke, PhD**  
*Adjunct Professor (Physiology and Biophysics)*

**John C. Saari, PhD**  
*Professor Emeritus (Ophthalmology)*

**Ram Sabesan, PhD**  
*Research Assistant Professor (Ophthalmology)*

**Tueng T. Shen, MD, PhD**  
*Endowed Cornea Professor (Ophthalmology)*

**Russell Van Gelder, MD, PhD**  
*Boyd K. Bucey Professor and Chair (Ophthalmology)*

**Ruikang “Ricky” Wang, PhD**  
*Professor (Bioengineering)*

**Rachel Wong, PhD**  
*Adjunct Professor (Biological Structure)*

**Jing Zhang, PhD**  
*Adjunct Professor (Pathology)*
The Eye Institute opened in the Ninth and Jefferson Building at Harborview Medical Center in July 2009 and has over 25,000 square feet of clinic space. It is the flagship clinic of the UW Medicine Department of Ophthalmology. Other sites associated with the department are located at Harborview Medical Center, University of Washington Medical Center, Seattle Children’s Hospital and Medical Center, and the Veterans Administration Puget Sound Medical Center.

UW MEDICINE EYE INSTITUTE FAST FACTS

PATIENT CARE

Physicians in the Eye Institute see about 35,000 patients per year and perform more than 2,500 surgical procedures.

The Eye Institute covers the full range of ophthalmic specialties — from retinal diseases, to glaucoma, to neuro-ophthalmological diseases, to elective services.

Faculty members of UW Ophthalmology also serve adult patients at other UW Medicine entities, pediatric patients at Seattle Children’s Hospital, and veterans at the Puget Sound Veterans Administration Health Care System.

The UW Medicine Eye Institute is the only full-service ophthalmology trauma service in the states of Washington, Wyoming, Alaska, Montana and Idaho.

FACULTY

51 faculty members
7 Ph.D. scientists
6 faculty who hold both MD and PhD degrees

The Department of Ophthalmology currently has 51 faculty members, including 7 Ph.D. scientists and 6 faculty who hold both MD and PhD degrees.

EDUCATION

15 residents
9,000 hours of training per resident

The department educates 15 resident ophthalmologists through its ACGME accredited training program, provides 9,000 hours of training, over 3 years including a pathology/research rotation.

5 fellowships

The department sponsors 5 fellowships, specializing in medical retina and vitreoretinal surgery, oculoplastics, pediatrics, uveitis, and cornea.
UW MEDICINE OPHTHALMOLOGY PATIENT CARE FACULTY

COMPREHENSIVE

Eissa Hanna, MD
Dr. Hanna is a UW clinical associate professor of ophthalmology, attending physician at the UW Medicine Eye Institute and director of Consult Services at Harborview Medical Center's 4West Clinic.

EDUCATION
BS – University of California, Davis
MD – University of California, Davis
Residency – Ophthalmology, Pennsylvania State University
Fellowship – Ophthalmic Pathology, Harvard University

PATIENT CARE PHILOSOPHY
Dr. Hanna believes that the patient-physician relationship is built on trust and maintained through patient education. Ultimately, it is both the patient and the physician who work together for the desired outcome.

SCOPE OF CARE
Dr. Hanna’s clinical interests include ocular trauma, standard and complicated cataracts, macular degeneration, glaucoma, diabetic retinal disease, ocular surface disease, eyelid disorders and ophthalmic pathology.

Annie Ko, MD
Dr. Ko is an acting UW assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
BS – Brown University
MD – Brown University
Residency – Ophthalmology, New York Eye and Ear Infirmary
Fellowship – Cornea and External Disease, University of Southern California (Doheny Eye Institute)

PATIENT CARE PHILOSOPHY
Dr. Ko’s role as a physician involves giving patients the information they need to make an informed decision about their care.

SCOPE OF CARE
The diagnosis and management of comprehensive and corneal eye conditions such as cataract, dry eye, glaucoma, and ocular surface disease.

RESEARCH FOCUS
Dr. Ko’s primary research focus on improving resident education.

Deborah L. Lam, MD
Dr. Lam is a UW associate professor of ophthalmology, attending physician and chief of service at the VA Puget Sound Health Care System.

EDUCATION
BA – Northwestern University, Illinois
MD – Northwestern University, Illinois
Residency – Ophthalmology, University of Washington

PATIENT CARE PHILOSOPHY
Dr. Lam believes the foundation of the patient-physician relationship is communication. Her care is focused on the needs of her patients and their families.

SCOPE OF CARE
Dr. Lam’s clinical interests include the diagnosis and treatment of a comprehensive range of eye conditions. These include such entities as cataract, glaucoma, diabetic retinopathy, macular degeneration, ocular surface diseases and eye trauma.

RESEARCH FOCUS
Dr. Lam’s research focuses on resident education, cataract surgery and uveitis.
Parisa Taravati, MD
Dr. Taravati is a UW associate professor of ophthalmology, attending physician at the UW Medicine Eye Institute at Harborview Medical Center and director for the Eye Center at UW Medical Center.

EDUCATION
BS – University of Iowa
MD – University of Iowa
Residency – Ophthalmology, University of Iowa

PATIENT CARE PHILOSOPHY
Dr. Taravati believes in educating her patients on their eye conditions and allowing them to actively participate in their medical care.

SCOPE OF CARE
Dr. Taravati is a clinician educator and comprehensive ophthalmologist. She manages a wide range of eye conditions, including dry eye, blepharitis, cataracts, glaucoma, and color blindness.

RESEARCH FOCUS
Dr. Taravati's research interests include color blindness, resident education, and cataracts.

Jennifer T. Yu, MD, PhD
Dr. Yu is a UW clinical associate professor of ophthalmology and an attending physician for Harborview Medical Center’s 4 West Clinic.

EDUCATION
BS – University of Michigan
MD – Washington University
PhD – Washington University
Residency – Ophthalmology, Washington University School of Medicine

PATIENT CARE PHILOSOPHY
Dr. Yu believes good patient care starts with listening to the patient and addressing his or her concerns. She also believes that health care is a partnership between the physician and the patient. This involves patient education and helping the patient make informed decisions.

SCOPE OF CARE
Dr. Yu’s clinical interests include comprehensive eye care, including cataracts and cataract surgery, dry eyes, blepharitis, glaucoma, diabetes in the eye and macular degeneration.

RESEARCH FOCUS
Dr. Yu's research focuses on cataracts and cataract surgery.

Michael Banitt, MD, MHA
Dr. Banitt is a UW associate professor of ophthalmology and attending physician for the UW Medicine Eye Medicine Institute at Harborview Medical Center.

EDUCATION
BS – St. Louis University
BA – St. Louis University
MD – Wayne State University
MHS – St. Louis University of Public Health
Residency – Ophthalmology, New York Eye and Ear Infirmary Fellowship – Cornea and External Disease, University of Michigan (Kellogg Eye Institute); Glaucoma, University of Miami (Bascom Palmer Eye Institute)

PATIENT CARE PHILOSOPHY
Dr. Banitt’s goal is to apply the best scientific evidence and most appropriate treatments, and to help the patient make the best medical decision they are able to make with the latest information.

SCOPE OF CARE
Dr. Banitt specializes in cataracts, cornea and glaucoma.

RESEARCH FOCUS
Clinical trials in the area of cornea and glaucoma surgery to find better improvements to sight.
Hoon C. Jung, MD
Dr. Jung is a UW assistant professor of ophthalmology and attending physician at the VA Puget Sound Health Care System.

EDUCATION
BS – Cornell University
MD – University of Rochester Residency – Ophthalmology, University at Buffalo Fellowship – Cornea and External Disease, University of Rochester

PATIENT CARE PHILOSOPHY
Each visit between a physician and patient should lead one step further in the pursuit of improved understanding of health and delivery of personalized care.

SCOPE OF CARE
Dr. Jung specializes in treatment of cataract and corneal diseases.

RESEARCH FOCUS
Dr. Jung has specific interest in methods to improve and advance care in the federal system.

Tueng T. Shen, MD, PhD
Dr. Shen is a UW Endowed Cornea professor of ophthalmology, an adjunct professor in bioengineering as well adjunct professor of global health. She is the attending physician at the UW Medicine Eye Institute at Harborview Medical Center and director of the refractive surgery center at UW Medical Center.

EDUCATION
BA – Wellesley College and Oxford University, Oxford, England
MD – Harvard University
PhD – Massachusetts Institute of Technology Residency – Ophthalmology, Harvard University Fellowship – Cornea, Refractive and External Disease, University of Utah (Moran Eye Center)

PATIENT CARE PHILOSOPHY
Dr. Shen is committed to delivering the best eye care possible by providing the most advanced treatment options and by developing better technologies to restore vision for patients with challenging corneal conditions. She strongly believes that patients deserve a physician who listens, keeps them well-informed and is a partner in accomplishing the best treatment plan customized to each patient's needs.

SCOPE OF CARE
Dr. Shen's clinical interests include refractive surgery, cataract surgeries and medical and surgical management of corneal disorders.

RESEARCH FOCUS
Dr. Shen's research group focuses on developing innovative solutions to treating global blindness by leveraging technological advancements in polymer sciences, microelectronics and modern imaging techniques.

Philip P. Chen, MD
Dr. Chen holds the Grace E. Hill Chair in Vision Research. He is a UW professor, attending physician and chief of service for the UW Medicine Eye Institute at Harborview Medical Center, as well as chief of service at UW Medical Center.

EDUCATION
BS – Stanford University
MD – Yale University Residency – Ophthalmology, University of Southern California (Doheny Eye Institute) Fellowship – Glaucoma, University of Miami (Bascom Palmer Eye Institute)

PATIENT CARE PHILOSOPHY
Dr. Chen’s professional passion is to prevent blindness caused by glaucoma.

SCOPE OF CARE
Dr. Chen's clinical interests include the diagnosis, management and surgical treatment of all types of glaucoma and cataracts.

RESEARCH FOCUS
Dr. Chen's research focuses on the outcomes of glaucoma treatment, risk factors for glaucoma progression and screening for glaucoma.
**Shivali Menda, MD**
Dr. Menda is a UW acting assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

**EDUCATION**
BS -University of Washington  
MD – Oregon Health & Science University  
Residency – Ophthalmology, University of California, San Francisco  
Fellowship – Glaucoma, Oregon Health & Science University (Casey Eye Institute) and Devers Eye Institute

**PATIENT CARE PHILOSOPHY**
Dr. Menda wants to provide all of her patients with personalized and high-quality care. She believes that education is at the core of partnership that she strives to have with all of her patients.

**SCOPE OF CARE**
Dr. Menda focuses on the medical and surgical treatment of glaucoma as well as comprehensive ophthalmology and complex cataract surgery.

**RESEARCH FOCUS**
Dr. Menda’s research focuses on quality improvement in ophthalmology and also the use of imaging to better understand the pathogenesis and detection of glaucoma.

**Joanne C. Wen, MD**
Dr. Wen is a UW assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

**EDUCATION**
BA – Harvard University  
MD – University of California, Los Angeles  
Residency – Ophthalmology, University of California, Los Angeles  
Fellowship – Glaucoma, Duke University

**PATIENT CARE PHILOSOPHY**
Dr. Wen believes in educating and working with her patients to develop a management plan that maximizes the prevention of glaucoma-related blindness.

**SCOPE OF CARE**
Dr. Wen’s clinical interests include the medical and surgical management of glaucoma and cataracts.

**RESEARCH FOCUS**
Dr. Wen’s research interests include improving our understanding of glaucoma pathogenesis at both the level of aqueous outflow as well as the optic nerve.

**Jennifer Chao, MD, PhD**
Dr. Chao is a UW associate professor and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

**EDUCATION**
BS – Stanford University  
MD – Yale University  
PhD – Yale University  
Residency – Ophthalmology, University of Southern California  
Fellowship – Vitreo-Retinal Disease & Surgery, University of Southern California

**PATIENT CARE PHILOSOPHY**
Dr. Chao’s goal is to provide the most advanced and compassionate care to each of her patients with the goal of improving their quality of life.

**SCOPE OF CARE**
Dr. Chao’s clinical interests include age-related macular degeneration, hereditary retinal degenerations (e.g. retinitis pigmentosa), retinal detachments and tears, diabetic retinopathy, macular holes, pucker and edema, myopic macular degeneration, central serous retinopathy, endophthalmitis, and retinal vascular occlusive diseases.

**RESEARCH FOCUS**
Dr. Chao’s research group studies inherited retinal degenerations and examines potential treatment modalities. Specific projects include the generation of stem cells from persons with inherited retinal degenerations (called induced pluripotent stem cells or iPSCs), generating retinal cells from these iPSCs, and studying the “diseased” retinal cells in culture. Ultimately, the group is focused on discovering new drug therapeutics that could benefit those affected by inherited retinal degenerations.
Yewlin Chee, MD
Dr. Chee is a UW assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
AB – Princeton University
MD – University of Pennsylvania
Residency – Ophthalmology, Harvard University
Fellowship – Vitreo-Retinal Disease & Surgery, Harvard University

PATIENT CARE PHILOSOPHY
Dr. Chee aims to provide excellent care for her patients by first understanding how their retinal disease affects their quality of life, and through education to have a clear understanding of their condition and treatment options. Through this, a personalized treatment plan using the latest appropriate medical and surgical therapies can be developed.

SCOPE OF CARE
Dr. Chee specializes in medical and surgical vitreoretinal disease including diabetic retinopathy, age related macular degeneration, retinal vein occlusion, macular edema, epiretinal membrane, macular hole, retinal detachment, and ocular trauma.

RESEARCH FOCUS
Dr. Chee's research interests include posterior segment manifestations of ocular trauma and the optimization of resident and fellow ophthalmic training.

Aaron Lee, MD, MSc
Dr. Lee is a UW assistant professor of ophthalmology and attending physician at the VA Puget Sound Health Care System.

EDUCATION
BS – Harvard University
MD – Washington University
MS – Washington University
Residency – Ophthalmology, Washington University
Fellowships – Vitreo-Retinal Disease, Moorfields Eye Hospital, London, England; Vitreo-Retinal Surgery, University of British Columbia

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

SCOPE OF CARE
Dr. Lee specializes in vitreoretinal and macular diseases including epiretinal membranes, macular hole repair, retinal detachment repair, and hereditary macular dystrophies.

RESEARCH FOCUS
Dr. Lee is interested in the intersection of large clinical medical datasets and using non-traditional computational techniques to both analyze and visualize the results. He has created programs to process next-generation sequencing data in supercomputing environments and analyzed numerous Big Data sources including CMS, US Census, and NLM MEDLINE archives.

Lisa C. Olmos de Koo, MD, MBA
Dr. Olmos de Koo is a UW associate professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
AB – Harvard University
MD – Baylor College of Medicine
Residency – Ophthalmology, University of Miami (Bascom Palmer Eye Institute)
Fellowship – Vitreo-Retinal Disease & Surgery, University of Miami (Bascom Palmer Eye Institute)

PATIENT CARE PHILOSOPHY
Dr. Olmos de Koo is committed to excellence, drawing upon her experience and training as well as the latest scientific and technological advances to provide the best individualized care for her patients.

SCOPE OF CARE
Dr. Olmos specializes in both the medical and surgical care of vitreoretinal diseases. She cares for patients with retinal detachment, eye trauma, diabetic eye disease, macular pucker, macular hole, macular degeneration, hereditary retinal degenerations, and central serous retinopathy, among other conditions.

RESEARCH FOCUS
Dr. Olmos' areas of research include artificial vision and retinal prostheses, novel therapies for macular degeneration and inherited retinal degenerations, screening methods and treatment strategies for diabetic retinopathy, and advanced retinal imaging modalities.
**Kasra Rezaei, MD**

Dr. Rezaei is a UW assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

**EDUCATION**
- BA/MD – Azad University, Tehran, Iran
- Residency – Ophthalmology, Vanderbilt University
- Fellowship – Vitreo-Retinal Disease & Surgery, Associated Retina Consultants

**PATIENT CARE PHILOSOPHY**

Dr. Rezaei feels that it is a great honor to participate in the care of patients and improve their vision and quality of life.

**SCOPE OF CARE**

Dr. Rezaei's clinical interests include the management of complex retinal detachments, diabetic retinopathy, retinal vascular occlusions, and age related macular degeneration.

**RESEARCH FOCUS**

Dr. Rezaei's research includes: development of new generation of optical coherence tomography in diagnosis of diabetic retinopathy, age related macular degeneration and vein occlusion.

**Courtney Francis, MD**

Dr. Francis is a UW associate professor of ophthalmology and an attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

**EDUCATION**
- BS - Brown University
- MD – University of Rochester
- Residency – Ophthalmology, University of Alabama, Birmingham
- Fellowship – Neuro-Ophthalmology, University of Southern California (Keck School of Medicine and Doheny Eye Institute)

**PATIENT CARE PHILOSOPHY**

Dr. Francis enjoys educating her patients, residents and medical students about neuro-ophtalmologic 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.

**SCOPE OF CARE**

Dr. Francis' clinical interests include optic neuropathies, adult strabismus/cranial nerve palsies, idiopathic intracranial hypertension/papilledema, pupillary abnormalities, and benign essential blepharospasm/hemifacial spasm. She is also interested in tumors involving the visual pathways, multiple sclerosis, myasthenia gravis and thyroid eye disease. Dr. Francis performs strabismus surgery, temporal artery biopsies, optic nerve fenestrations and botulinum toxin injections, in addition to other procedures.

**RESEARCH FOCUS**

Dr. Francis' research focus includes: the use of OCT in evaluating optic neuropathies, the ophthalmologic manifestations of multiple sclerosis and cranial nerve palsies.

**Raghu Mudumbai, MD**

Dr. Mudumbai is a UW associate professor of ophthalmology and an attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

**EDUCATION**
- BA – City University of New York
- MD – State University of New York
- Residency – Ophthalmology, State University of New York Health Science Center
- Fellowships – Glaucoma, New York Eye and Ear Infirmary; Neuro-Ophthalmology, University of Minnesota

**PATIENT CARE PHILOSOPHY**

Dr. Mudumbai takes a patient-centered approach through extensive education of their condition, thereby enabling the patient to be a part of a team that provides optimal care.

**SCOPE OF CARE**

Dr. Mudumbai's clinical interests include the medical and surgical care of cataract, glaucoma, neuro-ophthalmology and adult strabismus.

**RESEARCH FOCUS**

Dr. Mudumbai's research focus is on optic nerve imaging in both glaucoma and neuro-ophthalmologic conditions. He also is interested in educational research that looks to improve resident training.
A.J. Amadi, MD  
Dr. Amadi is a UW clinical associate professor of ophthalmology and attending physician at Harborview Medical Center’s 4 West Clinic.

EDUCATION  
BS – Rensselaer Polytechnic Institute  
MD – State University of New York  
Residency – New York University Medical Center  
Fellowships – Eye Pathology/Ocular Oncology, Harvard University (Massachusetts Eye and Ear Infirmary); Orbital & Ophthalmic Plastic and Reconstructive Surgery, University of Washington

PATIENT CARE PHILOSOPHY  
Patients always come first.

SCOPE OF CARE  
Dr. Amadi’s clinical interests include orbital and ophthalmic/facial plastic surgery, ophthalmic pathology and genetics of ptosis.

RESEARCH FOCUS  
Dr. Amadi’s research focuses on ophthalmic pathology.

Christopher Chambers, MD  
Dr. Chambers is a UW assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center as well as Seattle Children’s Hospital.

EDUCATION  
BS – University of Notre Dame  
MD – The Ohio State University  
Residency – Ophthalmology, Kresge Eye Institute  
Fellowship – Orbital & Ophthalmic Plastic and Reconstructive Surgery, University of Pennsylvania

PATIENT CARE PHILOSOPHY  
Outstanding medical care should focus on treating the disease as well as the individual patient.

SCOPE OF CARE  
Dr. Chambers specializes in oculofacial plastic surgery, cosmetic surgery (lid lifts, brow lifts, mid-face lifts, botox, filler, blepharoplasty) facial reconstructive surgery, orbital (eyesocket) surgery, orbital trauma, cancer reconstruction (mohs), lacrimal surgery (tearing), eyelid surgery (droopy eyelids), pediatric oculoplastic surgery, microphthalmia

RESEARCH FOCUS  
Pediatric Oculoplastic Surgery, Microphthalmia, Capillary Hemangiomas, Cosmetic Facial Surgery

Shu-Hong (Holly) Chang, MD  
Dr. Chang is a UW clinical assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION  
BA – Duke University  
MD – Johns Hopkins University  
Residency – Ophthalmology, Washington University  
Fellowships – Ophthalmic Pathology, Washington University; Orbital & Ophthalmic Plastic and Reconstructive Surgery, University of California, Los Angeles

PATIENT CARE PHILOSOPHY  
When it comes to the face, each patient’s concerns, whether medical or aesthetic, are unique. Dr. Chang has the privilege of tailoring proven surgical techniques, cutting-edge science, and artistic sensibilities to create an individualized treatment plan for each patient.

SCOPE OF CARE  
Dr. Chang specializes in minimally-invasive small-incision techniques for reconstructive as well as cosmetic orbital, lacrimal, and oculofacial surgery.

RESEARCH FOCUS  
Dr. Chang is interested in orbital tumors and inflammatory diseases, including orbital lymphoma and thyroid-associated Graves disease.
PATIENT CARE

ONCOLOGY AND OCULAR TUMORS

Robert E. Kalina, MD, Professor Emeritus
Dr. Kalina is a UW professor emeritus and past chair of the UW Department of Ophthalmology. He is past president of UW Physicians and director emeritus of the American Board of Ophthalmology.

EDUCATION
BA – University of Minnesota
BS – University of Minnesota
MD – University of Minnesota Medical School
Residency in Ophthalmology – University of Oregon Medical School
Special Fellow – National Institute of Neurological Diseases and Blindness, Massachusetts Eye and Ear Infirmary

PATIENT CARE PHILOSOPHY
Dr. Kalina thoroughly enjoys meeting patients and trying to help them solve their health problems.

SCOPE OF CARE
Intraocular tumors and retinal diseases, particularly retinal degenerations; inherited retinal diseases; and retinopathy of prematurity.

Andrew W. Stacey, MD, MSc
Dr. Stacey is a UW assistant professor and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
BS – Brigham Young University
MS – Brigham Young University
MD – The Ohio State University
Residency – Ophthalmology, University of Michigan (Kellogg Eye Center)
Fellowship – Ocular Oncology, Moorfields Eye Hospital and St. Bartholomew Hospital, London, England

PATIENT CARE PHILOSOPHY
Dr. Stacey enjoys teaching his patients about what he sees in their eyes and providing them with information and options, then together come up with the best course of action.

SCOPE OF CARE
Dr. Stacey specializes in cataract surgery and ocular oncology. He sees patients with conjunctival tumors (papilloma, intraepithelial neoplasia, squamous cell carcinoma, melanoma, lymphoma), adult intraocular tumors (iris melanoma, ciliary body melanoma, choroidal melanoma, intraocular metastasis, intraocular lymphoma, retinal angiomas, choroidal hemangiomas, vasoproliferative tumors of the retina), and pediatric intraocular tumors and vascular abnormalities (retinoblastoma, medulloepithelioma, Coats’ disease).

RESEARCH FOCUS
Dr. Stacey’s research interests include emerging therapeutics for patients with choroidal melanomas, novel statistical approaches to medical research and clinical trial design, telemedicine and new technologies for early diagnosis of ocular tumors, and research into retinoblastoma treatments and outcomes.

OPTOMETRIC SERVICES

Claire Angel, OD
Dr. Angel is a UW teaching associate and optometrist. Dr. Angel’s primary clinical practice is UW Neighborhood Clinic-Belltown and Eyes on James Optical Shop at Harborview Medical Center.

EDUCATION
BS – Southern College of Optometry
OD – Southern College of Optometry
Post-graduate – Omni Eye Services

PATIENT CARE PHILOSOPHY
Dr. Angel believes in the best quality care for her patients.

SCOPE OF CARE
Dr. Angel’s clinical interests include comprehensive optometry and baseline dilated fundus exam for patients diagnosed with systemic diseases.
Susan Dini, OD
Dr. Dini is a UW teaching associate and optometrist. Dr. Dini's primary clinical practice is UW Neighborhood Clinic-Ravenna and Eyes on James Optical Shop at Harborview Medical Center.

EDUCATION
BS – University of Washington
OD – Pacific University College of Optometry

PATIENT CARE PHILOSOPHY
Dr. Dini believes that eye care is an important element of general health and quality of life. She is committed to helping patients maintain lifelong healthy eyes with valuable information and resources for total eye health.

SCOPE OF CARE
Dr. Dini specializes in CL fits, CVS and dry eye.

Tiffany Hollenbeck, OD
Dr. Hollenbeck is a UW teaching associate and optometrist. Dr. Hollenbeck's primary clinical practice is at Eyes on James Optical Shop at Harborview Medical Center.

EDUCATION
BS – Biology and Natural Science, Gustavus Adolphus College
OD – Pacific University College of Optometry

PATIENT CARE PHILOSOPHY
Dr. Hollenbeck believes her patients always come first.

SCOPE OF CARE
Dr. Hollenbeck’s clinical interests include comprehensive optometry and dry eye and allergies.

Vivian Manh, OD, MS
Dr. Manh is a UW clinical instructor in ophthalmology and optometrist. Dr. Manh provides pediatric optometric services at Seattle Children’s Hospital.

EDUCATION
BSc – University of Waterloo School of Optometry
OD – University of Waterloo School of Optometry
MS – Indiana University School of Optometry
Post-graduate – Southern California College of Optometry

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

SCOPE OF CARE
Dr. Manh's clinical interests include providing eye care for the pediatric and special needs populations as well as the diagnosis and management of strabismus/amblyopia and non-strabismic binocular vision disorders.

RESEARCH FOCUS
Dr. Manh’s research interests include early detection, prevention, and treatment of amblyopia and strabismus, infant and childhood refractive error development.
Optometric Services continued

Nancy Ross, OD
Dr. Ross is a UW teaching associate and optometrist. Dr. Ross’ primary clinical practice is UW Neighborhood Clinic-Shoreline. She also services as optometrist for the refractive Surgery Center at UW Medical Center.

EDUCATION
BA – Western Washington University
OD – Pacific University College of Optometry
Post-graduate – Westside VAMC
Post-graduate – Hines VAMC Blind Rehabilitation Center

PATIENT CARE PHILOSOPHY
Compassion and individual attention are critical in providing patients with highest standards of comprehensive eye care. Dr. Ross believes in giving patients a thorough explanation and providing them with the tools to be proactive in their care. She feels fortunate to work with an outstanding team at the UW that synchronizes care to provide patients with a seamless experience.

SCOPE OF CARE
Dr. Ross’s clinical interests include comprehensive eye care, diabetic eye evaluations and pre- and postoperative care of cataract patients.

PEDIATRIC & STRABISMUS

Francine M. Baran, MD
Dr. Baran is a UW clinical associate professor of ophthalmology and attending physician at Seattle Children’s Hospital.

EDUCATION
BA – Washington University
MD – Drexel University College of Medicine
Residency – Ophthalmology, State University New York
Fellowship – Pediatric Ophthalmology, Children’s National Medical Center

PATIENT CARE PHILOSOPHY
Dr. Baran loves making a difference in children’s lives by helping care for one of their most precious abilities, their sight.

SCOPE OF CARE
Dr. Baran’s clinical interests include pediatric ophthalmology, glaucoma, amblyopia, strabismus. She also specializes in pediatric and adult cataracts, congenital anomalies, glaucoma, retinopathy of prematurity, ptosis and nasolacrimal duct obstruction.

RESEARCH FOCUS
Dr. Baran’s research are of interest include myopia, cataracts, retinopathy of prematurity, treatment of nasolacrimal duct obstruction and ocular colobomas.

Michelle T. Cabrera, MD
Dr. Cabrera is a UW associate professor of ophthalmology and attending physician at Seattle Children’s Hospital.

EDUCATION
BS – Stanford University
MD – University of California at San Francisco
Residency – Ophthalmology, University of California, San Francisco
Fellowship - Pediatric Ophthalmology, Duke Eye Center

PATIENT CARE PHILOSOPHY
Dr. Cabrera believes that a child’s ocular health depends on establishing a good relationship with both the family and the patient and in open communication and discussion with everyone involved.

SCOPE OF CARE
Dr. Cabrera’s clinical interests include pediatric strabismus, amblyopia, nasolacrimal disorders, pediatric cataracts, pediatric glaucoma, retinopathy of prematurity, ptosis, and systemic diseases that affect the eyes.

RESEARCH FOCUS
Dr. Cabrera’s research interests include optical coherence tomography in infants, telemedicine in retinopathy of prematurity, and residency education focused on pediatric ophthalmology.
Erin P. Herlihy, MD  
Dr. Herlihy is a UW associate professor of ophthalmology and attending physician at Seattle Children's Hospital.  
EDUCATION  
BS – University of Notre Dame  
MD – Loyola University  
Residency – Ophthalmology, University of Washington  
Fellowship – Pediatric Ophthalmology and Strabismus, University of Michigan (Kellogg Eye Center)  
PATIENT CARE PHILOSOPHY  
A fun and nonthreatening 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.  
SCOPE OF CARE  
Dr. Herlihy's clinical interests include pediatric and adult strabismus, amblyopia, nasolacrimal disorders, pediatric cataracts, and systemic diseases that affect the eyes.  
RESEARCH FOCUS  
Dr. Herlihy's research interests include investigating the pathogenesis of myopia and progressive axial length elongation in children, the systemic associations of vergence disorders in children and adults, and various treatments for amblyopia, infantile hemangiomas, and nasolacrimal duct obstruction.

Kristina Tarczy-Hornoch, MD, DPhil  
Dr. Tarczy-Hornoch is a UW professor of ophthalmology and chief of service at Seattle Children’s Hospital.  
EDUCATION  
MD – University of California, San Francisco  
MS – University of Southern California  
Residency – Ophthalmology, University of Southern California (Keck School of Medicine and Doheny Eye Institute)  
Fellowship – Pediatric Ophthalmology and Strabismus, Johns Hopkins Hospital (Wilmer Eye Institute)  
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.  
SCOPE OF CARE  
Dr. Tarczy-Hornoch's clinical interests include disorders of childhood vision development, congenital and acquired anomalies in and around the eye; ophthalmic manifestations of systemic disease in children.  
RESEARCH FOCUS  
Dr. Tarczy-Hornoch's research focuses on epidemiology of vision disorders in children and accommodative function in children during normal and abnormal visual development.

Avery H. Weiss, MD  
Dr. Avery H. Weiss is a UW professor of ophthalmology and attending physician at Seattle Children's Hospital.  
EDUCATION  
BS – University of Florida  
MD – University of Miami  
Residency – Ophthalmology, Washington University  
Fellowship – Pediatric Ophthalmology, Children's Hospital National Medical Center  
PATIENT CARE PHILOSOPHY  
Dr. Weiss’ goal is to optimize the care of each patient by investigating the problem and recommending treatment based on the best available scientific evidence.  
SCOPE OF CARE  
Dr. Weiss' clinical interests include electroretinogram, oculomotor testing (Eye Movement Testing), and visual evoked potential.  
RESEARCH FOCUS  
Dr. Weiss’ research focuses on the visual function in a wide range of clinical disorders using visual evoked potentials (VEPs). Presently, we are concentrating on visual impairments associated with cortical malformations and visual pathway tumors. We are also interested in how the visual system extracts information from a moving a moving stimulus in patients with infantile nystagmus.
Cecilia Lee, MD
Dr. Lee is a UW assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
BS – Emory University
MD – Emory University
Residency – Ophthalmology, Emory University
Fellowship – Uveitis, Washington University; Medical Retinal Disease, Moorfields Eye Hospital, London, England

PATIENT CARE PHILOSOPHY
Dr. Lee loves to participate in her patients’ healthcare by providing personalized, up-to-date medical care. She enjoys translating next generation research tools in medical retina to the clinic and providing deeper insights in each patient’s care.

SCOPE OF CARE
Dr. Lee specializes in uveitis, including iritis, pars planitis, retinitis, choroiditis and scleritis, and medical retinal disease.

RESEARCH FOCUS
Dr. Lee’s research interests are focused in diseases of the retina and uveitis. She is dedicated in improving our knowledge on pathogens’ role in various ocular conditions and understanding the clinical outcome. She is also interested in using non-invasive imaging modalities to find new biomarkers to predict the outcomes of different retinal diseases.

Thellea Leveque, MD, MPH
Dr. Leveque is a UW clinical associate professor and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
BA – Amherst College
MD – Duke University
MPH – University of North Carolina
Residency – Ophthalmology, University of Michigan
Fellowship – Uveitis, University of Washington

PATIENT CARE PHILOSOPHY
Patient education and participation in care is vital to eye health. Dr. Leveque will do everything she can to explain her patient’s eye condition in a way that makes sense to the individual.

SCOPE OF CARE
Dr. Leveque’s clinical interests include straightforward and complex medical conditions of the eye, including dry eye and related diseases, glaucoma, mild to moderate macular degeneration, ocular health in systemic disease (including diabetes), and trauma. She has a particular interest in uveitis, and uveitic cataract.

RESEARCH FOCUS
Dr. Leveque’s research focuses on uveitis and prevention.

Kathryn L. Pepple, MD, PhD
Dr. Pepple is a UW assistant professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
BS – University of Oklahoma
MD – Baylor College of Medicine
PhD – Baylor College of Medicine
Residency – Ophthalmology, Duke University
Fellowships – Medical Retinal Disease, Duke University; Uveitis, University of Washington

PATIENT CARE PHILOSOPHY
Dr. Pepple’s goal is to prevent vision loss and blindness by providing high quality clinical care and developing new treatments for patients with uveitis.

SCOPE OF CARE
Dr. Pepple specializes in uveitis, including iritis, pars planitis, retinitis, choroiditis and scleritis, and medical retinal disease including age related macular degeneration, diabetic retinopathy, and retinal vascular diseases.

RESEARCH FOCUS
Dr. Pepple’s laboratory is interested in understanding the pathogenesis of ocular inflammation, and developing new therapies to treat patients with uveitis. Her lab is also interested in novel applications of advanced imaging modalities such as optical coherence tomography (OCT) and IVIS in clinical and pre-clinical studies of uveitis.
Russell N. Van Gelder, MD, PhD
Dr. Van Gelder is the UW Boyd K. Bucey Professor and chair of the Department of Ophthalmology. He is also attending physician and director of the UW Medicine Eye Institute at Harborview Medical Center, and director of the Vision Science Center.

EDUCATION
BS – Stanford University
MD – Stanford University
PhD – Stanford University
Residency – Ophthalmology, Washington University School of Medicine
Fellowship – Uveitis and Medical Retinal Disease, Washington University (Barnes Retina Institute)

PATIENT CARE PHILOSOPHY
Dr. Van Gelder’s goal is to give each patient the care he would give his family; to apply the best scientific evidence and most appropriate treatments; and to help the patient make the best medical decisions.

SCOPE OF CARE
Dr. Van Gelder specializes in uveitis, including iritis, pars planitis, retinitis, choroiditis and scleritis, medical retinal disease, and also in hereditary retinal disease and macular dystrophies.

RESEARCH FOCUS
Dr. Van Gelder’s laboratory is interested in the mechanisms of uveitic disease, including discovery of novel pathogens and understanding the role of auto-antibodies in uveitis. His laboratory is also interested in how the eye can sense light without seeing, and how these mechanisms can be used to treat blindness.

James L. Kinyoun, MD
Dr. Kinyoun is a UW professor of ophthalmology and attending physician at the UW Medicine Eye Institute at Harborview Medical Center.

EDUCATION
BS – University of Nebraska
MD – University of Nebraska
Residency – Ophthalmology, Medical College of Wisconsin
Fellowship – Vitreo-Retinal Disease & Surgery, University of Minnesota

PATIENT CARE PHILOSOPHY
Dr. Kinyoun believes that patient understanding is key to a successful, ongoing, long-term patient-physician relationship.

SCOPE OF CARE
Dr. Kinyoun’s clinical interests include care of retina and vitreous diseases such as retinal detachment, diabetic retinopathy, vitreous hemorrhage, age-related macular degeneration, and other macular abnormalities.

RESEARCH FOCUS
Dr. Kinyoun’s research interests include diabetic retinopathy and retina complications of prior radiotherapy.

James Toop, OD, PhD
Dr. Toop is a UW teaching associate and optometrist. Dr. Toop’s primary clinical practice is Eyes on James Optical Shop at Harborview Medical Center.

EDUCATION
BSc – University of Edinburgh, Scotland
PhD – University of Edinburgh, Scotland
OD – New England College of Optometry
Fellowship – Muscle Biochemistry, University of California

PATIENT CARE PHILOSOPHY
Everyone will receive the best possible care, whether it is a straightforward update of a glasses or contact lens prescription, or management of a complex ocular condition, without discrimination. Everyone will be treated courteously and be seen in a timely fashion whenever possible.

SCOPE OF CARE
Complete eye exams, with referral to appropriate specialists as needed; and fitting of soft and hard contact lenses for cosmetic or therapeutic reasons.
EDUCATION

PREPARING THE NEXT GENERATION OF PHYSICIANS AND VISION SCIENTISTS

The University of Washington Department of Ophthalmology has trained more than 150 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 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).

Fellowships

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.

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 Hospital 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.

Uveitis and Ocular Inflammation Fellowship

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.

Cornea and External Disease Fellowship

This AUPO-approved fellowship provides advanced training in medical and surgical management of corneal and external disease including advanced corneal transplant surgery. Cosponsored with SightLife, the fellowship provides research experience as well.
UW MEDICINE EYE INSTITUTE OPHTHALMOLOGY RESIDENT PHYSICIANS 2017-2018

LEFT TO RIGHT: Nicholas Chan, MD; Brandon Erickson, MD; Joanne Ho, MD; Karine Duarte Bojikian, MD; Ashley Roldan, MD; Christine Petersen, MD; Ariel Tyring, MD; Adam Sweeney, MD; Emily Zepeda, MD; Alex Lin, MD; Marcela Estrada, MD; Parker Faith, MD; Jocelyn Lam, MD; Gautam Vangipuram, MD; Shu Feng, MD

UW MEDICINE DEPARTMENT OF OPHTHALMOLOGY FELLOWS 2017-2018

Alexander Foster, MD
Cornea

Jolene Rudell, MD, PhD
Pediatrics

Steven Saraf, MD
Retina

Jessica Weinstein, MD
Uveitis

Nora Siegal, MD, PhD
Oculoplastics
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.

2017 DEPARTMENT PUBLICATIONS


8. Chen CL, Wang RK. Optical coherence tomography based angiography. [invited]. Biomedical Optics ExpressOpen Access Volume 8, Issue 2, 1 February 2017, Article number #279831, Pages 1056-1082 (No PMID)


Select Recent Publications


Select Recent Publications continued


OUR DONORS, OUR THANKS

FISCAL YEAR 2018

We would like to thank our philanthropic partners, whose generosity accelerates our ability to conduct cutting-edge research, provide state-of-the-art patient care, and train the next generation of ophthalmologists that will practice in our community and beyond.

To learn more about giving, getting involved and the many ways you can make an impact, please contact Abbey Norris, senior director for philanthropy, at 206.221.8274 or abbeyn@uw.edu or Savannah Ledgerwood, assistant director for philanthropy, at 206.221.4769 or ledges@uw.edu.

If you’d like to learn more about Accelerate: The Campaign for UW Medicine please visit: www.AccelerateMed.org

Acucela, Inc.
Peggy and William Adams
Alimera Sciences, Inc.
Allergan, Inc.
Allison Foundation
M. Joanne Allison and Joseph Seeger
American Academy of Ophthalmology
Richard and Dianne Arensberg
Jimmy and Patricia Barrier
Mark Bathum
Shiv and Kamlesh Batra
Barbara Bedell
Ronald and Bessie Bell
Gordon* and Joan Bergy
The Bishop Foundation
Katherine and Michael Boehm, M.D.
Margaret and Duane Boning
Jean Booy
Cornelius and Catherine Borman
Jeanne Bourget and Eric Tabb
Anita Braker and David Olsen
Frank* and Elizabeth Bret
Alice Brush, M.D. and Michael Brush, M.D.
Tina Bueche
Burroughs Wellcome Fund
Jon Busse
Mary and John Carrington
Robert Champer, M.D., Ph.D., and Debra Schlenoff, Ph.D.
Philip Chen, M.D. and Grace Cinciripini, M.D.
Elaine L. Chuang, M.D.
Timothy and Sherry Cibula
Betsy Crohn
Da Capo Music Academy LLC
Mark Daily, M.D.
R. Jill DeMarco and Rodney Wentworth, DDS
Thuy Doan, M.D., Ph.D. and Benjamin Pinsky, M.D., Ph.D.
Beillie and Charles Dunford
Norman and Kathi Ellsworth
Isabelita and Humberto Encarnacion
James and Tamsin Erickson
Dennis Evans and Nancy Mee
Maude and Richard Ferry
Caridad Foo
Foundation Fighting Blindness, Inc.
Brian Francis
Philip and Sally Franzel
Joseph D. Freeman, M.D.
Nanette and Melvin Freeman, M.D.
Robert Freeman and Margarita Meta
Carol Fricke
Thomas Fritz and Erin Herlihy, M.D.
Iwona and Michal Furmanczyk
Anne Futterman
Joseph and Cynthia Gensheimer
Solomie Gerbertsadik
Kelly Ginn
Glaser Foundation
Audrey and Thomas Green, III
Masako and Simon Guest
Jeff and Lucia Hagander
Pamela Haight
Tod and Barbara Hamachek
Sangwoo Han
Qijuan He and Guan Liu
Hear See Hope Foundation
Jim and Peggy Hilton
Katherine and William Hood, Jr., M.D.
Dana and Richard Hopp, M.D.
Steven and Elizabeth Huebner
C. Dan and Irene Hunter
Britt Ivy
Mary Jacobson
David and Camille Jassny
Christopher and Mardra Jay
Johanna Jensen, M.D.
Angie Karalis Johnson
Murray Johnstone, M.D., and Jean Johnstone
Pamela and John Jolley
Hoon Jung, M.D.
Janet and Robert Kalina, M.D.
Robert Kamihana
Katherine Olson Foundation
Christopher and Ellen Kauffman, M.D.
Martha and Carleton Keck, Jr., M.D.
Grace and Man Kim, M.D.
Richard* and Phyllis Kleist
Trish Larson
Alida and Christopher Latham
Cecilia Lee, M.D. and Aaron Lee, M.D.
Joung Lee and Hong Kim
Jiabin Li and Yingjie Wei
Avis and Frederick Miller III, M.D.
Carolyn Miller
Karen Covington-Mills and Richard Mills, M.D.
Barbara and Prof. Fred Minifie
Alex and Tami Mollaei
Mary Morphet-Brown
Elizabeth Moser
George and Pauline Mulligan
Richard Munsen, M.D. and Deidra Wager
Michelle Myers and Benjamin Diederich
Jessie Nakamura
Maureen Neitz, Ph.D. and Jay Neitz, Ph.D.
Thu-Lang Ngo and Cung Hoang
Abbey Norris and Bryan Agnetta
H. Thomas and Patricia Norris
Rosemary and David O’Hara, M.D.
Carol and R. Thomas Olson
Kanchan Parthasarathy and Mahesh Jambunathan
Ernest J. and Margaret S. Pearson
Ron and Carol Peck
Kathryn Pepple, M.D., Ph.D. and Karl Pepple
Carl and Jeannette Pergam
Elizabeth and Gordon Perkin, M.D.
Pamela Pitzer
Linda and John Poh
Brooks* and Suzanne Ragen
Cary and Janet Rayment
Research to Prevent Blindness
Pauline Saxon
Carolyn Fowler and Victor Scalise, Jr.
Andrea Selig and Joel Erlitz
May and Nobi Shigihara
Kim and Jon Shirley
Brenda and Graham Siddall, Ph.D.
Janice Silva
Amelia Simmonsen
James and Janet Singal
Andy Slack and Alex Albert, M.D.
Sparks Exhibits and Environments Corporation
Jennifer and August Stein, M.D.
Therese and Phillip Stein
Robert Stevens, Jr.
Suzanne Stevens and Thomas Kraft*
Henrik and Rebecca Strabo
Donald Sturdvant
Shirley Sutherland
Synopsys Employee Philantropic Program
Kristina Tarczy-Hornoch, M.D.
Richard Teasley
Michael Thackeray
Carol and Donald Thompson
John and Eileen Tietze
University Lions Foundation
Joan and Henry Upton, M.D.
Susan Valdes and Robert Boada, M.D.
Russell Van Gelder, M.D., Ph.D. and Suzanne Dintzis, M.D., Ph.D.
D. W. Vollmer and Charlene Resan-Vollmer
Eileen Glasser Wesley and Mark Wesley
Carol S. Wright
Charles Wurster and Marie Gladwish
Hokyung Yang, DMA
Jennifer Yu, M.D., Ph.D.
Haitao Yu and Yu Fu
Xiaying Zhu and Xiaodong Wang

* deceased
In addition to leaving a wonderful legacy for a donor, endowments provide a lasting and reliable source of support for the Department of Ophthalmology. We are honored to be able to recognize many generous supporters who have invested in the future of the Department.

ENDOWMENTS: A LASTING LEGACY

Ora Lee Anderson Endowed Ophthalmology Fund
Gordon F. Bergy, M.D. Lecture Series
Bishop Professor in Ophthalmology
Boyd K. Bucey Memorial Endowed Chair in Ophthalmology
Frank and Elizabeth Bret Endowed Fund for Ophthalmology Research
John Colen, M.D. Endowed Fund for Ophthalmology
Endowed Fellowship in Ocular Inflammatory Diseases
Endowed Professorship for Cornea Research
Endowed Ophthalmology Resident Research Award
Dr. Melvin I. and Nanette D. Freeman Endowed Fund in Ophthalmology
Sidney Futterman Endowment
Gensheimer Fellow in Ocular Inflammatory Diseases
James L. Hargiss Ophthalmic Plastic and Reconstructive Surgery Fellowship
James Hargiss, M.D., Endowed Fund in Ophthalmology
Edyth W. Henderson Endowment
Grace E. Hill Chair in Vision Research
Ray H. Hill Chair in Ophthalmology
Patricia Johnson Hunt Endowed Fund for Ophthalmology
C. Dan and Irene Hunter Endowed Fund for Ophthalmology
Karalis Johnson Retina Center Endowed Fund for Excellence
Roger H. Johnson Award for Macular Degeneration
Murray and Jeanie Johnstone Endowed Travel Award for Ophthalmology
Robert and Janet Kalina Endowed Fund for Research and Teaching in Ophthalmology
Robert and Janet Kalina Fund for Education in Ophthalmology
Robert E. Kalina, M.D. Endowed Professorship for Ophthalmology Education
James L. Kinyoun, M.D. Endowed Retina Fellowship
Klorfine Family Endowed Professorship in Ophthalmology Research
Thomas F. Kraft and Suzanne E. Stevens Endowed Fund for Vision Science
Latham Endowed Faculty Fellowship in Vision Research Innovation
D. Franklin Milam, M.D., Endowed Fellows Support Fund in Ophthalmology
Richard S. Munsen, M.D. Endowed Fund for Ophthalmology
Helen L. and Arthur T. Ness Research Fund Ophthalmology Endowed Fund
Northwest Lions Professor in Cornea and External Disease
Ophthalmology Endowed Fund
Rayment Endowed Fellowship in Ophthalmology
Helen A. and Robert Max Reynolds Endowed Research Fund in Ophthalmology
Rose Seaquist Endowed Fund
Siddall Endowed Fellowship for Uveitis Research
Steens/Musgrave Research Fund in Ophthalmology
Jules and Doris Stein Research to Prevent Blindness Professorship
Tenckhoff Family Endowed Research and Teaching Fund
Tietze Family Vision Research Award
Helen Ann Thompson Fund for the UW Eye Institute
UW Department of Ophthalmology Outstanding Medical Student Scholarship

To learn more about establishing an endowment at UW Medicine, please visit: http://depts.washington.edu/givemed/