

Department of Ophthalmology and Visual Sciences

UNIVERSITY OF WISCONSIN SCHOOL OF MEDICINE AND PUBLIC HEALTH







TO

ANNUAL REPORT 2023

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MISSION

Global leadership in saving sight.

VISION

To improve vision-related quality of life by collaboratively creating, integrating, transmitting, and applying knowledge in ophthalmology and visual sciences.



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WELCOME

FROM THE



Dear Friends.

As I reflect back on the year that was, I continue to repetitively contemplate a single word: "ACTION."

Throughout 2023, our department remained steadfast in its commitment to saving sight and providing hope. We dedicated our time and efforts to finding new cures for eye diseases, educating the next generation of vision care and vision science leaders and advocates, and caring for our patients with compassion and humility - as well as with the latest treatments and technologies. I am proud - and humbled - by the multiple ways our clinical and research ophthalmologists and optometrists, research faculty, scientists, clinical administrative leaders, clinical staff, educators, learners and community partners have all worked in intentional and supportive collaboration to achieve this objective.

In our 2023 annual report, please note the impact that our collective actions make every day. In the pages that follow, you'll read about:

- Novel research that will utilize gene editing therapy to treat two inherited retinal degenerative diseases known to cause blindness.
- Our department's very first formal Anterior Segment and Cornea fellow who gives back to her home community in the Philippines by treating more than just her patients' eyes.
- A new clinical trial that offers the possibility for a less invasive, highly effective treatment for patients with wet age-related macular degeneration, the leading cause of blindness in the United States.
- The opening of our brand new, state-of-the art Surgical Skills Training Facility.
- Updates from our world-renowned Wisconsin Reading Center, and our Vision Rehabilitation Service.
- And much more!

Of course, we could not do any of this impressive work without your ongoing support. As a friend of the department, I thank you for your continued partnership. I also call upon you to take action in support of our mission. Please consider making a charitable donation to an endeavor that speaks to your heart. When we work together, anything is possible!

Thank you, and On Wisconsin!

Sunt. Jy MD

TERRI YOUNG, MD, MBA Department Chair Peter A. Duehr Professor of Ophthalmology, Pediatrics and Medical Genetics

Do your little bit of good where you are; it is those little bits of good put together that overwhelm the world.

~ Archbishop Desmond Tutu

"



YEAR





2022 SEPTEMBER

Faculty, learners, staff, family, and friends gathered at Schuster's Farm in Deerfield, Wis. for "Fall on the Farm."

2022 **OCTOBER**

in Madison, Wis.



2022 **DECEMBER**

Ahmara Ross, MD, PhD, from Scheie Eye Institute, presents "Glaucoma: Past, Present, and Future" at the "Frontiers in Vision Research" lecture series. Ross (center) is joined by Department Chair, Terri Young, MD, MBA and Nader Sheibani, PhD.

2023 JANUARY

Residents participate in a global fieldwork simulation wet lab in the new stateof-the-art Surgical Skills Training Facility.

2023 FEBRUARY

Ophthalmology residents travel to India as part of the annual international rotation at Dr. Shroff's Charity Hospital in Delhi, India

2023 MARCH

Color awards.



2023 **MAY**

Ophthalmology resident Kevin Elwood, MD and ophthalmology alum Tyler Boulter, MD complete a rotation at the Tzu Chi Eye Center, the University of Santo Tomas, and Cardinal Santos Medical Center in the Philippines.

2023 **JUNE**

Ophthalmology residents and fellows are honored at a graduation celebration at the Pyle Center in Madison, Wis. Photo © Andy Manis

2023 **JULY**

Faculty, learners, staff, family, and friends gather at Brittingham Park in Madison, Wis. for the annual firstof-the-academic-year gathering, "The Eye Opener."

Faculty and staff participate in the annual Right to Sight Clinic at the University Station Clinic

2022 NOVEMBER

Medical students learn how to do an eye exam as part of the "Mind and Motion" course, entailing 3 semesters of hands-on coursework.

Department Chair Terri Young, MD, MBA (center) poses with the department's Vice Chairs at the 2022-23 University of Wisconsin-Madison Outstanding Women of

2023 **APRIL**

Creative costumes and medical simulations are on display at the "Odyssey Into Ophthalmology" event for local high school students.

2023 **AUGUST**

Learners from 10 institutions nationwide participate in the annual two-day cataract surgery skills Phacoemulsification Course hosted jointly by the UW Department of Ophthalmology and Visual Sciences, the UW School of Veterinary Medicine, the University of Iowa, and the Medical College of Wisconsin. Photo © Andy Manis



SUPPORT

HELPS

US CONTINUE



THIS IMPORTANT WORK

MORE THAN 6_80 Surgeries at our clinic sites *between September 2022 and August 2023

BY THE

Total patient visits at all clinic sites

STUDENTS, RESIDENTS, AND FELLOWS

Postdoctoral research fellows

6 Medical students

Research graduate students

21



5

NUMBERS



Peer-reviewed publications *between September 2022 and August 2023





Total money in grants awarded in 2022

12 Residents



Pathology/ Wisconsin **Reading Center** pre-residency fellows

Best hospital in Wisconsin



WE REMEMBER

ALICE MCPHERSON, MD

GUILLERMO DE VENECIA, MD



Longtime faculty member, colleague, and beloved friend Guillermo de Venecia, MD died May 11, 2023, at the age of 91. His career with the department spanned more than four decades, and his influence is felt by our learners and the field of ophthalmology locally, nationally, and globally.

Born in the Philippines, de Venecia immigrated to the United States in 1956 to begin an ophthalmology residency with the UW School of Medicine and Public Health. Initially an instructor, de Venecia joined the faculty in 1962. In addition to running an active medical retinal disease clinic focused on diabetic and hypertensive retinopathies, de Venicia served as ophthalmic pathology director from 1966-1993.

Dr. de Venecia partnered with Dr. Frederick Brightbill, the Wisconsin Lions, and Milwaukee Eye Bank to establish the state's first eye bank, the Eye Bank of Wisconsin, in 1969. Ten years later, he and his wife, Marta – a nurse – established the Free Rural Eye Clinic in the Philippines to provide free eye surgery to cataract blind individuals who could not afford it. That clinic has treated over 250,000 patients and performed nearly 30,000 cataract operations.

In 2014, the Free Rural Eye Clinic established the Guillermo and Marta de Venecia Educational Fund. The money is used to provide free eye care and surgery to indigent patients of the Philippine Islands and to train eye doctors and vision science researchers from both sides of the world. The fund also supports an annual lecture in de Venecia's honor.

"We will remember Dr. Guillermo de Venecia for his wisdom, dedication, generosity, and compassion," said Department Chair Terri Young, MD, MBA. "He was a kind and giving human being and a true leader in the global mission to save sight. He will continue to serve as an inspiration to future generations of eye care providers for years to come."



Notable alumna, retina specialist, and vision research advocate Alice McPherson, MD died on January 16th, 2023.

McPherson was an accomplished physician, teacher, scholar, leader, and pioneer dedicated to the study and treatment of retinal diseases. As the founder of two internationally acclaimed research institutions – the Retina Research Foundation (RRF) in Houston, Texas, and the McPherson Eye Research Institute at the University of Wisconsin-Madison – she had an enormous influence on vision research worldwide.

McPherson received her baccalaureate and medical degrees and completed her ophthalmology residency at UW-Madison. She was the first woman to graduate from the department's residency program in 1958.

"Dr. McPherson was not only a dedicated alumna of our training program, but a true pioneer in the field of ophthalmology," said Department Chair Terri Young, MD, MBA. "As the first full-time female vitreoretinal specialist in the world, she inspired and mentored many women who have since followed in her footsteps. She was a giant and visionary in ophthalmology and retinal research."

McPherson's scientific contributions to ophthalmology began with pioneering

THOMAS STEVENS, MD



Longtime professor and beloved department leader, Thomas Stevens, MD, died December 26, 2022, at the age of 84.

Stevens joined the department in July 1974. During his tenure, Stevens assumed many leadership roles, including retina service chief and vice chair for clinical affairs. He also served as interim department chair from 2002 – 2004.

"The Retina Service remains indebted to Dr. Stevens for his leadership and for the establishment of a team that are friends and colleagues," said Justin Gottlieb, MD, who followed Stevens as chief of the retina service. "A lasting legacy of Dr. Stevens is the weekly retina service meeting during which we discuss challenging cases, ground-breaking research, and conduct our business meetings. This meeting is a highlight of the clinical and educational backbone of our service. The collegiality of our large service is evident as opinions are offered without ever seeming threatening. No question is too simple or opinion without merit. This only occurs through leadership that models the same characteristics. This is the legacy of Dr. Stevens."

Stevens was known as a giving, kind person who was always looking for ways to support and grow the service and the department. He is also remembered as a conscientious physician who gave his best to his patients.

"Always with great modesty, Tom knew how to improve our practice and how to better patient care," said Barbara Blodi, MD. "When I think of Tom, I think of him as a colleague and a friend. As a colleague, he helped me with his knowledge and experience. As a friend, I could count on him for his support, honesty, integrity, and kindness."



Photo Top: Dr. Alice McPherson conducting an exam, in the 1970s **Photo Bottom:** Dr. Alice McPherson in surgery in the 1970s

scleral buckling procedures for retinal detachments, as well as retinal ablation procedures of cryotherapy and laser photocoagulation in the treatment of retinal diseases. She was an early and vigorous advocate of photocoagulation in the treatment of diabetic retinopathy. This was initially a controversial position, later proven correct by a large, randomized prospective National Eye Institute Diabetic Retinopathy Study.

In 1969, Dr. McPherson founded the RRF, one of the nation's leading eye research organizations, dedicated to promoting understanding, prevention, and treatment of retinal diseases.

Dr. McPherson's extraordinary dedication and leadership benefited many institutions and professional organizations. In 2014, McPherson received the Gonin Medal, the oldest and most prestigious medal in ophthalmology, awarded by the University of Lausanne and the Societe Suisse d'Ophtalmologie.





Photo Left: The de Venecias *Photo Right:* Dr. Guillermo de Venecia at the Free Rural Eye Clinic



Photo Left: Dr. Thomas Stevens in his office **Photo Right:** Dr. Thomas Stevens, 1987



CONFIDENCE

Graves' Disease Patient Shares Journey Back to 'Normal'

For most of Anguru Premadasa's professional life, confidence hasn't been a problem. As a professor of mathematics at UW-Platteville, he was used to lecturing in front of students, running meetings, and speaking at symposiums and conferences. Then the bulging eyes started, and life became a lot more complicated.

"When I would go up to the podium to talk, I knew that everybody could see that there was something wrong with my eyes," he said, "People were considerate, but I was self-conscious."

But now, after undergoing a comprehensive treatment plan and having successful reconstructive surgeries - all under the care of UW Health specialists – Premadasa officially has his confidence back. "Achieving such a great outcome in care required a well-coordinated team effort over several years," said UW Health oculoplastic surgeon Mark Lucarelli, MD, FACS. "Working together made this all possible."

It all began around 2016, when Premadasa first noticed significant redness in his eyes. Evaluation by a doctor confirmed a case of Graves' disease an autoimmune disorder that affects the thyroid and can cause inflammation and damage to the tissues around the eyes. Facing this diagnosis, Premadasa scoured the internet for more information. "I found that one of the nation's top physicians for Graves' eye disease, Dr. Lucarelli, was actually right here at UW, about a 15-minute drive from my home," he said. "So, I just asked my primary care provider for a referral and that's how it all started."

At their first appointment together in November 2016, Lucarelli had Premadasa complete a questionnaire known as the TED-QOL, which measures quality of life for thyroid eye disease patients. "Even though thyroid eye disease is not fatal, it can wreak havoc on your life," Lucarelli said. "It distorts how you look and how you feel. In the most severe cases, it can even take away your sight."

At the initial consultation | ucarelli laid out a multi-pronged treatment plan to help stop further damage to the eyes. The plan included a series of high dose steroid infusions and consultation with a UW Health radiation oncologist for orbital radiotherapy. The goal of these two therapies was to stop the severe inflammation around Premadasa's eyes, which was causing the bulging and double vision. The treatment path, Lucarelli said, would take time – twelve weeks of steroid treatment and ten radiation sessions – but it offered the best path forward. Premadasa also opted for the surgical removal of his thyroid, which

Anguru Premadasa



proved to be beneficial in his case. "Dr. Lucarelli told me at the very beginning that I could get back to normal if I followed the science," Premadasa said. "A good surgeon and the science can take care of this problem. It's not something that you need to live with for your entire life."

In early 2020, after the previous treatments brought the inflammatory process under control, Premadasa was able to begin the reconstructive phase of care. First, orbital decompression was performed on his left eye.



with for your entire life.

This surgery involved the removal of bone around the As for Lucarelli, he adds, "It was extremely gratifying to see eyes to create more space and allow the eyes to rest in a Dr. Premadasa come through this so well and to hear him more normal position. speak about what a difference our care made in his life. Improving another person's life in such a positive way is A few months later, he underwent the same procedure on really one of the greatest joys of being a physician."

the right eye. These two surgeries dramatically reduced the bulging of Premadasa's eyes, and as an unexpected bonus, also eliminated the double vision he had also experienced in recent years.





After a recovery period, Premadasa subsequently underwent eyelid retraction surgery by Dr. Lucarelli to allow his upper eyelids to cover his eyes better. This surgery not only helped improved comfort, but also helped restore his appearance.

For Premadasa, the journey of many consultations and office visits, steroid infusions, radiation therapy, and several surgeries at UW Health has been a long one. But he says that each step was worth taking, because his vision is back to normal and his appearance has been restored.

"I'm more self-confident when I go to make a presentation or teach a class or take a photograph with my family," he said. "I'm very lucky to live in Madison and to have been treated by such a talented team. They are phenomenal people who are really good at their craft and their skill level is absolutely amazing."

A good surgeon and the science can take care of this problem. It's not something that you need to live

LOW VISION REHABILITATION

OFFERS COMPREHENSIVE SERVICES



The Vision Rehabilitation Services team (left to right): Mary Ann Roelke, Alicia Wolf, and Sanbrita Mondal

According to the National Eye Institute, more than 3 million Americans have a vision impairment affecting their daily life that cannot be corrected with glasses, contact lenses, procedures, or surgery. As part of our mission to improve vision-related quality of life, we provide interventions and strategies - such as adaptations and aids -that help these individuals live independently with their remaining functional vision.

It's often surprising the impact appropriate lighting can make for people with visual impairments..."

Under the leadership of Sanbrita Mondal, OD, our Vision Rehabilitation Services provides patients with low vision optometry, occupational therapy, and social work - all in a coordinated setting. The facility includes a fully functioning rehabilitation room equipped with a kitchenette, driver's assessment station, video magnifiers and other tools. Sessions are tailored towards the patients' needs and visual goals.

The social worker can provide vital information about available resources, including transportation services and local agencies, as well as addressing food, financial, and housing concerns. "The social worker also actively addresses mental health issues that can arise with vision loss such as anxiety and depression," said Mondal. "Addressing mental health plays a key role in successful vision rehabilitation."

Vision Rehabilitation Services offers an occupational therapist, who works with patients to adapt their activities of daily living, train on the use of low vision aids, and develop the skills needed to maintain independent living. "This includes basic tasks - like brushing teeth and combing hair - to more complex tasks such as cooking or utilizing a digital device," Mondal said.

Occupational therapy also teaches strategies to compensate for loss of visual field, diminished depth perception, and decreased contrast and color sensitivity.

"It's often surprising the impact appropriate lighting can make for people with visual impairments -or how a magnifying device can allow them to read a book again."

Vision Rehabilitation Services are in the UW Health University Station Eye Clinic in Madison, Wis.

WISCONSIN READING CENTER

The Wisconsin Reading Center (WRC) at the University of Wisconsin-Madison has formally evaluated retinal images for over 50 years. Its mission is to collaborate with ophthalmologists, vision scientists, and institutions worldwide to further retinal research, both in natural history and in clinical trials that test new treatments for a variety of retinal diseases. Its efforts have introduced expanded comprehension and interventions that have impacted millions by reducing vision loss and blindness.

A large team of researchers or "readers" analyze retinal images, systematically identifying disease features, and mapping out extent and severity. WRC analyzes a large spectrum of retinal diseases in global clinical trials. Longstanding disorders studied include diabetic retinopathy, age-related macular degeneration, uveitis, and retinal vein occlusion. More recently, novel clinical trials for disorders such as radiation and sickle cell disease retinopathy have expanded the reading center repertoire.

As a core data center, the WRC collaborates with various sponsors, including academic institutions, foundations, pharmaceutical companies, biotechnology firms, and government funding agencies such as the National Eye Institute and the National

Institute of Diabetes and Digestive Kidney Diseases. To advance human vision research from a clinical trial to an approved treatment, the Food and Drug Administration requires that a

reading center independently analyze the images from patients with anonymized data. As a result, WRC researchers analyze images without knowledge of the patient or the patient's treatment assignment. This approach provides an unbiased, reliable source of outcomes data with which to assess the safety and efficacy of a new drug or medical device.

Amitha Domalpally, MD, PhD, WRC Research Director, notes that there are fewer than 10 retinal reading centers in the country. The WRC is one of the most sought-after by collaborators and has a well-earned reputation as a center of excellence among all programs. "With our very talented group of researchers, we are able to consistently publish new discoveries in retinal imaging, which allows our sponsors to recognize that we are leaders in retinal imaging research," Domalpally said. "We are fortunate that the dedicated and experienced WRC research staff allows us to continually evaluate new imaging systems, develop new grading methodologies, and design artificial intelligence tools."

Barbara Blodi, MD, WRC Medical Director, adds that "the other WRC components that have led to our success are the project management, imaging, information technology, and quality control teams. These teams function as the glue that keeps the WRC successful."

In 2023, the WRC has been involved in 56 clinical trials and is associated with 5 federal grants. The Artificial Intelligence Research Unit (A-EYE), under the leadership of Dr. Domalpally, is developing machine-learning algorithms to screen patients more effectively for clinical trials, and to detect associations between disease features. The WRC is currently comprised of 56 faculty and staff.

Our dedicated and experienced WRC research staff allows us to continually evaluate new imaging systems, develop new grading methodologies, and design artificial intelligence tools.

UW PROVIDES FREE EYE CARE

FIND OUT HOW YOU CAN







TO

WISCONSIN'S PLAIN COMMUNITIES

As a pediatric ophthalmologist and inherited retinal Schmitt travels to the clinic with a team of orthoptists, disease specialist, Melanie Schmitt, MD identified a need ophthalmic technicians, electrophysiologists, and residents. They offer patients a full eye exam - complete for comprehensive eye care among Wisconsin's Amish and Old Order Mennonite people. Collectively called the with refraction and dilation - as well as screening for Plain communities, this population typically lacks health common eye diseases. These services are crucial in insurance, pays out of pocket for health care services, detecting and treating vision problems early on - and and has limited resources to cover such costs. This thus helping to prevent more serious conditions from realization inspired Schmitt to work toward improving developing in the future. health care for Wisconsin's Plain families.

In 2016, Schmitt partnered with the Center for Special Children in La Farge, Wis. to offer an eye clinic to the Plain community. The Center, located in Vernon Memorial Healthcare's rural La Farge Medical Clinic, is focused on diagnosing and managing inherited disorders in the Plain community, where western medicine is often not the first choice for health care.

This is about improving the

"The Center for Special Children was a perfect partn for this effort," Schmitt said. "They had an establishe relationship with the Plain communities and were alre receiving guidance from them on how to best meet their needs while being respectful of cultural beliefs and values. Through this partnership, we have been able to build trust and positive relationships with the members of the community."

"This is about improving the quality of life for this community," Schmitt said. "They often rely on their vision for their livelihood, such as farming, carpentry, and other skilled trades. If left untreated, vision problems can significantly impact their ability to perform their work and carry out their daily activities."

Wisconsin has the fourth largest population of Amish and Mennonite families in the country. In Wisconsin, Vernon County has historically had the highest concentration.

quality of life for this community.

er	The clinic, initially offered annually, occurs three
ed	times per year. Since its inception, the clinic
eady	has served 146 patients.

CLINICAL TRIAL OFFERS PROMISING

THERAPEUTIC OPTION TO PATIENTS

WITH WET AGE-RELATED

MACULAR DEGENERATION

As a retired nurse, Judy Troia knew that treatment for her eye disease likely meant receiving monthly injections into her eye.

The Fitchburg, Wis. resident has age-related macular degeneration (AMD), the leading cause of vision loss for older adults. While it usually doesn't result in complete blindness, AMD can lead to wavy or blurred central vision, making it harder to see faces, read, drive, or perform upclose work. There are two types of AMD: wet and dry. Most people with AMD have the dry type, which is a degenerative thinning of the macula - the central portion of the retina responsible for more focused vision and color perception. Wet AMD occurs when abnormally formed retinal blood vessels grow and break, causing leakage into the macula, resulting in swelling and subsequent scarring. It is often associated with more rapid vision loss.

Troia has dry AMD in one eye and wet AMD in the other. Although her visual symptoms remain relatively minor, her ophthalmologist referred her to the retina fellowship-trained specialists at the University of Wisconsin-Madison Retina Clinic for further evaluation. It was there that Troia learned of a new clinical trial offering a potentially less burdensome treatment option for her eye with wet AMD.

The Clinical Eye Research Unit (CERU) in the Department of Ophthalmology and Visual Sciences is participating in a two-year pivotal trial sponsored by Bayer Pharmaceuticals that evaluates the long-term safety and effectiveness of a new treatment for wet AMD. The protocol utilizes a high dose of the medication aflibercept. The drug, commercially known as Eylea, was approved by the U.S. Food and Drug Administration (FDA) in 2011. The study involves injecting the study medication at different doses directly into the vitreous cavity - a gel-filled compartment in the back of the eye.

Troia joined the clinical trial in the spring of 2021. "It didn't take long for me to say 'yes' to the trial," Troia said. "Initially the thought of getting a shot in my eye startled me a little," she admitted. "But now that I've done it, I know there's nothing to

15



Judy Troia (center) with Dr. Mititelu and Study Coordinator Angie Adler

be afraid of. It goes quickly, and, though they tell me I'll feel a little pinch, most of the time I don't even feel that."

Participants in this masked study were randomized into one of three treatment groups, receiving either aflibercept 8 milligrams every 12 weeks, aflibercept 8 milligrams every 16 weeks, or aflibercept 2 milligrams every 8 weeks, after 3 initial monthly treatments. The third treatment group -utilizing the aflibercept 2 milligram dose - was the current FDA-approved standard. Considerations for higher doses injected less frequently was the basis for the study.

Each appointment lasts 2 – 4 hours, but, for Troia, it's time well spent. "I think it's because of my nursing background that I wanted to be part of something that might help others," she said. "And besides, the CERU team makes the experience



as pleasant as they could possibly make it. It has been a

approved medications, careful attention to the applicability of pleasure to meet with them and get to know them. They know clinical trial data to real-world conditions is important, as is the everything about me, not just my eyes." necessity of physicians to remain vigilant and knowledgeable of the side-effect profile as they start to incorporate this Based on the positive trial results, the aflibercept 8 milligrams agent in routine clinical practice." (commercially known as Eylea HD) was approved by the FDA for wet AMD, as well as for diabetic retinopathy and diabetic Following the encouraging results of the wet AMD study, Bayer macular edema, in August 2022. It usually takes several launched a second clinical trial involving high-dose aflibercept, months before the medication reaches doctors' offices, and this time for retinal vein occlusions, another sight-threatening it requires careful tailoring to individual patient circumstances condition caused by fluid leaking into the macula. The CERU is, and needs before actual use. Therefore, it is important for once again, a participating site in this clinical trial. patients with retinal diseases such as AMD to discuss this new treatment option with their retinal specialist. "As is the case with targeting wet AMD, aflibercept is already

"The FDA approval of high dose aflibercept is a significant advancement in the care and treatment of retinal disease," said Mihai Mititelu, MD, MPH, FASRS, associate professor of ophthalmology, principal investigator of the clinical trial at the UW, and medical director of the CERU. "The new treatment protocol builds upon the previously established efficacy and safety profile of aflibercept 2 milligrams by demonstrating the ability of the high dose agent to allow patients to maintain vision at extended dosing intervals. Results from this landmark clinical trial demonstrate that patients with wet agerelated macular degeneration can now safely receive less frequent injections and still experience similar visual improvements."

"Eylea HD represents a new and important tool retina specialists can utilize in their fight to save vision for patients suffering from sight-threatening retinal disease such as wet AMD," adds Dr. Mititelu. "Like with any newly

Dr. Mititelu examines Judy's eyes

approved as a treatment option for retinal vein occlusion at the 2-milligram dose," said Dr. Mititelu. "We are looking at the efficacy and safety of the 8-milligram dose given less frequently. If the results are favorable and the agent gains FDA approval for this condition as well, retinal specialists will be able to offer this less frequent treatment option to patients with retinal vein occlusions in the future."

The CERU team makes the experience as pleasant as possible... They know everything about me, not just my eyes.

UW-MADISON

OPHTHALMOLOGY

TISSUE BIOBANK

The University of Wisconsin Department of Ophthalmology and Visual Sciences has entered into a new partnership aimed at systematically collecting, storing, processing, and distributing

The new 'tissue biobank' will provide investigators with high-quality human samples for research into the causes and treatments of

various eye diseases. The biobank is a collaborative effort between the department and the UW's well-established Translation Science

a vitally needed resource for vision researchers across campus."

Biocore (TSB) Biobank in the Carbone Cancer Center.

human eye tissue for research purposes.

per month, when fully up and running.



Colleen McDowell, PhD

Biobanks like ours are revolutionizing ophthalmic research.

66

Heather Potter, MD

"Biobanks like ours are revolutionizing ophthalmic research," Potter said. "The availability of high-quality biological research samples is fundamental to our objective to improve understanding, care, and treatment of individuals with eye diseases and disorders."

At present, according to the Eye Bank Association of America, there are only 66 accredited biobanks in the country. Not all of them have the capacity to provide samples to researchers the way ours does.

Most of the samples are collected from tissue that would normally be discarded after all testing for clinical care is complete. Researchers use the collected samples, which can be from either healthy or diseased tissue, to gain greater understanding of the molecular pathology of various diseases and how this may influence a patient's overall health and wellness.

"A study may look at the differences between healthy and diseased tissue in an attempt to identify molecular and pathological changes occurring at different stages of disease," McDowell said. "We can also investigate biomarkers of disease or to use in tissue and organ culture."

Results of such studies can lead to the development of therapeutic treatments and more targeted, personalized patient care.

A UW Biobank Committee, comprised of clinicians, researchers, the co-directors, and the vice chair of research, will provide guidance on scientific strategy, advise on procedures, and review and approve proposals.





TO TREAT BLINDNESS

Original article by Laura Red Eagle, Wisconsin Institute for Discovery

With new support from the National Institutes of Health, a multidisciplinary team of researchers from the Wisconsin Institute for Discovery (WID) will develop gene-editing drug therapies for two diseases known to cause blindness.

Over the next five years, the collaborative project will use the \$29 million NIH grant to merge new drug delivery systems with advanced genome CRISPR technology, innovating new treatments for Best Disease (BD) and Leber Congenital Amaurosis (LCA), both of which are currently untreatable hereditary diseases.

The researchers decided to focus on the eye as their starting point because it is self-contained and isolated from other organs as well as for its accessibility, ease of monitoring and reduced likelihood of adverse immune reactions.

"Our focus is on two different diseases: LCA, a severe and rare group that affects children and their entire vision, and BD which affects older individuals' central vision and has a slower onset," says David Gamm, UW-Madison ophthalmology professor and director of the McPherson Eye Research Institute. "By targeting these two diseases, we can gain a broader perspective on the effectiveness of our gene editing therapeutics."

Krishanu Saha, a professor of biomedical engineering at WID and a member of NIH's Somatic Cell Genome Editing Consortium, views this grant as a crucial step towards advancing gene editing therapy and drug development on campus.

"The genome editing piece of it is a game changer," Saha says. "The opportunity to execute it in a safe and meaningful way for patients, specifically Wisconsin patients currently diagnosed with one of these diseases, would be a nice fulfillment of why we do the work and why it's publicly funded."



David Gamm, MD, PhD

Genome editing involves splicing or cutting DNA at a specific spot, or inserting a DNA template that replaces the cut site. This can correct disease-causing mutations by eliminating or replacing the mutated sequence. Despite significant advancements in CRISPR gene editing technology, it has thus far resulted in few useful drug therapies. This is mainly because although CRISPR can modify the DNA of a single cell, treating billions of cells is necessary for effective treatment.

"Typically, drug development can take 30 to 35 years," said Bikash Pattnaik, UW-Madison associate professor of ophthalmology and visual sciences and pediatrics. "But with a multidisciplinary approach that brings together people with different expertise, we can cut this timeline in half."



Bikash Pattnaik, PhD, MPhil

First, to ensure a therapeutic is safe and effective for patients, a model system is needed to mimic what would happen in a patient, without risking their safety.

"This can be done through animal models or lab-grown cell-based systems," says Gamm. "Our role is to develop, grow, and maintain the cell-based system for testing."

The genome editing piece of it is a game changer

Additionally, most CRISPR technology uses a virus delivery system that is currently hindered by unintended off-target effects, such as reduced durability, undesirable immune reactions and supply chain difficulties. To overcome these limitations, the project aims to leverage nanotechnology to develop novel methods for efficient drug delivery of the CRISPR gene editor.

One delivery approach will be led by Shaoqin "Sarah" Gong, UW-Madison professor of ophthalmology and visual sciences and biomedical engineering. "Developing a safe and efficient delivery system for the CRISPR genome editor is essential for clinical translation," says Gong.

Her work focuses on a new family of nanoparticles that can carry genome-editing tools into target organs or



Shaoqin (Sarah) Gong, PhD

cells around the body and then harmlessly dissolve. In the past, there have been biosafety issues resulting from prolonged expression of gene editors via viral delivery. However, the Gong lab has engineered biodegradable nanoparticles that can deliver genome editors in a way that reduces the off-target editing effects.

Early studies have shown no adverse events in human cell cultures or mouse models. With U19 grant support, the team aims to optimize the nanoparticle formulations for higher editing efficiency, develop a manufacturing process and evaluate biosafety and efficiency in non-human primates. This will lead to a safer and more efficient nanoparticles-based ocular gene editing therapy.

Another approach to improving the delivery of genome editing therapeutics involves a partnership with startup biotechnology company Spotlight Therapeutics. The California-based company will use a multi-prong approach to solving the delivery challenges using proteins and peptides. They will also focus on streamlining the industry side of developing drug therapeutics, from conceptualization to implementation.

Another challenge is one of economics. Rare disorders and diseases are not appealing to industry pharmaceuticals because the market cannot sustain the millions of dollars and time it takes to invest in the resources needed to show genome editing therapeutics are safe and effective.

"This grant offers us the resources to improve processes, develop a safe and effective patient treatment model system and enhance visual function. Although they may not eliminate the disease entirely, the goal is to create meaningful improvement." savs Gamm.

BRAZIL RESIDENT

"FINDS HER SPARKLE"

AT THE UNIVERSITY

OF WISCONSIN-MADISON

When Renata Martins Maia. MD talks about ophthalmology, her eyes sparkle, conveying the passion that drove her to travel more than 5,000 miles for the next phase of her career. Maia left the University of São Paulo, Brazil in September 2022 for a fiveweek residency observership with the University of Wisconsin Department of Ophthalmology and Visual Sciences.

The department's Global Ophthalmology Initiatives Research and Clinical Observership program started in 2017, thanks to a sponsorship with the non-profit Combat Blindness International (CBI) and the University of São Paulo. It provides a global ophthalmology resident the opportunity to spend five weeks with UW faculty, observing in clinic and the operating room, participating in educational opportunities, and conducting research under the guidance of a faculty mentor.

Maia credits her parents – her mother a cardiologist and father an ophthalmologist – for inspiring her love of medicine and her interest in plastic surgery. "At first I wanted to do plastic surgery," she said. "But eventually I realized that was not what I was looking for. Then I started in ophthalmology, and I loved it. You have so many choices within the specialty, including oculoplastics. It was a perfect fit."

Because of her interests, Maia partnered for the five weeks with Cat Burkat, MD, FACS who specializes in oculoplastic, reconstructive, and orbital surgery. "Dr. Burkat is artistic and thinks ahead," Maia said. "She's always four steps ahead, which is great because you often have to be creative and think about other ways besides the traditional to help a patient."

Below: Dr. Maia at the 2022 World Sight Day Clinic Right: Drs. Burkat and Maia



Maia said, "without really term medical implications." The second research study causes deterioration of the OR OBSERVER Des Re Cat Burket, CULOPLAST and know how to treat it." doctors are less effective.

In addition to contributing to two research studies under Burkat. observations in clinical and surgical services including oculoplastics and neuro-ophthalmology, Maia attended the 2002 American Society of **Ophthalmic Plastic and Reconstructive** Surgery annual fall symposium and the national American Academy of Ophthalmology conference in Chicago. She also participated in the department's annual Right to Sight Eye Clinic, another partnership with CBI.

Maia's primary research was a Botox study to determine whether there is a correlation between forehead injections and diminished hand sensitivity. "We think of Botox as a cosmetic treatment." understanding the potential long

investigated Parry-Romberg Syndrome, a rare disorder that skin and soft tissues on half of the face. The project reviews past medical records to assess whether current treatments are effective. "This is not a common disease in Brazil," Maia said. "But now, I'll be able to recognize it when I see it

Maia noted some significant differences between patient care in the United States and Brazil, particularly in terms of patient privacy. In Brazil, exam rooms are large, open areas, with multiple patients sharing the same space. "Private information is given in a very public space," Maia said. "We need to change that."

Further, Brazilian doctors see as many patients per day as physicians trained in the United States, Maia noted, but with far less support. "In Brazil doctors complete all aspects of a patient's appointment, from start to finish, including paperwork and transport to other departments," she said. As a result, Brazilian

Perhaps most importantly, Maia learned skills and techniques that will

help her communicate more effectively with her patients in Brazil. "You have handouts and other informational materials to assist in informing patients of their disease and the options for treatment. You use colored pencils and draw for them," she said. "I'm going to try to do that as well back home."

Maia's experience in Madison wasn't all work, as she took time to explore the community as well. She went to the capitol, the farmer's market, the zoo, and a dog park. She traveled to Devils Lake and spent a day in Milwaukee. She even experienced a Badger football game. "I



learned to jump around," she said with a laugh. And, of course, she sampled

I started in ophthalmology, and I loved it.

Wisconsin food, naming cheese curds and apple pie as her favorites.

Maia credits ophthalmology faculty and the education team with making her feel welcomed and supported. "They did their best to integrate me fully into the department," Maia said. "Even though they were busy, they did not forget I was there. I'm grateful for that." She specifically noted Senior Graduate Medical Education Program Manager, Hannah Baker, in her reflection. "Hannah is the most amazing person in the world. She was so happy and friendly. I can't be more thankful for her than I am."

The five weeks went quickly, but it was time well spent. Maia said it has motivated her to research international fellowship programs in oculoplastics in the United States. As she returns to her family and her residency at home, she brings with her new information, a greater experience, and something intangible. "I found my sparkle," Maia said.

DEPARTMENT'S FIRST CORNEA FELLOW

For Edith Navarro, MD, providing care for those in need is about much more than just their eyes. As medical director of the Tzu Chi Eye Center in Santa Mesa, Philippines, Navarro believes good eye care treats the whole person in a compassionate, culturally sensitive way.

"Ophthalmology is not just surgery," Navarro said. "You have to be kind to your patients. There are things we cannot heal for them. We must encourage them to find love and forgiveness in the rest of their lives so they can overcome their difficulties."

After completing medical school, an internship, and a residency at the University of Santo Tomas in Manilla, Philippines, Navarro continued her training in ophthalmology at the University of Wisconsin-Madison, an institution that's had a long history with providing eye care services in the Philippines.

In 1979, Guillermo de Venecia, MD, the department's first subspecialty-trained, full-time clinician, and his wife, Marta, a nurse, established the Free Rural Eye Clinic (FREC) in the Philippines to provide cataract surgery and other ophthalmologic care to patients who otherwise wouldn't be

TREATS MORE THAN JUST EYES

able to afford care. Since then, dozens of UW ophthalmologists, medical students, residents, and clinical fellows have traveled to FREC (now the present-day Tzu Chi Eye Center) to provide free care for patients.

De Venecia encouraged Navarro to become the UW's first cornea fellow, under Drs. Frederick Brightbill and Neal Barney. Navarro, who graduated in 1995, extended her stay for three months after graduation to learn about eye banking, which she wanted to implement in her home country.

"It is useless to be a cornea specialist if you don't have an eye bank," she said. Navarro currently serves as the medical director at the Tzu Chi Eye Center in Santa Mesa, Philippines, which continues to provide free eye care and procedures to those who need it. In the Philippines, Navarro says, nearly 2% of the population – almost 2.2 million people – have cataracts, and 250,000 have cornea blindness.

The Tzu Chi Eye Center is an impressive facility with four advanced operating rooms and a team of highly skilled ophthalmologists from various sub-specialties. It's much more than that, however, as its name - Tzu meaning

The goal is to maintain the dignity of the recipient

Dr. Edith Navarro

Navarro helped establish an eye bank in the Philippines and continues to work with the Eye Bank Foundation of the Philippines. She aims to increase voluntary donations, which can be sensitive due to cultural beliefs. "In the Philippines, we have to convince people that when you donate your corneas it's not disfiguring," she said. "You will still be beautiful." "compassion" and Chi meaning "relief" - indicates.

"The goal is to maintain the dignity of the recipient," Navarro said, "to think about what little bit of good you can do – and turn that into the standard of care. It's not about how many patients you see – but that they are thankful. And you should be thankful for having the opportunity to help them. When you help someone, you feel good. And then, when you feel good, the question becomes – who helped who?" For the last 14 years, the center has provided free services, funded by donations from the community and the patients themselves. Patients often arrive at the clinic by 3 a.m. and wait in a makeshift outdoor waiting room. As they wait, they receive meals, and become volunteers, serving food to each other.

"You have to build relationships and earn their trust," Navarro said. "It's not only about being a doctor, when you see how simple their needs are. If you bring them something

to eat after a surgery, for example, the smiles you receive are priceless."

After surgery, the clinic helps patients find clean, safe temporary housing.

"As an ophthalmologist, it is noble to want to lessen the burden of those who cannot see clearly," she said. "But what good are eyes if there is turmoil in the heart? The joy of helping someone is the payment you receive, and you cannot buy that with money."

DIVERSITY, EQUITY, & INCLUSION

CULTURE REVOLUTION



Celebrating the diversity of our department, our university, and our community

We are proud of our culture of Acceptance, Belonging, Enablement and Empowerment. Although our work together in this space is only a few years old, we welcome and accept everyone where they are on our collective and individual journeys to a more equitable and inclusive world. Our commitment to being a "people-first culture" means championing diversity, inclusion, and respect for ourselves and others as our core tenets. We are committed to building inclusive environments and supportive systems, as well as practicing our stated values to ensure well-being and success for all current and future stakeholders.

People are at the center of all we do. This means respecting and championing every person - no matter their race, gender identity, sexual orientation, age, ability, nationality, or creed. By providing programs and training for all faculty and staff, we worked diligently to ensure diversity, equity, and inclusion (DEI) was integrated into everything we did this year. We protect one another and step in when we see or hear discrimination happening in our presence.

Our patients and our community know we are a diverse workforce, and we have a culture of "Respect for People."

We are committed to taking action against racism, sexism, ageism, disabilities, genderism and hate in our clinics, research laboratories, and learning spaces. We are revising policies and traditions that exclude or are inequitable. We have worked hard to dismantle hierarchies in our work environments and celebrate teaming to ensure that all voices are heard.

We are full-throttle tackling the untold histories of our people, communities, state and nation by learning and reading together. We have a shared language which you will find on our Equity Alliance webpage. There you will find helpful articles and videos to understand in part where our journey has taken us. For more resources, visit https://diversity.wisc.edu.



INCLUSION, DIVERSITY, EQUITY AND AWARENESS COMMITTEE: ASSESSING POTENTIAL OPPORTUNITIES FOR CHANGE

The Inclusion, Diversity, Equity and Awareness committee is a newly formed initiative, comprised of DOVS and UW Health Ophthalmology staff. The group is charged with identifying recommendations for growth as a people-first culture. As a first step, the group has been exploring ways to enhance how the history of underrepresented groups, gender equality, racism and oppression is reflected in our physical spaces, through signage, naming, and art. In addition, the committee is actively engaged in finding speakers for future educational opportunities, building relationships with members of outside communities, and providing resources and consistent messaging for all employees during their onboarding and annual review processes.

DOVS EQUITY ALLIANCE

The Equity Alliance is a grassroots DEI learning group and support community. It hosts monthly meetings for faculty and staff, targeted at personal growth, fostering inclusion, and encouraging open dialogue. In the past year, the Equity Alliance hosted quest speakers, held film screenings of Aftershock and When Claude Got Shot, engaged in book discussions, and in other communal activities.



Sanbrita Mondal, OD, Chief of Low Vision Services led faculty and staff in a low vision simulation exercise as part of the department's in-person Equity Alliance meeting June 8, 2023.

removing barriers to minoritized learners, staff, faculty, administration and the community at large," reported one Equity Alliance program participant. "I am developing skills that are making me better at listening to the uncomfortable," said another participant.

"I appreciate how we are working towards a goal of

DIVERSITY, EQUITY, AND INCLUSION TRAINING FOR CLINICIANS

Our Clinical Working Group, comprised of service chiefs and clinical leadership, was also engaged in DEI work throughout the year. Collective initiatives included reading and discussing This Book is Anti-Racist by Tiffany

Jewell and The Color of Law by Richard Rothstein.

I am developing skills that are making me better at listening to the uncomfortable

OPHTHALMOLOGY & VISUAL SCIENCES

RESIDENCY PROGRAM



E X P A N

The University of Wisconsin Department of Ophthalmology and Visual Sciences has increased the number of residents it accepts each residency year.

The Accreditation Council for Graduate Medical Education (ACGME) has approved the department's request to accept an additional first-year resident, bringing the total from three to four.

"I am very grateful to everyone for their hard work and dedication in making this happen," said Andrew Thliveris, MD, PhD, vice chair of resident education and ophthalmology residency program director. "I am especially excited by the new and valuable educational experiences this will allow for our residents. It will enable them to receive a more comprehensive

educational experience by allowing the creation of new rotations."

This will simply take it to the next level. Our residents are a critical part of our core.

Thliveris noted the positive impact the change would have on the training residents receive on the latest cataract surgical techniques. "This is a skill that is very difficult and time consuming to master," he said. "This change will allow our residents a more comprehensive cataract experience by working with more of our talented teaching faculty."

The resident complement is the maximum number of residents a program can enroll. According to the ACGME, it is determined by the program's educational resources, the current number of core faculty members and total faculty members, the types of patients available, and the number of procedures performed each year at the program's participating sites.

In addition to training on the latest surgical procedures, residents participate in a monthly community clinic where underserved members receive free eye diagnoses and treatment. They also have the option of an elective international rotation to learn surgical techniques rarely performed in this country and the opportunity to contribute to leading-edge research projects.

"Our resident education program already provides a breadth of experience beyond standard rotations," said Thliveris. "This will simply take it to the next level."

BIG DATA, BIG RESULTS:

UW Selected as Member of IRIS Registry Analytics Consortium

The University of Wisconsin is now a member of the American "I'm ready to use our data compared to the database data to Academy of Ophthalmology's Intelligent Research in Sight find out where we're really exceeding expectations and where (IRIS) Registry Analytics Consortium. This will allow the we have opportunities to get better," he said. "This is a huge department access to big data that has the potential to shape step up to see where we compare to the national benchmarks, future scientific research, improve patient care, and offer new and where we can improve." opportunities to department learners. Gregg Heatley, MD, MMM was instrumental in spearheading the efforts for several years. "It's safe to say that this is a huge deal," said Heatley. "This and Thomas-Virnig say IRIS can be a great teaching tool for is the way of the future for clinical research." resident physicians and clinical fellows, as well as junior faculty

Even beyond bolstering research and patient care, both Miranda members getting their start. "It's something that doesn't require Established in 2014, IRIS is the world's largest specialty clinical a lab and has almost no overhead," Miranda said. "Basically, with data registry and, according to the American Academy of any good idea that a learner or new faculty member has, they Ophthalmology, includes "de-identified electronic health record can tap into the data and with one request, data from thousands of participating ophthalmologists and likely receive enough information to allied eye care providers across the United States." fill several scientific papers."

Since its creation, IRIS now features de-identified data on over 483 million patient visits, with that number growing daily. While ophthalmology practices across the country are able to submit data to the IRIS registry and use IRIS information to benchmark clinical performance against national standards, only a select few academic institutions with capacity for big data analytics are able to utilize IRIS for research purposes.

That means UW faculty and collaborators will be able to tap into this repository of data, analyze subsets of information, search for trends, and much more. More than 50 project ideas involving IRIS data have already been generated by department faculty, and more are likely forthcoming. Potential projects range from better

understanding the side effects of a common topic steroids to expanding a smaller study measuring ocular trauma during the COVID-19 pandemic.

"We've put together a team of wonderful researchers who are enthusiastic about big data, and we continue to put the infrastructure in place to fully take advantage of this information," said Christina Thomas-Virniq, PhD, director of translational research. "With traditional clinical trials, you're off getting limited data, but with IRIS, we can potentially review data involving millions of people. I believe this is going to lead collaborations and partnerships across campus. We're hoping that researchers will come to us with their interesting question and using IRIS, we can collaborate to try and answer them."

Alexander Miranda, MD, currently leads the department's Big Data Team, since Heatley's retirement last May. While the potential for clinical research is exciting, Miranda says he's also eager to dig into the numbers to improve patient care at UW.





This is a huge step up to see where we compare to the national benchmarks and where we can improve.

to get started.'

Alexander Miranda, MD

e	While many staff and faculty, including Thomas-Virnig, have been hard at work for years building a strong case to join the IRIS Registry Analytics Consortium, the department has long been home to nationally recognized population-based studies that have filled a similar need. Under the leadership
top	of Professors Matthew "Dinny" Davis, MD, Ronald Klein, MD_MPH_and Barbara Klein_MD_MPH_the department's
ten	Ocular Epidemiology Research Group has conducted long-
to	term studies including the Beaver Dam Eye Study and the Wisconsin Epidemiologic Study of Diabetic Retinopathy,
ıs,	resulting in the accrual of significant data and the publication of more than 600 papers.
2	"When it comes to population-based research, we've been a national leader," Miranda said. "With IRIS, we're building upon legacy in a very exciting and modern way. We can't wait

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FACULTY

RETIREMENT

Three faculty members whose careers comprised nearly a century of service to the University of Wisconsin collectively, retired from the department in 2023. We are grateful for their exceptional service and wish them the best.



GREGG HEATLEY, MD, MMM

whose notable leadership roles included glaucoma fellowship director and service chief, retired in June 2023. Heatley also served as course director of the UW's Mind and Motion course, a 3–4-hour class that is part of a Phase 1 course in the UW School of

Gregg Heatley, MD, MMM,

Medicine and Public Health's ForWard Curriculum. Phase 1 entails three semesters of hands-on coursework for first-year medical students.

The course teaches students how to conduct an ophthalmic exam. Students in the class have had instruction in basic eye anatomy but have not yet used specific equipment like ophthalmoscopes and slit lamps. The course is their first hands-on experience measuring basic eye function and visualizing eye structures.

"It always amazes me how the students' faces light up as they discover how cool eyeballs are," Heatley said. "The experience keeps us teachers going for the rest of the year."

Travis Rumery, DO has assumed the role as course director.

"It's been 32 years of engaging, fulfilling, challenging, and gratifying work, and I feel privileged that I have been able to spend my career here," Heatley said. "I thank you all for your support, your collegiality, your expertise, and for allowing me to be part of such an incredibly highquality team. The fact that it has been so much fun along the way is just icing on the cake."



JULIE MARES, PHD,

MSPH

As the saying goes, the eyes are the window to the soul. For Professor Julie Mares, PhD, MSPH, they can also be a window to many parts of the physical body. As a nutritional epidemiologist, Mares doesn't only concern herself with researching ways to slow disease but also looks for ways to prevent it.

Mares retired from UW-

Madison in July 2023 after a 40-year career exploring the relationships between nutrients in the diet and blood to the onset and progression of eye diseases common in old age: cataract, macular degeneration, and diabetic retinopathy.

Mares' interest in food and healthy living started at an early age. "In the 1960s, packaged, processed food which could be enjoyed with little or no preparation (and were high in salt and sugar) took increasing space in grocery store aisles, was appealing to busy moms," Mares said. "Things like instant oatmeal and Oreo cookies were welcome luxuries in our house. Then fast-food restaurants like McDonalds popped up, so we could enjoy quick meals without even cooking. We forgot how to nourish ourselves from our gardens and farms."



ANDREW T. THLIVERIS,

MD, PHD

Andrew T. Thliveris, MD, PhD, a 28-year veteran of the department, retired in September 2023. After completing his ophthalmology residency and a postdoctoral research fellowship at the University of Wisconsin-Madison, Thliveris joined the faculty in 2000. He became the Veterans Affairs Hospital service chief in 2007 and vice chair

of resident education and residency director in 2014 – all roles he held for the remainder of his career.

While he left some large shoes to fill, Dr. Thliveris transferred his responsibilities as service chief and residency director to some very capable colleagues. Daniel Knoch, MD, is the new veterans affairs service chief, and Anna Momont, MD assumed the role of residency director.

- In 2001, Mares spearheaded the landmark Carotenoids in Age-Related Eye Disease Study. Known as CAREDS, the project was the first long-term examination of carotenoid plant pigments and vision. Mares, and co-principal investigator, Barbara Blodi, began following more than 2,000 women, studying the impact of genetics, vitamin D status, physical activity, and nutrient-rich diet patterns in n relation to eye health over multiple years.
- Iso This research revealed that lutein and other carotenoids like zeaxanthin positively impacted blood vessel health. This research revealed that it wasn't simply a matter of how much lutein a person eats that determines how much of it gets to their eyes. Rather, there are other factors like genetics and exercise that play a role in creating the circumstances required to accumulate macular pigment and prevent age-related macular degeneration damage as we age.
- "My advice is to focus on a healthy diet and lifestyle more than any one particular nutrient," Mares said. "Many of us tend to rely on vitamin pills. For example, we might not eat an orange because we think we are getting the vitamin C we need by taking vitamin C tablets. But it's not that simple. We benefit from eating foods which provide many other bioactive plant chemicals, in addition to vitamins and minerals. Commercial vitamin products do not often contain beneficial plant chemicals."
- Thliveris will be remembered also for his work as director of the department's cataract extraction phacoemulsification course. In this three-year progressive course, medical and veterinary ophthalmology residents, UW and visiting medical students, and pre-residency fellows from around the country learn the latest cataract surgical techniques.
- To recognize Dr. Thliveris' lasting legacy, the department dedicated its new Surgical Skills Training Facility in his honor. The new space, which expands the department's training capacity, will be instrumental in training the next generation of eyecare specialists.
- air "I can't tell you how much each and every one of you has meant to me," Thliveris said, in announcing his retirement.
 "Our residents are beyond amazing, and the dedication from the faculty to our program has made short work for our education team. We have a very proud tradition here and are poised to continue for generations to come. While the decision to retire was a very emotional one, it comforts me greatly to know that I am leaving things in such capable bande. Full steam aband."
- r. hands. Full steam ahead."

UW OFFICIALLY UNVEILS

NEW SURGICAL TRAINING FACILITY

Faculty, staff, alumni, and benefactors celebrated the official unveiling of a new state-of-the-art Surgical Skills Training Facility (SSTF) in April 2023.

The new facility addresses an urgent need for additional flexible space with the capacity to accommodate a variety of learning purposes, programs, and initiatives.

It significantly increases training capacity - from a converted closet at the William S. Middleton Veterans Administration Hospital that could only accommodate two people - to an expanded space that can now accommodate more learners at one time, along with state-of-the art equipment that mimics what is in the operating room.

"This expanded space allows for a more realistic hands-on experience, preparing our learners for the situations they will encounter in surgery," said Terri Young, MD, MBA, department chair. "We believe that the foundation of surgical training occurs in the surgical training wet lab, where learners gain skills, familiarity, and confidence in the



Drs. Andrew Thliveris and Travis Rumery

steps of ophthalmic surgery prior to caring for patients in the operating room. The new facility also provides ease of access and new opportunities for learning before, after, or between clinic time as well as on weekends."

The lab consists of 10 variable-height wet lab workstations. Each one is outfitted with cutting-edge equipment. including a microscope with flexible arm tabletop stand; a camera; video capability; and a halogen light source, controls, and foot switch. In addition, there is a high-resolution screen/monitor connected to the wet lab space allowing for group viewing and discussion.

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This expanded space allows for a more realistic handson experience, preparing our learners for the situations they will encounter in surgery.

Department Chair Terri Young, MD, MBA

"ONE OF THE BIGGEST BENEFITS TO THE NEW SPACE IS THAT IT ENABLES US TO EXPAND OUR TEACHING CAPABILITIES TO A BROADER AUDIENCE OF LEARNERS AND OPHTHALMIC PROFESSIONALS," YOUNG SAID. "THIS INCLUDES ALUMNI, TECHNICAL STAFF, AND COMMUNITY **LEARNING ENVIRONMENT."**

The space officially recognizes Andrew Thliveris, vice chair of resident education and Veterans Affairs Hospital service chief, for his outstanding contributions to the department.

"It's mind-blowing!" Dr. Thliveris said. "The opening of this space marks a new chapter in residency education and is a crucial component in training the next generation of eye care providers. It's a huge accomplishment for our department - to our alumni and residents too. I believe this is the way we give back. We can truly be generational with our training, and we couldn't have achieved it without the overwhelming support of our community." More than \$100,000 in funds were raised by the department community in support of the facility.



PROVIDERS - ALL OF WHOM WILL BE ABLE TO PRACTICE AND ADVANCE THEIR SKILLS IN A POSITIVE



DEPARTMENT CHAIR TERRI YOUNG, MD, MBA HONORED AT UNIVERSITY OF WISCONSIN-MADISON OUTSTANDING WOMEN OF COLOR AWARDS CEREMONY

Terri Young, MD, MBA

"A force of nature within the world of ophthalmology." That is how Dr. Young has been described.

During a ceremony on March 2, 2023, Young was recognized with an Outstanding Woman of Color Award from the University of Wisconsin-Madison. These annual awards - now in their 15th year - acknowledge and honor women of color among university faculty, staff, students, and in the greater Madison community who have made outstanding contributions to social justice, community service, scholarly research, and community building.

"Dr. Young is a force of nature within the world of ophthalmology," wrote Kimberly Stepien, MD and Amy Walker, OD in their nomination letter. "She is the only

African American female chair of ophthalmology in the country (in a non-Historically Black College or University), truly forging the way in the field of ophthalmology that is predominantly male and white."

This award follows on the heels of a similarly prestigious recognition from the Women in Ophthalmology. In October 2022, Young received that organization's highest honor - the Suzanne Véronneau-Troutman Award - which recognizes a female ophthalmologist who has been a champion for women in the ophthalmology field internationally within the previous year.

NEW LEADERSHIP ANNOUNCED

The department named three faculty to new leadership roles during 2023, in response to the retirement of Andrew Thliveris, MD, PhD, a 28-year department veteran. Thliveris, who served as vice chair of resident education and the Veterans Affairs Hospital service chief retired September 30, 2023.

THOSE FILING HIS SHOES INCLUDE:

- DANIEL KNOCH, MD, who assumed the role of veterans affairs service chief on July 1, 2023.
- ANNA MOMONT, MD, who was named residency director on July 1, 2023.
- the past seven years on September 1, 2023.



Daniel Knoch, MD

Anna Momont, MD



JONATHAN CHANG, MD, who became associate residency program director - the role Momont held for





Jonathan Chang, MD

ROOMASA CHANNA, MD NAMED A '40 UNDER 40'

At a special reception at the American Academy of Ophthalmology annual meeting in Chicago in September 2022, Dr. Channa was recognized with a 40 Under 40 Award from Ophthalmology Management Magazine. The inaugural award honors the next generation of ophthalmologists, under 40 years of age, who have made a significant impact in the field. "I am honored to be receiving this award," Dr. Channa said "I would like to extend heartfelt gratitude to everyone who has helped me along the way. Without the encouragement and support of my family, colleagues, and mentors – past and current- I would not be where I am today."

LAURA KOPPLIN, MD, PHD IS A UW HEALTH RISING STAR

Kopplin was honored with the UW Health Rising Star Clinical Practice Physician Award at a ceremony in May 2023.

The prestigious award recognizes individuals who demonstrate exceptional skills in clinical practice, education and leadership, and a commitment to the mission, vision, and values of UW Health.

Kopplin, an assistant professor, is, along with Kimberly Stepien, MD, co-director of the department's medical retina and uveitis fellowship.



Drs. Stepien and Kopplin

DANIEL KNOCH, MD LEADS AMERICAN ACADEMY OF OPHTHALMOLOGY EFFORTS TO ENHANCE LEARNING MATERIALS FOR MEDICAL STUDENTS

Knoch serves as chair of the academy's medical student educators website committee. Under Knoch's leadership, the organization has developed an extensive website to help students and primary care doctors learn more about ocular disease. The site features interactive cases, webinars, interactive figures, surgical subspecialty videos, and residency information. It recently expanded to include a "Case of the Week" feature.

Daniel Knoch, MD

FACULTY HONORED IN INVESTITURE CELEBRATIONS

Four department faculty have been honored by the School of Medicine and Public Health at investiture ceremonies, honoring their new appointments of endowed faculty positions.

The events signify that a faculty member now holds an endowed professorship, chair, or fellowship. These endowment designations are supported through philanthropy and signify the highest honor the school can bestow on its faculty members.



Melanie Schmitt, MD

Kimberly Stepien, MD

THE FOLLOWING FACULTY WERE HONORED:

- **MELANIE SCHMITT, MD**: John W. Doolittle and Helen Doolittle Professorship (October 12, 2022).
- **KIMBERLY STEPIEN, MD**: John W. Doolittle and Helen Doolittle Professorship (October 12, 2022).





Michael Altaweel, MD



Shaoqin "Sarah" Gong, PhD

• MICHAEL ALTAWEEL, MD: Monroe E. Trout Chair in Vision Research (October 12, 2022).

• **SHAOQIN "SARAH" GONG, PHD**: Retina Research Foundation Edwin and Dorothy Gamewell Professorship (June 29, 2023).

MEET OUR NEW

DIRECTOR

DEVELOPMENT

Hello DOVS Alumni,

I am excited and enthusiastic to meet and work with you in my new Director of Development role.

My roots run deep with the University of Wisconsin-Madison. I am an alumnus, former student athlete on the Badger football and track and field teams, and I earned two national community service awards during my time at UW-Madison.

After graduation in 1999, I was fortunate enough to be drafted into the NFL and played 5 seasons for 3 teams. Since leaving the NFL, I have honed my professional skills in business development and management in various industries, including investment management, financial technology (FinTech), sports technology and marketing, and television sports broadcasting; and previously served on the national Wisconsin Alumni Association's board of directors. I look forward to developing strategies for major gift development related to our alumni programs and building meaningful relationships with all of you.

In my short time with the Department of Ophthalmology and Visual Sciences, I have witnessed great passion for the important work of treating and preventing blindness, by all involved in the department. I am reminded every day when visiting with faculty, learners, and staff how serious and



D. Cecil Martin

important they view their work. That understanding is then taken to an even deeper level when I have the opportunity to hear from patients about their care journey, and the impact every part of it has had on their lives.

OF

I sincerely want all of you alumni to know that, from wherever you reside and do your important work, you are forever a part of the Department of Ophthalmology and Visual Sciences at UW-Madison. And it is our aim to help you feel that sense of belonging from us in the department. The learners that came before you blazed the trail for you, and you have blazed the trail for those here now. I look forward to visiting with all of you, and hearing how the Department of Ophthalmology and Visual Sciences shaped your journey to where you are today, and how we together can help take it to higher levels of greatness.

Thank you,

D. Cecil Martin



MY

MY EDUCATION HAS ALLOWED ME TO LIVE MY LIFE AS I WISH.

And that's the greatest gift anyone could hope for. Now I feel it's my turn to help students who have similar aspirations. That's why I put the UW in my will. My hope is that a more enlightened generation will make the world a better place.

Rosemary Schultz '80, MS'82, MD'85

supportuw.org/giftplanning

LEARN HOW TO CREATE YOUR OWN UW LEGACY Jennifer McFarland | 608-308-5311 | jennifer.mcfarland@supportuw.org



Many thanks to the generous donors who help advance vision research and support training the next generation of eye surgeons and researchers. This list represents gifts to the University of Wisconsin Department of Ophthalmology and Visual Sciences between July 1, 2022 and June 30, 2023.

\$**100**,000 +

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7 NEW CLINICAL & RESEARCH FACULTY

to our team!

CLINICAL FACULTY

Abigail Jebaraj, MD Education **RESIDENCY**: Moran Eye Center, University of Utah Health

Medical Interests comprehensive ophthalmology, population health

Douglas Snyder, MD Education FELLOWSHIP: Washington University School of Medicine **RESIDENCY:** Saint Louis University

Medical Interests neuro-ophthalmology, comprehensive ophthalmology

RESEARCH FACULTY

Ismail Zaitoun, PhD

Education **RESIDENCY AND FELLOWSHIP: University** of Wisconsin-Madison

Research Interests hypoxic-ischemic insult on retinal vascular integrity and function, hypoxia-inducible factors (HIFs) to retinal vascular damage, ischemic stroke insult on the neurovascular

unit at the cellular level, both in vivo and in vitro, pro- and anti-apoptotic proteins in eye vasculature under developmental and pathologic conditions

Eric Weinlander, MD, FACS

FELLOWSHIP: University of Utah

RESIDENCY: University of Michigan

anterior segment surgery, cataracts,

cornea and external disease, corneal

transplantation, refractive surgery

Education

Kelloaa Eve Center

Medical Interests

OPTOMETRY FACULTY

Kallie Harrier, OD, MPH, FAAO Education DOCTOR OF OPTOMETRY: Massachusetts College of Pharmacy and Health Sciences University

Andrew Kornaus, OD, FAAO, FSLS Education DOCTOR OF OPTOMETRY: Indiana University School of Optometry **RESIDENCY**: Anterior segment disease and contact lenses, Davis Duehr Dean Michael Rickels, OD Education DOCTOR OF OPTOMETRY: Illinois College of Optometry

VISITING PROFESSORS

Sobha Sivaprasad, MBBS, MS, DM,

FRCS, FRCOphth Moorfields Eye Hospital MATTHEW D. DAVIS CLINICAL **RESEARCH LECTURE:** "Geographic Atrophy – Challenges with Interpretation of clinical Trials" October 7, 2022

Tamara Fountain, MD

RUSH University Medical Center GRAND ROUNDS "Pilots and Physicians, Passengers and Patients: Maintaining Situational Awareness When Stakes Are High" October 12, 2022

Ahmara Ross. MD. PhD

Scheie Eye Institute, University of Pennsylvania FRONTIERS IN VISION RESEARCH "Glaucoma: Past, Present, and Future" December 2, 2022

Preethi Ganapathy, MD, PhD

SUNY Upstate Medical University **GRAND ROUNDS** "Under Pressure: The Optic Nerve Head in Glaucoma" February 10, 2023

Bernardita (Edith) Navarro, MD, MBA

Tzu Chi Eye Center, Santa Mesa, Philippines GUILLERMO AND MARTA DE VENECIA LECTURE "Footprints of Compassion" March 17, 2023

Claire Mitchell PhD Perelman School of Medicine University of Pennsylvania Strain to Neuroinflammation" March 31, 2023

Shiming Chen, PhD Washington University GEORGE KAMBARA, MD VISION SCIENCE SYMPOSIUM "Understanding and treating CRX-linked

Retinopathies" April 14, 2023

Ashok Kumar, PhD

Glaucoma"

April 14, 2023

Wayne State University School of Medicine GEORGE KAMBARA, MD VISION SCIENCE SYMPOSIUM "Multi-mics studies to understand the pathobiology of intraocular infections" April 14, 2023

Daniel M. Lipinski, MSC, PhD Medical College of Wisconsin Eye Institute GEORGE KAMBARA, MD VISION

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FRONTIERS IN VISION RESEARCH "Microglial Responses Linking Mechanical

SCIENCE SYMPOSIUM "Gene Therapy Mediated Intraocular Pressure Reduction in Open-angle

Pavlina Kemp, MD

University of Iowa Hospitals & Clinics **GRAND ROUNDS** "Fostering a Growth Mindset through Feedback: Optimizing the Adult Learning Experience" May 5, 2023

Samuel Herberg, PhD

SUNY Upstate Medical University FRONTIERS IN VISION RESEARCH "Time to Soften Up: Extracellular Matrix Hydrogels for Outflow Cell Studies in 3D" June 2, 2023

O'Rese Knight, MD

University of California - San Francisco GRAND ROUNDS "Diversifying the Ophthalmology Workforce" June 9, 2023

Michele Bloomer, MD

University of California - San Francisco GRAND ROUNDS "Infectious Pathology" July 21, 2023

CLINICAL AND RESEARCH FACULTY

Michael M. Altaweel, MD Professor, Vitreoretinal Surgery Fellowship Director, Co-Director of the Wisconsin Reading Center, Monroe E. Trout Chair in Eye Research, McPherson Eye Research Institute

Barbara A. Blodi, MD Matthew D. Davis Professor, Retina Research Foundation Daniel M. Albert Chair, Wisconsin Reading Center Medical Director

Yasmin S. Bradfield, MD John W. Doolittle Pediatric Ophthalmology Professor, Co-Chair Global **Ophthalmology Initiatives**

Curtis R. Brandt, PhD UW Medical Foundation Professor; Vice Chair of Research

Cat N. Burkat, MD, FACS Professor, Co-Chair Global Ophthalmology Initiatives, ASOPRS Fellowship Faculty

Jonathan S. Chang, MD Associate Professor, Vitreoretinal Surgery Fellowship Assistant Director, Chair, **Funds Distribution Committee**

Roomasa Channa, MD Assistant Professor

Yanjun (Judy) Chen, MD, PhD Associate Professor, Neuroophthalmology Service Chief

Amitha Domalpally, MD, PhD Assistant Professor, Wisconsin **Reading Center Research Director**

David M. Gamm, MD, PhD Professor, Sandra Lemke Trout Chair in Eve Research, Retina Research Foundation Emmett A. Humble Distinguished Directorship, Director of the McPherson Eye Research Institute

Shaogin (Sarah) Gong, PhD Vilas Distinguished Professor and Advancing Vision Science Chair Professor

Justin L. Gottlieb. MD Professor. **Retina Service Chief**

Gregg Heatley, MD, MMM Professor, Director of Quality Improvement

Mrinalini Hoon, PhD Assistant Professor, Retina Research Foundation Rebecca Meyer Brown Professor, McPherson Eye Research Institute

Paul L. Kaufman, MD Ernst H. Bárány Professor of Ocular Pharmacology, Department Chair Emeritus

Daniel W. Knoch, MD Professor, Vice Chair of Education and Faculty Development, Director of Medical Student Education

Laura J. Kopplin, MD, PhD Assistant Professor, Uveitis Service Chief

Jennifer C. Larson, MD Assistant Professor

Yao Liu, MD, MS Assistant Professor. Director of Teleophthalmology, Glaucoma Service Chief, Glaucoma Fellowship Director

Mark J. Lucarelli, MD, FACS Richard K. Dortzbach Professor of Ophthalmic Facial Plastic Surgery, Oculoplastic and Reconstructive Surgery Service Chief, UW Health University Station Eye Clinic Medical Director

Julie Mares, PhD, MSPH Professor

Colleen M. McDowell, PhD William and Phyllis Huffman Research Professor

Gillian McLellan, BVMS, DACVO, DECVO, PhD Professor

Alexander R. Miranda MD Assistant Professor, DOVS Physician Informaticist, Pediatric Ophthalmology and Adult Strabismus Service Chief

Mihai Mititelu, MD, MPH Associate Professor, Clinical Eye Research Unit Medical Director

Anna C. Momont, MD Assistant Professor, Associate Residency Program Director, Director of DOVS Saturday Free Clinics

Freya Mowat, PhD, BVSc Assistant Professor

Sarah M. Nehls, MD Professor, Cornea and Anterior Segment Service Chief

Donna M. Neumann, PhD Associate Professor

Robert W. Nickells, PhD Frederick A. Davis Chair of Ophthalmology and Visual Sciences Professor

T. Michael Nork, MD, MS, FARVO Professor

Heather Potter. MD Professor. Ophthalmic Pathology Service Chief, DOVS Wellness Director

Travis C. Rumery, DO Assistant Professor

Patricia C. Sabb, MD Assistant Professor

Stephen K. Sauer, MD Associate Professor

Kathleen R. Schildroth, MD Assistant Professor

Melanie Schmitt. MD Assistant Professor, John W. and Helen Doolittle Professor, Director of Patient Centered Care Committee

Nader Sheibani, PhD Professor, Retina Research Foundation Alice R. McPherson Research Chair

Kimberly E. Stepien, MD John W. and Helen Doolittle Professor of Ophthalmology, Co-Vice Chair of Clinical Affairs, Director, Adult Inherited Retinal Disease Clinic, Codirector, Ocular Genetics

John E. Temprano, MD Associate Professor. Comprehensive **Ophthalmology Service Chief**

Andrew T. Thliveris, MD, PhD

Professor, Vice Chair of Resident Education, Veterans Affairs Hospital Service Chief

Evan J. Warner, MD Assistant Professor, Lions Eye Bank of Wisconsin Medical Director

Suzanne W. van Landingham, MD Assistant Professor

CLINICAL ADJUNCT FACULTY

James Bell, MD Joseph T. Bergmann, MD Thomas Castillo, DO, MBA Dongmei Chen, MD Mark Duffy, MD, PhD **Daniel Fary**, MD Sarah Groessl. MD Kara Harbick, MD Richard Heckert, MD

Amol D. Kulkarni, MD Bradley M. Lemke, MD Michele Martin, OD Kevin Miller, MD Sanbrita Mondal. OD Asha Okorie, MD Brett Pariseu, MD Nayan Patel, OD William J. Reynders, MD

AFFILIATE FACULTY

Anne Griep, PhD Professor, Cell and Regenerative Biology

Raunak Sinha, PhD Assistant Professor, Neuroscience, David and Nancy Walsh Family Professorship in Vision Research

Research Professor

Natascha Merten, PhD, MS Assistant Professor, Departments of Population Health Sciences and Medicine

OPTOMETRY FACULTY

Karina A. Conlin, OD, FAAO, ABO Diplomate Clinical Adjunct Assistant Professor Optometry Service Chief **Clinical Optometrist**

Janet Cushing, OD Clinical Adjunct Assistant Professor Clinical Optometrist

Tracy A. Klein, OD **Clinical Optometrist** Kevin D. Kurt. OD **Clinical Adjunct Assistant Professor Clinical Optometrist**

Michele M. Martin, OD, ABCMO Clinical Adjunct Assistant Professor Clinical Optometrist

Sanbrita Mondal, OD Clinical Adjunct Assistant Professor/ Senior Research Scientist III **Clinical Optometrist** Chief of Vision Rehabilitation Services

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Terri L. Young, MD, MBA, FARVO Chair, Peter A. Duehr Professor of Ophthalmology, Pediatrics and Medical Genetics

Ismail Zaitoun, PhD Assistant Professor



John G. Rose, MD Jeffrey L. Shere, MD Amy Walker, OD, MBA, FAAO Wei-Chaun Wang, MD Kevin Wienkers, MD Mitchell Wolf, MD Lee Woodward, MD



Bikash Pattnaik, PhD, MPHIL Assistant Professor, Pediatrics, Retina Research Foundation M.D. Matthews

Yuhang Zhao, PhD Assistant Professor of Computer Science

Donna Peters, PhD Professor, Pathology and Laboratory Medicine



Navan R. Patel, OD, ABO Diplomate **Clinical Adjunct Assistant Professor Clinical Optometrist**

Kelsey L. Rickels, OD **Clinical Optometrist**

Amy L. Walker, OD, MBA, FAAO Clinical Adjunct Assistant Professor **Clinical Optometrist** Co-Vice Chair of Clinical Affairs

RESIDENTS, FELLOWS, POSTDOCTORAL

AND GRADUATE STUDENTS

RESIDENTS

CLASS OF 2023

Katherine Dalzotto, MD MEDICAL SCHOOL: Case Western Reserve University School of Medicine, Cleveland, OH

Chintan Pathak, MD, Chief Resident **MEDICAL SCHOOL**: Northwestern University Feinberg School of Medicine, Chicago, IL

MEDICAL SCHOOL: University of Texas at

Austin Dell Medical School, Austin, TX

William Van De Car, MD

MEDICAL SCHOOL: Michigan State University College of Human Medicine, Grand Rapids, MI

Nenita Maganti, MD

Medicine, Chicago, IL

Samuel Whittier, MD

MEDICAL SCHOOL: Northwestern

University Feinberg School of

CLASS OF 2024

Jacob Abou-Hanna, MD MEDICAL SCHOOL: University of Michigan Medical School, Ann Arbor, MI

CLASS OF 2025

Breanna Aldred, MD MEDICAL SCHOOL: University of Wisconsin School of Medicine and Public Health, Madison, WI

Georges Guillaume, MD MEDICAL SCHOOL: Washington University School of Medicine, St. Louis, MO

Kevin Elwood, MD

CLASS OF 2026

Jackson Korger, MD MEDICAL SCHOOL: University of Wisconsin School of Medicine and Public Health, Madison, WI

Rushi Mankad, MD **MEDICAL SCHOOL:** University of New Mexico, Albuquerque, NM

Kevin Schneider, MD

MEDICAL SCHOOL: University of Michigan Medical School, Ann Arbor, MI

MEDICAL SCHOOL: University of Utah

School of Medicine, Salt Lake City, UT

CLASS OF 2027

Aziza Dhalai. MD

MEDICAL SCHOOL: Kirk Kerkorian School of Medicine University of Nevada Las Vegas, Las Vegas, NV

Thomas Emmet, MD **MEDICAL SCHOOL**: University of Texas Southwestern, Dallas, TX

Claire Hermsen, MD MEDICAL SCHOOL University of Wisconsin School of Medicine and Public Health in Madison, WI

Lucas Maakestad, MD

MEDICAL SCHOOL: University of Iowa Roy J. and Lucille A. Carver College of Medicine, Iowa City, IA

CLINICAL FELLOWS

CLASS OF 2023 ____

Katy Coggins, MD

Glaucoma **RESIDENCY**: The University of Texas Southwestern Medical School, Texas INTERNSHIP: Saint Joseph Hospital, Denver, CO MEDICAL SCHOOL: The University of Texas Southwestern Medical School, Texas

Elaine Downie. MD

Oculofacial Plastic Surgery INTERNSHIP: Hennepin County Medical Center, Minneapolis, MN MEDICAL SCHOOL: University of Minnesota Medical School, Minneapolis, MN

CURRENT CLINICAL FELLOWS

Emerson Kendall, DO

Glaucoma **RESIDENCY**: Beaumont Taylor, Tyler, MI MEDICAL SCHOOL: West Virginia School of Osteopathic medicine, Lewisburg, West Virginia

Ryan Larochelle, MD

Oculofacial Plastic Surgery **RESIDENCY**: University of Colorado Medicine, Aurora, CO MEDICAL SCHOOL: NYU Grossman School of Medicine, New York, NY Infirmary, Chicago, IL MEDICAL SCHOOL: University of Michigan Medical School, Ann Arbor, MI Paige Richards, MD

Lexington, KY

Lexington, KY

Vitreoretinal Surgerv Madison, WI Rapids, MI East Lansing, MI

PRE-RESIDENCY FELLOWSHIP PROGRAM

Brandon L Vander Zee, MD

Ophthalmic Pathology/Imaging Fellow MEDICAL SCHOOL: University of South Dakota Sanford School of Medicine, Vermillion, SD

Medicine, Houston, TX



Benjamin Fowler, MD, PhD Vitreoretinal Surgery, Second Year **RESIDENCY**: Bascom Palmer Eye Institute, Miami, FL INTERNSHIP: University of Kentucky College of Medicine, Lexington, KY GRADUATE SCHOOL: University of Kentucky College of Medicine,

MEDICAL SCHOOL: University of Kentucky College of Medicine,

Julia Shatten, MD

Cornea, External Disease, Refractive Surgery **RESIDENCY**: University of Pittsburg Medical Center, PA INTERNSHIP: University of Vermont Medical Center, VT MEDICAL SCHOOL: University of Vermont College of Medicine, VT

Mohammad Sabbagh, MD Vitreoretinal Surgery **RESIDENCY**: Illinois Eye and Ear

RESIDENCY: University of Wisconsin-

INTERNSHIP: Spectrum Health, Grand

MEDICAL SCHOOL: Michigan State University College of Human Medicine,

Anna Walsh, MD

Cornea, External Disease, Refractive Surgery **RESIDENCY**: Louisiana State University, Shreveport, LA *MEDICAL SCHOOL*: U Tennessee HSC College of Medicine, Memphis, TN

Qjancheng (Jack) Wang, MD Ophthalmic Pathology/Imaging Fellow MEDICAL SCHOOL: Baylor College of

Colin Froines. MD Imaging Fellow MEDICAL SCHOOL: University of Washington, Seattle, WA

POSTDOCTORAL STUDENTS

David Barnett Advisor: Freya Mowat, PhD, BVSc

Qingquing Deng Advisor: Sarah Gong, PhD

Ruoxuan Gao Advisor: Sarah Gong, PhD

Dongdong Li Advisor: Sarah Gong, PhD

Praveen Susai Manickam Advisor: David Gamm, MD, PhD

Philip Mzyk Advisor: Colleen McDowell, PhD

Kazuva Oikawa Advisor: Gillian McLellan, BVMS, DACVO, DECVO, PhD

Yong-Seok Song Advisor: Nader Sheibani, PhD

Whitney Stevens-Sostre Advisor: Mrinalini Hoon, PhD

Xiuxiu Wang Advisor: Sarah Gong, PhD

Program: Cellular and Molecular

Advisor: David Gamm, MD, PhD

Program: Cellular and Molecular

Program: Cellular and Molecular

Program: CMB and Medical Scientist

Program: Comparative Biomedical

Advisor: Freya Mowat, PhD, BVSc

Program: Cellular and Molecular

Program: Comparative Biomedical

Advisor: Colleen McDowell, PhD

Advisor: Mrinalini Hoon, PhD

Advisor: Robert Nickells, PhD

Advisor: Raunak Sinha, PhD

Advisor: Sarah Gong, PhD

Steven Mayerl

Nicole Muench

Pathology

Pathology

Pathology

Jarron Roy

Sciences

Biology

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Training Program

Michele Salzmann

Abhilash Sawant

Tanya Sharmin

Jenna Nagy

Yuyan Wang Advisor: Sarah Gong, PhD

Rousen (Alex) Xie Advisor: Sarah Gong, PhD

Nisakorn Yodsanit Advisor: Sarah Gong, PhD

Song Zhang Advisor: Sarah Gong, PhD

Ying Zhang Advisor: Sarah Gong, PhD

GRADUATE STUDENTS

Jacobus Burger

Program: Biomedical Engineering Advisor: Sarah Gong, PhD

Raymond Doudlah Program: Cellular and Molecular Biology Advisor: Ari Rosenberg, PhD

Kim Edwards Program: Cellular and Molecular Pathology Advisor: David Gamm, MD, PhD

Emma Geiduschek Program: Neuroscience Training Program Advisor: Colleen McDowell, PhD

Akbar Hasanzadeh **Program: Biomedical Engineering** Advisor: Sarah Gong, PhD

Jamie Jones Program: Biomedical Engineering Advisor: Sarah Gong, PhD

Jacob Khoussine Program: Cellular and Molecular Biology Medial Scientist Training Program Advisor: Mrinalini Hoon, PhD

Kayley Manuel Program: Microbiology Doctoral Training Program Advisor: Donna Neumann, PhD

Advisor: Gillian McLellan, BVMS,

Virginia Mathu

DACVO, DECVO, PhD

Sciences

Mason Shipley Program: Cellular and Molecular **Program: Comparative Biomedical** Pathology Advisor: Donna Neumann, PhD

Samantha Shrum **Program: Biophysics** Advisor: Jeremy Rogers, PhD

Yong-Seok Song Program: Environmental Toxicology Advisor: Nader Sheibani, PhD

Yao Tong Program: Biomedical Engineering Advisor: Sarah Gong, PhD

Odalys Torne Escude Program: Comparative biomedical Sciences Advisor: Gillian McLellan, BVMS, DACVO, DECVO, PhD

Serena Wisner Program: Neuroscience Training Program Advisor: Mrinalini Hoon, PhD

Ziyun Ye Program: Microbiology Doctoral Training Program Advisor: Donna Neumann, PhD

Nisakorn Yodsanit Program: Biomedical Engineering Advisor: Sarah Gong, PhD

Jingcheng Zhu Program: Biomedical Engineering Advisor: Sarah Gong, PhD

Min Zhu Program: Chemistry Advisor: Sarah Gong, PhD



When I was looking for a fellowship, it was really important to me to find a place that would have excellent mentorship. I wanted to make sure that I would find people that would support me, not only in developing the skills that I wanted for my career, but also throughout my career.

> Julia Shatten, MD 2023 Cornea Fellow

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Andrew T. Thliveris, MD, PhD Vice Chair of Resident Education. Residency Program Director

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John E. Temprano, MD Comprehensive Ophthalmology

Andrew T. Thliveris, MD, PhD Veteran's Affairs Hospital

DEPARTMENT ADMINISTRATION

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Christopher Geier, Senior Information Technology Manager

Chris Hodges, Associate Department Administrator/Director of Wisconsin **Reading Center Operations**

Cheryl Nagel, LPN, UW Health Ophthalmology Clinic Manager

Lisa Nelson, UW Health Clinical Coding Coordinator

Bradley Meyers, Financial Manager Marketing Manager

Christy Murphy, COT, UW Health Ophthalmology Clinic Manager

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Amitha Domalpally, MD, PhD Wisconsin Reading Center Research Director

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Mihai Mititelu, MD, MPH Clinical Eye Research Unit Medical Director

Anna C. Momont, MD Associate Residency Program Director, Director of DOVS Saturday Free Clinics

Heather Potter, MD DOVS Wellness Director

Melanie Schmitt. MD Director of Patient Centered Care Committee

Travis Rumery, DO Director of Surgical Skills Training Facility

Evan Warner, MD Lions Eye Bank of Wisconsin Medical Director

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Neal P. Barney, MD	Ronald Engern
Suresh Chandra, MD	Thomas D. Fra
Nansi Jo Colley, PhD	Paul L. Kaufma
Karen J. Cruickshanks, PhD	Barbara E. K. K

Jennie Perry-Raymond, Clinical Eye Research Unit Manager

Amy Pikalek, Communications and

Tetyana Schneider, PhD, Graduate Medical Education Program Administrator

Christina Thomas-Virnig, PhD. Director of Translational Research

Becca Raven Uminowicz, Administrative Manager

Paul Zellmer, MHA, Director of UW Health Ambulatory Operations

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r tzbach , MD	Leonard A. Levin, MD
man , PhD	Frank L. Myers, MD
nce, MD	Arthur S. Polans, PhD
an, MD	Ingolf Wallow, MD
Klein, MD, MPH	

PUBLICATIONS

We are proud to be a leader among our peer institutions in publication output. Our success is the result of collaborations with one another, across campus and all over the world. The following list represents peerreviewed publications from September 1, 2022 through August 31, 2023.

Agrón E, **Domalpally A**, Cukras CA, Clemons TE. Chen Q. Swaroop A. Lu Z, Chew EY, Keenan TDL; AREDS and AREDS2 Research Groups. Reticular Pseudodrusen Status, ARMS2/HTRA1 Genotype, and Geographic Atrophy Enlargement: Age-Related Eye Disease Study 2 Report 32. Ophthalmology. December 2022.

Arcot Sadagopan K, Lin LD, **Kushner BJ.** Modified Nishida Procedure Combined with Lateral Rectus Disabling for Duane Retraction Syndrome. Journal of Binocular Vision and Ocular Motility. April 2023.

Au, A, Ip M, **Blodi BA**, Scott IU, Oden NL. Van Veldhuisen PC. Sarraf D. OCT Macular Infarction Predicts Vision in Participants with Central Retinal or Hemiretinal Vein Occlusion: A Secondary Analysis of SCORE2. American Journal of Ophthalmology. August 2023.

Banghart M, Lee K, Bahrainian M, Staggers K, Amos C, Liu Y, Domalpally **A**, Franfort BJ, Sohn EH, Abramoff M. Channa R. Total Retinal Thickness: A Neglected Factor in the Evaluation of Inner Retinal Thickness. BMJ Open Ophthalmology. September 2022.

Barone F, Amaral J, Bunea I, Farnoodian M. Gupta R. Gupta R. Baker D. Phillips MJ, Blanch RJ, Maminishkis A, Gamm DM. Bharti K. A Versatile Laser-induced Porcine Model of Outer Retinal and Choroidal Degeneration for Preclinical Testing. Journal of Clinical Investigation. June 2023.

Beverley KM, Pattnaik BR. Inward Rectifier Potassium (Kir) Channels in the Retina: Living Our Vision. American Journal of Physiology - Cell Physiology. September 2022.

Blodi BA, Domalpally A, Corkery E, Osborne A. Blotner S. Grzeschik SM. Gune S. Prevalence of Macular Atrophyin the MARINA Study of Ranibizumab versus Sham for Neovascular Age-Related Macular Degeneration. Ophthalmology Retina. April 2023.

Bradfield Y, Suneja A, Coullard D, Anderson K. Improved Clinic Flow and Satisfaction After Lean Implementation in a Pediatric Ophthalmology Clinic. Journal of Pediatric Ophthalmology & Strabismus. April 2023.

Broadhead GK, Agrón E, Peprah D, Keenan TDL, Lawler TP, **Mares J**, Chew EY; AREDS/AREDS2 Investigators. Association of Dietary Nitrate and a Mediterranean Diet With Age-Related Macular Degeneration Among US Adults: The Age-Related Eye Disease Study (AREDS) and AREDS2. JAMA Ophthalmology. December 2022.

Brown JE, Aldred B, Boulter T, Sullivan R, Ver Hoeve J, Pattnaik BR, Schmitt **M.** A Case Report of Retinal Dystrophyin Patients with PACS1 Syndrome. Ophthalmic Genetics. May 2023.

Brown JE, Fowler BJ, Channa R. Retractable Urology Three-Pronged Grasping Forceps for Removal of Large, Non-Magnetic Intraocular Foreign Bodies. Retinal Cases and Brief Reports. January 2023.

Brown JE, Thomas AS, Armbrust KR, Boyd K, Berkenstock M, Kopplin LJ. Therapeutic Outcomes of Non-Infectious Scleritis Treated with Tumor Necrosis Factor-Alphalnhibitors. Ocular Immunology and Inflammation. April 2023.

Burdon KP. Graham P. Hadler J. Hulleman JD. Pasutto F. Boese EA. Craig JE, Fingert JH, Hewitt AW, Siggs OM, Whisenhunt K, Young TL, Mackey DA, Dubowsky A, Souzeau E. Specifications of the ACMG/AMP Variant Curation Guidelines for Myocilin: Recommendations from the Clingen Glaucoma Expert Panel. Human Mutation. October 2022.

Cao YJ, Wang Y, Mullahy J, Burns M, Liu **Y**. Smith M. The Relative Importance of Hospital Discharge and Patient Composition in Changing Post-Acute Care Utilization and Outcomes Among Medicare Beneficiaries. Health Services Insights. April 2023.

Channa R, Wolf RM, Abràmoff MD, Lehmann HP. Effectiveness of Artificial Intelligence Screening in Preventing Vision Loss from Diabetes: A Policy Model. NPJ Digital Medicine. March 2023.

Cheung N, Chee ML, Klein R, Klein **BEK**, Shea S, Cotch MF, Cheng CY, Wong TY. Incidence and Progression of Diabetic Retinopathy in a Multi-ethnic US Cohort: the Multi-ethnic Study of Atherosclerosis. British Journal of Ophthalmology. September 2022.

Chua SYL, Welsh P, Sun Z, Balaskas K. Warwick A. Steel D. Sivaprasad S. **Channa R**, Ko T, Sattar N, Khawaja AP, Foster PJ. Patel PJ: UK Biobank Eve and Vision Consortium. Associations Between HbA1c Across the Normal Range, Diagnosed, and Undiagnosed Diabetes and Retinal Layer Thickness in UK Biobank Cohort. Translational Vision & Science Technology. February 2023.

Croft MA, Nork TM, Heatley G,

Mcdonald JP, Katz A, Kaufman PL. Intraocular Accommodative Movements in Monkeys; Relationship to Presbyopia. Experimental Eye Research. September 2022.

Croft MA, Peterson J, Smith C, Kiland J, Nork TM, Mcdonald JP, Katz A, Hetzel S, Lütjen-Drecoll E, Kaufman PL. Accommodative Movements of the Choroid in the Optic Nerve Head Region of Human Eyes, and Their Relationship to the Lens. Experimental Eye Research. September 2022.

Dallalzadeh LO, Ediriwickrema LS, Fung SE, Men CJ, Kossler AL, Kupcha AC, Mawn LA, Burkat CN, van Landingham SW, Conger JR, Simmons B, Pham C, Akella SS, Setabutr P, Ho T, Couch SM, Kim JS, Demirci H, Korn BS, Kikkawa DO, Liu CY. Transcutaneous Retrobulbar Amphotericin B for Rhinoorbital-cerebral Mucormycosis: A Multicenter Retrospective Comparative Study. Orbit. March 2023.

Dalzotto, K, Banghart, M, Thomas-Virnig, C, Mondal, S. Assessment of Low Vision Referrals Before and After Establishment of a Low Vision Program at an Academic Medical Center. Optometry and Vision Science (Journal of the American Academy of Optometry). November 2022.

Diehl KA, Asif SK, **Mowat F**. Ophthalmic Disease and Screening in Breeding Dogs. Veterinary Clinics of North America: Small Animal Practice. May 2023.

Dieu AC, Whittier SA, Domalpally A, Pak JW, Voland RP, Boyd KM, Gottlieb JL, Crabtree GS, Giles DL, McAchran SE, Mititelu M. Redefining the Spectrum of Pentosan Polysulfate Retinopathy: Multimodal Imaging Findings from a Cross-Sectional Screening Study. Ophthalmology Retina. September 2022.

Dillard LK, Pinto A, Mueller KD, Schubert CR, Paulsen AJ, Merten N, Fischer ME, Tweed TS, Cruickshanks KJ. Associations of Hearing Loss and Hearing Aid Use With Cognition, Health-Related Quality of Life, and Depressive Symptoms. Journal of Aging and Health. November 2022.

Ding X, Neumann DM, Zhu L. Host Factors Associated with Either VP16 or VP16-induced Complex Differentially Affect HSV-1 Lytic Infection. Reviews in Medical Virology. September 2022.

Domalpally A, Xing B, Pak JW, Agrón E, Ferris FL 3rd, Clemons TE, Chew EY. Extramacular Drusen and Progression of Age-Related Macular Degeneration: Age Related Eye Disease Study 2 Report 30. Ophthalmology Retina. February 2023.

Domalpally A, Pan Q, Chew EY. Association of Metformin With the Development of Age-related Macular Degeneration in the Diabetes Prevention Program Outcomes Study-Reply. JAMA Ophthalmology. May 2023.

Domalpally A, Whittier SA, Pan Q, Dabelea DM, Darwin CH, Knowler WC, Lee CG, Luchsinger JA, White NH, Chew EY; Diabetes Prevention Program Research (DPPOS) Group. Association of Metformin with the Development of Age-related Macular Degeneration. JAMA Ophthalmology. December 2022.

Downie, EM, Amend, CE, Miranda, A, Burkat, CN. Treatment of Orbital Desmoid-type Fibromatosis With Sorafenib. Ophthalmic Plastic and Reconstructive Surgery. September 2022.

Duncan NB, Micheletti JM. A Modified Adaptation of the Twist-and-Out Technique for Intraocular Lens Exchange. Journal of Cataract & Refractive Surgery. August 2022.

Elwood KF, Dieu AC, Kuranz CV, **Mititelu** M. Purtscher-Like Retinopathy with Cardioembolic Stroke: Case Report and Literature Review. Case Reports in Ophthalmology. November 2022.

Filla MS, Faralli JA, Dunn CR, Khan H, Peters DM. NFATc1 Regulation of Dexamethasone-Induced TGFB2 Expression Is Cell Cycle Dependent in Trabecular Meshwork Cells. Cells. February 2023.

Goebel CP, Song YS, Zaitoun IS, Wang S, Potter HAD, Sorenson CM, Sheibani N. Adenosine Receptors Expression in Human Retina and Choroid with Age-related Macular Degeneration. Journal of Ophthalmic and Vision Research. February 2023.

Goodrum F, Lowen AC, Lakdawala S, Alwine J, Casadevall A, Imperiale MJ, Atwood W, Avgousti D, Baines J, Banfield B, Banks L, Bhaduri-McIntosh S, Bhattacharya D, Blanco-Melo D, Bloom D, Boon A, Boulant S, Brandt C,... Virology Under the Microscope- a Call for Rational Discourse. mBio. February 2023.

Han X, Gharahkhani P, Hamel AR, Ong JS, Renteria ME, Mehta P, Dong X, Pasutto F, Hammond C, Young TL, Hysi P, Lotery AJ, Jorgenson E, Choquet H, Hauser M, Cooke Bailey JN, Nakazawa T, Akiyama M, Shiga Y, Fuller ZL, Wang X, Hewitt AW, Craig JE, Pasquale LR, Mackey DA, Wiggs JL, Khawaja AP, Segre AV; 23andMe Research Team; International Glaucoma Genetics Consortium; MacGregor S. Large-scale Multitrait Genome-wide Association Analyses Identify Hundreds of Glaucoma Risk Loci. Nature Genetics. July 2023.

Hanna K, Nieves J, Dowd C, Bender KO, Sharma P, Singh B, Renz M, Ver Hoeve JN, Cepeda D, Gelfman CM, Riley BE, Grishanin RN. Preclinical Evaluation of ADVM-062, A Novel Intravitreal Gene Therapy Vector for the Treatment of Blue Cone Monochromacy. Molecular Therapy. March 2023.

Hiscott J, Brandt CR. Editorial: Insights in Virus and Host: 2021. Frontiers in Cellular and Infection Microbiology. April 2023.

Ho TC, Maamari RN, Kossler AL, Sears CM, Freitag SK, Reshef ER, Shinder R, Rootman DB, Diniz SB, Kahana A, Schlachter D, Do TH, Kally P, Turner S, Mokhtarzadeh A, Harrison AR, Hwang CJ, Kim HJ, Avila SA, Thomas DA, Magazin M, Wester ST, Lee WW, Clauss KD, Holds JB, Sniegowski M, Compton CJ, Briggs C, Malik Al, Lucarelli MJ, Burkat CN, Patel LG, Couch SM. Outcomes of Patients With Thyroid Eye Disease Partially Treated With Teprotumumab. Ophthalmic Plastic & Reconstructive Surgery. September 2022.

Jabs DA, Berkenstock MK, Altaweel **MM**, Holbrook JT, Sugar EA; ADVISE Research Group. The Conundrum of Clinical Trials for the Uveitides: Appropriate Outcome Measures for One Treatment Used in Several Diseases. Epidemiologic Reviews. December 2022. Jabs DA, Sugar EA, Burke AE, **Altaweel MM**, Dunn JP, Gangaputra S, Kempen JH, Pepple KL, Stawell RJ, Holbrook JT; Multicenter Uveitis Steroid Treatment (MUST) Trial and Follow-up Study Research Group. *Cataract Surgery in Patients with Uveitis Treated with Systemic Therapy in the Multicenter Uveitis Steroid Treatment (MUST) Trial and Follow-up Study: Risk Factors and Outcomes.* American Journal of Ophthalmology. July 2023.

Jensen ET, Rigdon J, Rezaei KA, Saaddine J, Lundeen EA, Dabelea D, Dolan LM, D'Agostino R, **Klein B**, Meuer S, Mefford MT, Reynolds K, Marcovina SM, Mottl A, Mayer-Davis B, Lawrence JM. Prevalence, Progression, and Modifiable Risk Factors for Diabetic Retinopathy in Youth and Young Adults With Youth-Onset Type 1 and Type 2 Diabetes: The SEARCH for Diabetes in Youth Study. Diabetes Care. April 2023.

Kabra M, Shahi PK, Wang Y, Sinha D, Spillane A, Newby GA, Saxena S, Tong Y, Chang Y, Abdeen AA, Edwards KL, Theisen CO, Liu DR, **Gamm DM, Gong S**, Saha K, **Pattnaik BR**. *Nonviral Base Editing of KCNJ13 Mutation Preserves Vision in a Model of Inherited Retinal Channelopathy*. Journal of Clinical Investigation. August 2023.

Kaur M, Blain J, ... **Young TL**, et. al. Genomic Analyses in Cornelia de Lange Syndrome and Related Diagnoses: Novel Candidate Genes, Genotype-phenotype Correlations and Common Mechanisms. American Journal of Medical Genetics. June 2023.

Kiland JA, Terhaar HM, Walleck HE, Chen N, McDaniel K, McLellan GJ. Comparison of the TONOVET Plus®, TonoVet®, and Tono-Pen Vet™ Tonometers in Normal Cats and Cats with Glaucoma. Veterinary Ophthalmology. June 2023.

Kolb AW, Ferguson SA, Larsen IV, Brandt CR. Disease Parameters Following Ocular Herpes Simplex Virus Type 1 Infection are Similar in Male and Female BALB/C Mice. PLoS One. June 2023. Kravets S, Rupnow RA, Sethi A, Espeland MA, Pasquale LR, Rapp SR, **Klein BE**, Meuer SM, Haan MN, Maki PM, Hallak JA, Vajaranant TS. *Association Between Cognitive Function and Large Optic Nerve Cupping, Accounting for Cupdisc-ratio Genetic Risk Score*. PLoS One. October 2022.

Kymes SM, Oden NL, VanVeldhuisen PC, Scott IU, Ip MS, **Blodi BA**, King J; SCORE2 Investigator Group. Cost-Utility Comparison of Bevacizumab and Aflibercept in the Treatment of Central or Hemiretinal Vein Occlusion in the SCORE2 Trial. JAMA Ophthalmology. May 2023.

Lee DJ, Seto S, **Banghart M, Boyd K**, Thuruthumaly C, Suhler EB, **Kopplin LJ**. *Risk Factors Associated with Unexpected Refractive Outcomes in Uveitic Cataract Surgery.* Ocular Immunology and Inflammation. March 2023.

Lee IK, Xie R, Luz-Madrigal A, Min S, **Zhu J**, Jin J, **Edwards KL**, Phillips MJ, Ludwig AL, **Gamm DM**, **Gong S**, Ma Z. *Micromolded Honeycomb Scaffold Design to Support the Generation of a Bilayered RPE and Photoreceptor Cell Construct.* Bioactive Materials. July 2023.

Levitsky LL, Drews KL, Haymond M, Glubitosi-Klug RA, Levitt Katz LE, **Mititelu M**, Tamborlane W, Tryggestad JB, Weinstock RS; TODAY Study Group. *The Obesity Paradox: Retinopathy, Obesity, and Circulating Risk Markers in Youth with Type 2 Diabetes in the TODAY Study.* Journal of Diabetes and its Complications. November 2022.

Liew G, Xie J, Nguyen H, Keay L, Kamran Ikram M, McGeechan K, **Klein BE**, Jin Wang J, Mitchell P, Klaver CC, Lamoureux EL, Wong TY. *Hypertensive Retinopathy and Cardiovascular Disease Risk: 6 Population-based Cohorts Meta-analysis.* International Journal of Cardiology: Cardiovascular Risk and Prevention. March 2023.

Liu B, Yang H, **Song YS, Sorenson CM**, **Sheibani N**. Thrombospondin-1 in Vascular Development, Vascular Function, and Vascular Disease. Seminars in Cell & Developmental Biology. July 2023. Liu C, Lin J, Yang H, Li N, Tang L, **Neumann D**, Ding X, Zhu L. *NFAT5 Restricts Bovine Herpes Virus 1 Productive Infection in MDBK Cell Cultures.* Microbiology Spectrum. May 2023.

Lock LJ, **Channa R**, Brennan MB, Cao Y, **Liu Y**. Effect of Health System on the Association of Rurality and Level of Disadvantage with Receipt of Diabetic Eye Screening. BMJ Open Diabetes Research & Care. December 2022.

Ludwig AL, Mayerl SJ, Gao Y, **Banghart** M, Bacig C, Fernandez Zepeda MA, **Zhao X, Gamm DM**. *Re-formation of Synaptic Connectivity in Dissociated Human Stem Cell-derived Retinal Organoid Cultures*. Proceedings of the National Academy of Sciences of the United States of America. January 2023.

Luo S, Lock LJ, Xing B, Wingelaar M, **Channa R, Liu Y**. Factors Associated With Follow-up Adherence After Teleophthalmology for Diabetic Eye Screening Before and During the COVID-19 Pandemic. Telemedicine Journal and E-Health. December 2022.

Lynch AM, Ruterbories LK, Robertson JB, Lunn KF, **Mowat FM**. *Hemostatic Profiles in Dogs with Sudden Acquired Retinal Degeneration Syndrome*. Journal of Veterinary Internal Medicine. April 2023.

Mavlyutov TA, Kuhn MS, Bilal SE, De leso ML, Chauhan AK, Stamer WD, **McDowell CM**. Decreased Outflow Facility and Schlemm's Canal Defects in a Mouse Model of Glaucoma. Experimental Eye Research. September 2022.

Mavlyutov TA, Li J, Liu X, Shen H, Yang H, McCurdy CR, Pattnaik B, Guo LW. Retinal Photoreceptor Protection in an AMD-Related Mouse Model by Selective Sigma-1 or Sigma-2 Receptor Modulation. Genes (Basel). December 2022.

Mayerl SJ, Bajgai S, Ludwig AL, Jager LD, Williams BN, Bacig C, Stoddard C, Sinha D, Philpot BD, Gamm DM. Human Retinal Organoids Harboring IMPG2 Mutations Exhibit a Photoreceptor Outer Segment Phenotype that Models Advanced Retinitis Pigmentosa. Stem Cell Reports. September 2022. Mehta N, Patil S, Modi V, Vardi R, Liu K, Singh RP, Sarraf D,Oden NL, VanVeldhuisen PC, Scott IU, Ip MS, **Blodi BA**, Modi Y. *High Variation in Inner Retinal Reflectivity Predicts Poor Visual Outcome in Patients With Central Retinal Vein Occlusion: SCORE2 Report* 21. Translational Vision Science & Technology. June 2023.

Merten N, Pinto AA, Paulsen AJ, Chen Y, Engelman CD, Hancock LM, Johnson SC, Schubert CR. Associations of Midlife Lifestyle and Health Factors with Long-Term Changes in Blood-Based Biomarkers of Alzheimer's Disease and Neurodegeneration. Journal of Alzheimers Disease. June 2023.

Merten N, Schultz AA, Walsh MC, van Landingham SW, Peppard PE, Ryff CDS, Malecki KC. *Psychological Distress* and Well-being Among Sensory Impaired Individuals During COVID-19 Lockdown Measures. Annals of Epidemiology. January 2023.

Metzger JM, Wang Y, Neuman SS, Snow KJ, Murray SA, Lutz CM, Bondarenko V, Felton J, Gimse K, Xie R, Li D, **Zhao Y**, Flowers MT, Simmons HA, Roy S, Saha K, Levine JE, Emborg ME, **Gong S**. Efficient In Vivo Neuronal Genome Editing in the Mouse Brain Using Nanocapsules Containing CRISPR-Cas9 Ribonucleoproteins. Biomaterials. December 2022.

Mititelu M, Uschner D, Doherty L, Bjornstad P, Domalpally A, Drews KL, Gubitosi-Klug R, Levitsky LL, Pak JW, White NH, Blodi BA. Retinal Thickness and Morphology Changes on OCT in Youth with Type 2 Diabetes: Findings from the TODAY Study. Ophthalmology Science. June 2022.

Mowat FM. Peroxisome Proliferator-Activated Receptor Gamma Coactivator-1Alpha (PGC-1α): A Transcriptional Regulator at the Interface of Aging and Age-Related Macular Degeneration? Advances in Experimental Medicine and Biology. 2023. Multicenter Uveitis Steroid Treatment Trial (MUST) Research Group, Writing Committee: Acharya NR, Vitale AT, Sugar EA, Holbrook JT, Burke AE, Thorne JE, **Altaweel MM**, Kempen JH, Jabs DA. Intravitreal Therapy for Uveitic Macular Edema-Ranibizumab Versus Methotrexate Versus the Dexamethasone Implant: The MERIT Trial Results. Ophthalmology. May 2023.

Nair AA, Ediriwickrema LS, Dolman PJ, Law G, Harrison AR, Mokhtarzadeh A, Stewart K, Men C, **Lucarelli MJ**, **van Landingham S**, Wingelaar M, Verma R, Chen A, Selva D, Garrity J, Eckel L, Kazim M, Godfrey K, Baxter SL, Korn BS, Kikkawa DO. *Predictive Modeling of New-onset Postoperative Diplopia Following Orbital Decompression for Thyroid Eye Disease*. Ophthalmic Plastic & Reconstructive Surgery. November 2022.

Neuman SS, Metzger JM, Bondarenko V, Wang Y, Felton J, Levine JE, Saha K, **Gong S**, Emborg ME. *Striatonigral Distribution* of a Fluorescent Reporter Following Intracerebral Delivery of Genome Editors. Frontiers in Bioengineering and Biotechnology. July 2023.

Nork TM, Kim CBY, Katz AW, Rasmussen CA, Banghart M, Ver Hoeve JN. Multifocal Electroretinography Increases Following Experimental Glaucoma in Nonhuman Primates with Retinal Ganglion Cell Axotomy. Documenta Ophthalmologica. February 2023.

Patel D, Ananthakrishnan A, Lin T, **Channa R**, Liu TYA, Wolf RM. Social Determinants of Health and Impact on Screening, Prevalence, and Management of Diabetic Retinopathy in Adults: A Narrative Review. Journal of Clinical Medicine. November 2022.

Pachade S, Coronado I, Abdelkhaleq R, Yan J, **Salazar-Marioni S**, Jagolino A, Green C, Bahrainian M, **Channa R**, Sheth SA, Giancardo L. *Detection of Stroke with Retinal Microvascular Density and Self-Supervised Learning Using OCT-A and Fundus Imaging.* Journal of Clinical Medicine. December 2022. Papudesu C, Willis JR, Ramulu P, **van** Landingham S. *Physical Activity in Functionally Monocular Persons in the United States, 2003-2006*. Translational Vision & Science Technology. February 2023.

Paulsen AJ, **Pinto AA**, **Merten N**, Schubert CR, **Chen Y**, **Klein BEK**, Meuer SM, **Cruickshanks KJ**. Association of Central Retinal Arteriolar and Venular Equivalents with Brainaging and Macular Ganglion Cell-inner Plexiform Layer Thickness. Ophthalmic Epidemiology. February 2023.

Paulsen AJ, Schubert CR, **Pinto AA**, Chappell RJ, **Chen Y**, **Cruickshanks KJ**, Engelman CD, Ferrucci L, Hancock LM, Johnson SC, **Merten N**. Associations of Sensory and Motor *Function with Blood-Based Biomarkers* of Neurodegeneration and Alzheimer's Disease in Midlife. Neurobiology of Aging. August 2022.

Peterson C, Hicks JL, De Marzo AM, Campbell AA, Eberhart CG, **Dubielzig RR**, Teixeira LB. Upregulated MYC Expression and P53 Mutations May Contribute to the Oncogenesis of Canine Meibomian Gland Carcinomas. Veterinary Pathology. March 2023.

Pitale PM, Shen G, Sigireddi RR, Polo-Prieto M, Park YH, Gibson SE, Westenskow PD, **Channa R**, Frankfort BJ. Selective Vulnerability of the Intermediate Retinal Capillary Plexus Precedes Retinal Ganglion Cell Loss in Ocular Hypertension. Frontiers in Cellular Neuroscience. December 2022.

Rana K, Juniat V, **Patel S**, Avey G, **Lucarelli MJ**, Selva D. Orbital Artifacts on MRI. Ophthalmic Plastic & Reconstructive Surgery. June 2023.

Rohowetz LJ, Jabbehdari S, Smiddy WE, Berrocal AM, Townsend JH, **Chang JS**, Flynn HW Jr; Retinal Dialysis Study Group. *Retinal Detachment Associated with Retinal Dialysis: Clinical Features and Outcomes of Surgery in a Ten-year Study.* Ophthalmology Retina. June 2023.

Rosinski JR, Raasch LE, Barros Tiburcio P, Breitbach ME, Shepherd PM, Yamamoto K, Razo E, Krabbe NP, Bliss MI, Richardson AD, Einwalter MA, Weiler AM, Sneed EL, Fuchs KB, Zeng X, Noguchi KK, Morgan TK, Alberts AJ Antony KM, Kabakov S, Ausderau KK, Bohm EK, Pritchard JC, Spanton RV, Ver Hoove JN, Kim CBY, Nork TM, Katz AW, Rasmussen CA, Hartman A, Mejia A, Basu P, Simmons HA, Eickhoff JC, Friedrich TC, Aliota MT, Mohr EL, Dudley DM, O'Connor DH, Newman CM. Frequent First-trimester Pregnancy Loss in Rhesus Macaques Infected with African-lineage Zika Virus. PLoS Pathogens. March 2023.

Salzman MM, Merten N, Panek WK, Fefer G, Mondino A, Westermeyer HD, Gruen ME, Olby NJ, Mowat FM. Age-associated Changes in Electroretinography Measures in Companion Dogs. Documenta Ophthalmology. June 2023.

Schildroth KR, Mititelu M, Etheridge T, Holman I, Chang JS. Stellate Nonhereditary Idiopathic Foveomacular Retinoschisis: Novel Findings and Optical Coherence Tomography Angiography Analysis. Retinal Cases and Brief Reports. March 2023.

Schmitt MA, Wang K, DeBenedictis MJ, Traboulsi El. Topical Carbonic Anhydrase Inhibitors in the Long-Term Treatment of Juvenile X-Linked Retinoschisis. Retina. August 2022.

Schubert CR, Fischer ME, Pinto AA, Paulsen AJ, Chen Y, Huang GH, Klein BEK. Tsai MY. Merten N. Cruickshanks **KJ**. Inflammation, Metabolic Dysregulation and Environmental Neurotoxins and Risk of Cognitive Decline and Impairment in Midlife. Neurological Sciences. September 2022.

Scott IU, Oden NL, VanVeldhuisen PC, Ip MS, Blodi BA; SCORE2 Investigator Group. SCORE2 Report 20: Relationship of Treatment Discontinuation With Visual Acuity and Central Subfield Thickness Outcomes. American Journal of Ophthalmology. December 2022.

Scott IU, Oden NL, VanVeldhuisen PC, Ip MS, **Blodi BA**; SCORE2 Investigator Group; Scott IU, Oden NL, VanVeldhuisen PC, Ip MS, Blodi BA. SCORE2 Report 24: Nonlinear Relationship of Retinal Thickness and Visual Acuity in Central Retinal and Hemiretinal Vein Occlusion. Ophthalmology. May 2023.

Sheibani N. Connective Tissue Growth Factor: A Key Factor Among Mediators of Tissue Fibrosis. Journal of Ophthalmic and Vision Research. November 2022.

Song YS, Annalora AJ, Marcus CB, Jefcoate CR, Sorenson CM, Sheibani N. Cytochrome P450 1B1: A Key Regulator of Ocular Iron Homeostasis and Oxidative Stress. Cells. September 2022.

Song YS, Jamali N, Sorenson CM, Sheibani N. Vitamin D Receptor Expression Limits the Angiogenic and Inflammatory Properties of Retinal Endothelial Cells. Cells. January 2023. Song YS, Zaitoun IS, Wang S, Darjatmoko SR, Sorenson CM, Sheibani N. Cytochrome P450 1B1 Expression Regulates Intracellular Iron Levels and Oxidative Stress in the Retinal Endothelium. International Journal of Molecular Sciences. January 2023.

Sorenson CM, Song YS, Wang S, Darjatmoko SR, Saghiri MA, Ranji M, Sheibani N. Bim Expression Modulates Branching Morphogenesis of the Epithelium and Endothelium. Biomolecules. September 2022.

Supriya M, Christopher R, Prabhakar P, Chandra SR. Low vitamin D Status is Associated with Inflammatory Response in Older Patients with Cerebral Small Vessel Disease. Journal of Neuroimmunology. March 2023.

Taparli OE, Shahi PK, Cagatay NS, Aycan N, Ozaydin B, Yapici S, Liu X, Cikla U, Zafer D, Eickhoff JC, Ferrazzano P, **Pattnaik BR**, Cengiz P. Selectively Compromised Inner Retina Function Following Hypoxicischemic Encephalopathy in Mice: A Noninvasive Measure of Severity of the Injury. Neurochemistry International. December 2022.

Tarfa A, Salihu E, Xiong P, Brewer C, Maurer M, Liu Y, Shiyanbola O. Participant and Group Facilitator Perspectives on a Novel Culturally Tailored Diabetes Self-management Program for African Americans. Research Square. July 2023.

Tian Y, Wu X, Li Y, He W, Liu Z, Myers FL, Zhou L. Case Report: Unilateral Panuveitis as a Manifestation of Alport Syndrome in a Chinese Pediatric Patient. Frontiers in Genetics. November 2022.

VanderBeek BL, Yu Y, Oden N, VanVeldhuisen P, Blodi B, Ip M, Scott IU. Visit Adherence and Visual Acuity in Study of Comparative Treatments for Retinal Vein Occlusion 2 (SCORE2). Ophthalmic Epidemiology. March 2023.

Wang C, Kravets S, Sethi A, Espeland MA, Pasquale LR, Rapp SR, Klein BE, Meuer SM, Haan MN, Maki PM, Hallak JA, Vajaranant TS. An Association between Large Optic Cupping and Total and Regional Brain Volume: The Women's Health Initiative. American Journal of Ophthalmology. January 2023.

Wang Y, Wang X, Xie R, Burger JC, Tong Y, Gong S. Overcoming the Blood-Brain Barrier for Gene Therapy via Systemic Administration of GSH-Responsive Silica Nanocapsules. Advanced Materials. November 2022.

Weir NL, Guan W, Karger AB, Klein B, Meuer S, Cotch MF, Guo X, Li X, Tan J, Genter P, Ida Chen YD, Rotter JI, Ipp E, Tsai MY. Omega-3 Fatty Acids are Associated with Decreased Presence and Severity of Diabetic Retinopathy: A Combined Analysis of MESA and GOLDR Cohorts. Retina. January 2023.

Wen MJ, Maurer M, Schwerer L, Sarkarati N, Egbujor UM, Nordin J, Williams SD, Liu Y, Shiyanbola OO. Perspectives on a Novel Culturally Tailored Diabetes Self-Management Program for African Americans: A Qualitative Study of Healthcare Professionals and Organizational Leaders. International Journal of Environmental Research and Public Health. October 2022.

White NH, Pan Q, Knowler WC, Schroeder EB, Dabelea D, Chew EY, Blodi B, Goldberg RB, Pi-Sunyer X, Darwin C, Schlögl M, Nathan DM; **Diabetes Prevention Program Outcome** Study (DPPOS) Research Group. Risk Factors for the Development of Retinopathy in Prediabetes and Type 2 Diabetes: The Diabetes Prevention Program Experience. Diabetes Care. August 2022.

Winward BK, Gottlieb JL, Chang JS, Bradbury L, Maganti N, Pathak **C**, Fowler **BJ**. Ocular Findings Aid in Diagnosis of West Nile Virus. Wisconsin Medical Journal. July 2023.

Wu Z, Schmitz-Valckenberg S, Blodi **BA**, Holz FG, Jaffe GJ, Liakopoulos S, Sadda SR, Bonse M, Brown T, Choong J, Clifton B, Corradetti G, Corvi F, Dieu AC, Dooling V, **Pak JW**, Saßmannshausen M, Skalak C, Thiele S, Guymer RH. Reticular Pseudodrusen: Interreader Agreement of Evaluation on OCT Imaging in Age-Related Macular Degeneration. Ophthalmology Science. May 2023.

Wygnanski-Jaffe T, Kushner BJ, Moshkovitz A, Belkin M, Yehezkel O; CureSight Pivotal Trial Group. An Eye-tracking-based Dichoptic Home Treatment for Amblyopia: A Multicenter Randomized Clinical Trial. Ophthalmology. October 2022.

Yodsanit N, Shirasu T, Huang Y, Yin L, Islam ZH, Gregg AC, Riccio AM, Tang R, Kent EW, Wang Y, Xie R, Zhao Y, Ye M, **Zhu J**, Huang Y, Hoyt N, Zhang M, Hossack JA, Salmon M, Kent KC, Guo LW, **Gong S**, Wang B. *Targeted PERK* Inhibition with Biomimetic Nanoclusters Confers Preventative and Interventional Benefits to Elastase-induced Abdominal Aortic Aneurysms. Bioactive Materials. February 2023.

Young TL. Using Adjustable-Focus Spectacles in Young Children to Meet Increasing Eyecare Needs. JAMA Ophthalmology. August 2023.

Zafar S, Staggers KA, Gao J, **Liu** Y, Patel PJ, Foster PJ, Frankfort BJ, Abramoff M, Minard CG, Warwick A, Khawaja AP, Channa R. Evaluation of Retinal Nerve Fibre Layer Thickness as a Possible Measure of Diabetic Retinal Neurodegeneration in the EPIC-Norfolk Eye Study. British Journal of Ophthalmology. May 2023.

Zafar S, Walder A, Virani S, Biggerstaff K, Orengo-Nania S, Chang J, Channa **R**. Systemic Adverse Events Among Patients With Diabetes Treated With Intravitreal Anti-Vascular Endothelial Growth Factor Injections. JAMA Ophthalmology. June 2023.

Zafer D, Adams T, Olson E, Stenman L, Taparli O, Eickhoff J, Cengiz P, Mezu-Ndubuisi OJ. Retinal Vascular Recovery Revealed by Retinal Imaging Following Neonatal Hypoxia Ischemia in Mice: Is There a Role for Tyrosine Kinase Receptor Modulation? Brain Research. December 2022.

Zaitoun IS, Song YS, Zaitoun HB, Sorenson CM, Sheibani N. Assessment of Choroidal Vasculature and Innate Immune Cells in the Eyes of Albino and Pigmented Mice. Cells. October 2022.

Zhang Y, Rahman MM, Clark PA, Sriramaneni RN, Havighurst T, Kerr CP, Zhu M, Jones J, Wang X, Kim K, Gong S, Morris ZS. In Situ Vaccination Following Intratumoral Injection of IL2 and Poly-Ilysine/Iron Oxide/CpG Nanoparticles to a Radiated Tumor Site. ACS Nano. June 2023.

Zhang Y, Sriramaneni RN, Clark PA, Jagodinsky JC, Ye M, Jin W, Wang Y, Bates A, Kerr CP, Le T, Allawi R, Wang X, Xie R, Havighurst TC, Chakravarty I, Rakhmilevich AL, O'Leary KA, Schuler LA, Sondel PM, Kim K, Gong S, Morris ZS. Multifunctional Nanoparticle Potentiates the In Situ Vaccination Effect of Radiation Therapy and Enhances Response to Immune Checkpoint Blockade. Nature Communications. August 2022.

Zhou P, Eltemsah L, Bahrainian M, Prichett L, Liu TYA, Wolf RM, Channa **R**. Assessment of Trained Image Grader Performance in Screening for Retinopathy Among Youth with Diabetes. Journal of Diabetes Science and Technology. September 2022.

Zhu M, Wang X, Xie R, Wang Y, Xu X, Burger J, Gong S. Guanidinium-Rich Lipopeptide-Based Nanoparticle Enables Efficient Gene Editing in Skeletal *Muscles*. ACS Applied Materials & Interfaces. March 2023.



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