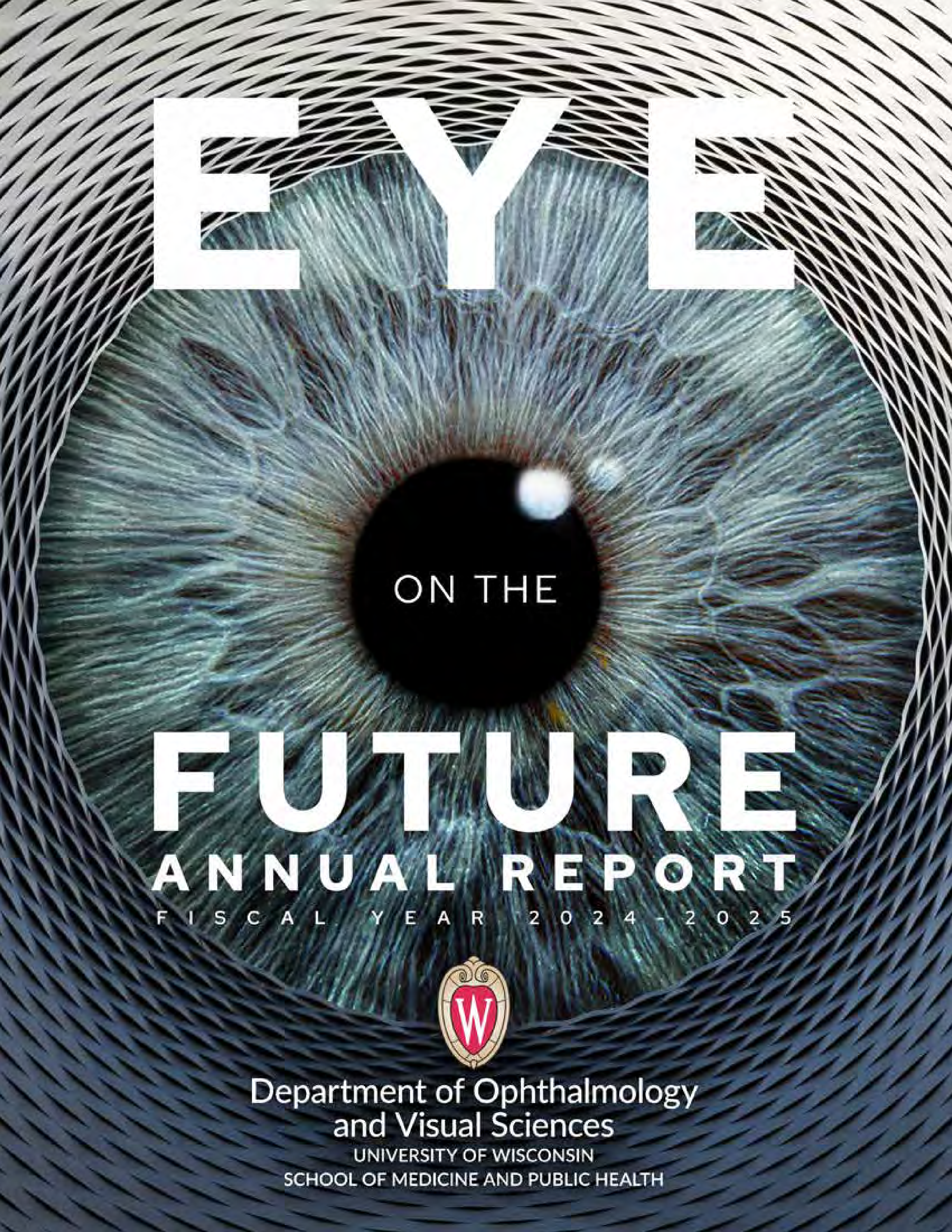

EYE ON THE FUTURE

ANNUAL REPORT

FISCAL YEAR 2024-2025

Department of Ophthalmology and Visual Sciences
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

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.

YOUR SUPPORT HELPS US CONTINUE OUR IMPORTANT WORK

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A NOTE FROM THE CHAIR

Dear Friends and Colleagues,

It is my sincere pleasure to introduce our department's fiscal year 2024–2025 annual report, Eye on the Future. This year's theme captures the spirit of optimism that defines the ethos of the University of Wisconsin Department of Ophthalmology and Visual Sciences. As you explore this report, you will discover how our teams continue to push boundaries — driven by a shared vision to save and preserve sight for all, and of inspiring hope. This report is a celebration of the remarkable work of our clinicians, researchers, educators, administrators, staff, learners, and community partners. It reflects the meaningful work we're doing today to shape a healthier, more vibrant tomorrow.

Over the past year, we've made bold strides in discovery, teaching and mentoring, and providing the very best patient care. Our teams have uncovered new insights into eye disease, pioneered cutting-edge treatments, and embraced emerging technologies - all while nurturing the next generation of leaders in vision science and eye care. Every step forward has been guided by compassion, humility, and curiosity.

Highlights for the year include department-wide contribution and finalization of our strategic planning initiative- which occurs every 5 years- with an even greater emphasis on enhancing our people-first, people-centric culture. The process to accomplish this was complex and layered, starting with multiple pizza-party listening sessions and surveys. All members of the department participated, including faculty, administration, trainees and staff, working together for almost a full year to provide insights and input to create a collective north star. Another significant highlight was the hiring of Jessica Karls-Ruplinger, JD to the family as the new departmental Chief Administrative Officer.

Despite current headwinds in healthcare, our clinical and surgical productivity continues its multi-year upward trajectory, the volume consistently exceeding those of prior years. We are at the tail end of completing our clinic expansion project for the 1 South Park Madison location - a move that will provide 24 new clinical examination rooms in team pod configurations in closer proximity to our main ambulatory surgery site. We have signed off on clinic expansion plans for a second site at the East Terrace Madison clinic site and will see that open in the fall of 2026. Our new LASIK Eye Surgery Clinic at the Deming Way, Middleton location - which opened in the winter of 2023 - is fully operational and in full swing.

The department has always been a strong research engine operating within an acclaimed research university enterprise, and this year was no exception in highlights that underscore that prowess. We continue to rank nationally within the top 10 academic ophthalmology and vision science departments in National Eye Institute (NEI)/National Institutes of Health (NIH) funding. We also received good news of the continuation of funding for our departmental NEI/NIH T32 graduate and post-graduate vision science training and NEI/NIH P30 Core Research programs after recent successful NEI program officer site visits. We have again garnered annual recognition by Research to Prevent Blindness, Inc. with provision of an increase in non-discretionary funding for the year. Our faculty and trainees continue to garner national and international attention with their academic pursuits and professional endeavors.

We continue to build and/or further develop relevant programs to support our communities. Examples include our quarterly Free Eye Clinics, and the celebration of World Sight Day every October for those most in need of care provided through enhanced access. We have solidified our agreement to be a referring partner for a newly developed mobile vision eye van caring for grade school children in the Madison Metropolitan School District. Our global work - in person and virtually - continues to expand with a variety of bi-directional exchange experiences among learners, faculty, alumni, and staff. This work has richly enhanced educational and instructional understandings, as well as research collaborations.

In Eye on the Future, you'll read about:

- Groundbreaking research to cure blindness through human eye transplantation.
- A revolutionary clinical trial – the first of its kind – exploring the effectiveness of stem cell therapy in treating forms of inherited retinal diseases.
- An in-depth look at the specialized care provided by orthoptists in diagnosing and treating double vision, eye misalignment, and other visual disturbances in children and adults.
- Highlights from our decade-long partnership with Dr. Shroff's Charity Eye Hospital in New Delhi, India.
- Exciting enhancements to our ophthalmology residency training program, offering new learning opportunities to new generations of doctors.

- The inspiring journey of an ophthalmology patient, who after a dozen eye surgeries, can now see her children for the first time.
- A tribute to an emeritus faculty member's lifelong commitment to nurturing future ophthalmologists—through mentorship and generous philanthropy.
- And that is just the beginning!

Of course, we could not do any of this forward-facing work without your ongoing support. As a valued friend of the department, I extend my heartfelt thanks for your partnership. I also encourage you to become part of our collective future by making a charitable donation to a departmental endeavor that speaks to your heart. Together, we are creating a tomorrow that pushes boundaries and changes lives.

On, Wisconsin!

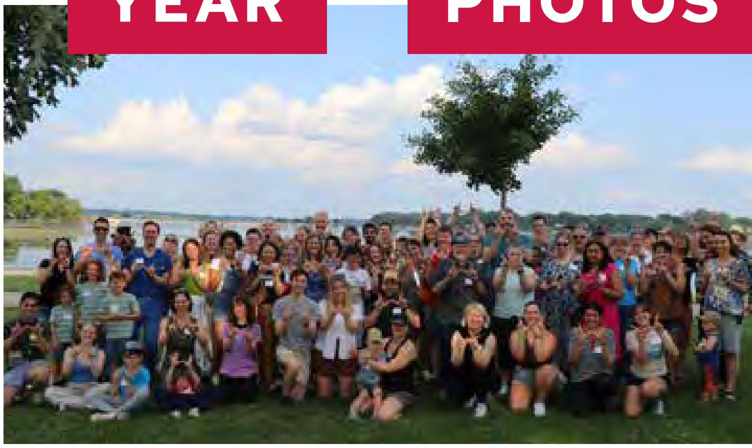
TERRI YOUNG, MD, MBA

Department Chair
Peter A. Duehr Professor of Ophthalmology, Pediatrics and Medical Genetics

TOGETHER

WE'RE CREATING A FUTURE THAT'S CHANGING LIVES

The **YEAR** *In* **PHOTOS**



2024 **JULY**

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

2024 **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).*

2024 **NOVEMBER**

Medical students learn how to do an eye exam as part of the "Mind and Motion" course.

2024 **DECEMBER**

Staff gather to celebrate Department Administrator Linda Callow, who retired after 17 years of service to the department and 31 years with the University of Wisconsin-Madison.

2025 **MARCH**

Thanks to the support of generous donors, a new EyeSi surgical simulator found its home in the Andrew T. Thliveris, PhD, MD Surgical Skills Training Facility.

2025 **APRIL**

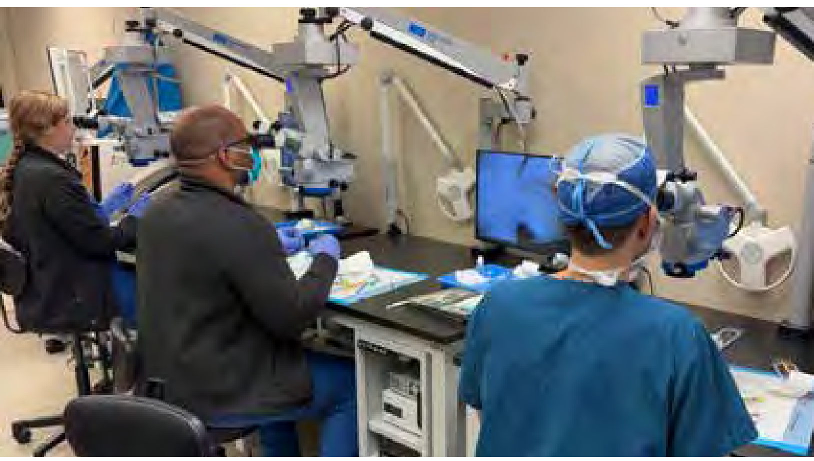
More than 100 vision science researchers attended the George Kambara, MD Vision Science Symposium at the Health Sciences Learning Center on the UW–Madison campus.

2024 **SEPTEMBER**

Department faculty, learners, staff, family, and friends gathered at Schuster's Farm in Deerfield, WI for "Fall on the Farm," an afternoon of fun with a corn maze, wagon rides, farm animals, food, and more.

2024 **OCTOBER**

Faculty and staff participate in the annual Right to Sight Free Eye Clinic at the UW Health University Station Clinic in Madison, WI.



2025 **JANUARY**

Ophthalmology residents participate in the annual Global Fieldwork Simulation Wet Lab, which prepares them for a global rotation at Dr. Shroff's Charity Eye Hospital in Delhi, India.

2025 **FEBRUARY**

Ophthalmology residents and fellows are honored for their dedication and hard work during "Thank a Resident and Fellow Day."

2025 **MAY**

Colleagues present at the Association for Research in Vision and Ophthalmology (ARVO) annual meeting in Salt Lake City, UT. ARVO is the largest eye and vision research organization in the world.

2025 **JUNE**

Ophthalmology residents and fellows are honored at a graduation celebration at the Memorial Union, on the UW–Madison campus.

COMPASSIONATE CARE

7,982

Surgeries performed

#1

Hospital in Wisconsin

135,875

Patient visits at all clinic sites

UW Eye Surgeons Help

PATIENT WITH RARE DISEASE FIGHT FOR HER SIGHT

Dani Hansen has repeated the same phrase over and over, thousands of times, in her head: "I want to be like a sunflower so that even on my darkest days I will stand tall and find the light."

Over six years and nearly a dozen eye surgeries, the mantra has kept her going. She never gave up hope of seeing her children. Her eye surgeons at UW Health fought in partnership with her to achieve that quest.

In late December 2018, Dani came home from work with what seemed like a common cold. A couple of hours later, her fever spiked, and blisters started forming on her skin. Over the next few hours, her condition worsened, and her fiancé rushed her to the hospital. She was transferred to Madison's University Hospital, where she was eventually diagnosed with Steven Johnson Syndrome (SJS), a rare, debilitating, and potentially life-threatening disorder of the skin and mucous membranes. While the exact cause of Dani's case isn't known, SJS is typically the result of an adverse reaction to a medication.

The effects were devastating. Dani was placed in critical condition, with extreme burns all over her body. She was given a 25% chance of survival. "I was in the burn unit for 44 days, including Christmas and my birthday," Dani recalls. "I was intubated for 15 days. I lost 75% of my skin, along with all my hair and fingernails."

In addition to severe blistering and burning, Dani also experienced swelling in her mouth, throat, and face, as well as extensive scarring on her eyelids and corneas.

> *"It wasn't just doing the basic medical care that they do every day. It was being there to comfort me - and not giving up on me or giving up hope. They helped me keep on fighting."*

Dani's mother, Bev Stagman, is a registered nurse with three decades of experience in the operating room, specializing in trauma surgeries. "My training gave me the strength to do what I needed to do to help Danielle," she said. "I immediately realized how severe her condition was, even as a person who had never seen or heard of SJS before."

When Dani finally returned home in February 2019, hidden behind dark sunglasses, she was highly sensitive to light, and nearly blind in her left eye.

Her first course of action was to visit an eye care provider in her hometown of La Crosse, Wis. The plan was to improve Dani's vision by fitting her right eye for a scleral lens -a custom-fit, large, rigid contact lens. But the scarring in and around her eye made that impossible. Her doctor recommended Dani undergo plastic surgery to fix the scarring on her eyelid. With a bit of research and the recommendation of a friend and fellow SJS survivor, Dani contacted Cat Burkat, MD, an oculoplastic surgeon at UW Health in Madison, Wis. for help.

In August 2019, Dani underwent the first of what would be a series of surgeries to cover the scarring and repair her eyelid so the lens would be more comfortable.

Dani's wedding, October 2021

Through early 2020, Dani continued to work with her local eye care provider. But, despite all they had done, they were unable to get the lens to fit well. Her doctor recommended she receive a stem cell transplant to heal the fragile cornea.

Extensive research led Dani that spring to Sarah Nehls, MD, a cornea specialist at UW Health in Madison. "Dr. Nehls had experience in treating ocular damage from SJS," Dani said. "And I immediately liked her. I knew she was the right fit for me, and we were able to work together to set up a treatment plan."

"Dani had multiple amniotic membrane transplants while hospitalized in the burn ward at University Hospital," said Dr. Nehls. "Due to the severity of the Stevens Johnson Syndrome, the placental grafts helped but were not able to prevent ocular surface scar tissue from forming. Dani persevered through the life and vision threatening condition with her family at her side, also supported by the nurses, burn doctors and ophthalmology team that were working to support her care. She maintained a strong outlook and upon discharge from the hospital, started down the path of work to restore vision."

But soon enough, the trouble started.

“I got a bacterial infection in my right eye,” Dani explained. “The cornea perforated, and I needed emergency surgery. Dr. Nehls was able to get the eye stable temporarily, but there were a lot of ups and downs along the way. We decided, then, to switch our treatment to focus on my left eye.”

In March 2021, Dr. Nehls performed a stem cell transplant on Dani’s left eye, utilizing tissue donated by Dani’s sister to patch the damaged cornea.

“It was an incredible gift from Dani’s sister, Amanda, to provide the living stem cells from one of her eyes to help her sister see,” said Dr. Nehls. “Through blood tests Amanda was found to have the closest DNA tissue match to Dani, although other family members were willing and ready to donate.”

Once her eye was healed from the surgery, Dani saw Amy Walker, OD, an optometrist at UW Health, to have that left eye fitted with a scleral lens.

Her vision improved - for a time. But, as she took one step forward, she took another backwards. Dani developed a cataract in her left eye. By the time she got married in October 2021, she was – again - blind.

One month later, Dani had the cataract removed, and things were on a good path. Her vision was clear. She returned to work in 2022 and even celebrated the birth of her first child, Clay, later that year.

But things changed – again - when Dani became pregnant with her second child, Aubrie, in 2023. “My pregnancy was hard on the stem cell transplant,” Dani said. “And my body ended up rejecting it. Eventually, the cornea in my left eye perforated.”

The next months were a continuous cycle of perforations and repairs. Despite everything, Dani’s vision worsened, and by the time Aubrie was born in February 2024, Dani was once again blind.

Dr. Nehls and the team at UW Health refused to give up. After extensive research, they uncovered a revolutionary procedure that was being conducted successfully in Europe. In May 2024, Dr. Nehls performed a second stem cell transplant on Dani’s left eye, this time with cells from the inside of Dani’s own cheek.

“The mucosal tissue harvested from Dani’s mouth, two months after Aubrie was born, was transplanted to her left eye,” explained Dr. Nehls. “It was a team approach by me and Dr. Burkat. We were hopeful this would bandage the surface of Dani’s left eye so she could then have a corneal transplant to restore her vision. Dani knew it would take several months before a transplant could be attempted and was patient with the healing process while caring for her newborn daughter.”

Over the next few months, the surgery held, and Dani’s eye continued to improve. By September 2024, Dr. Nehls was able to do a cornea transplant utilizing a prosthetic cornea.

“We assembled a team for Dani’s recent surgery to provide the best possible result,” Dr. Nehls said. “Dani’s eye needed a complex three-surgeon procedure to successfully transplant a new prosthetic cornea, called a keratoprosthesis, to allow for restoration of her vision.” In addition to Dr. Nehls, that surgical team included glaucoma specialist Yao Liu, MD and retina specialist Amol Kulkarni, MD.

The results have been life changing.

“My vision is the clearest it’s ever been,” Dani said. “I never got to see my daughter until this cornea transplant. I knew her but didn’t truly know her. It was incredible. I got to experience having a new baby all over again.”

“It’s been a journey for my son too,” Dani continued. “He’s so used to me not being able to see. He grew up helping me find things on the floor and helping me put on my shoes. Now that I can see, it’s all about ‘can you see me mommy?’ Now I can. I had told Sarah that was what I wanted. I didn’t need to drive again or anything else. I just wanted to see my children and play with them. And I got that.”

Dani, baby Clay, and Dr. Nehls, 2022

“Being a mom, I am so grateful to the UW surgeons for what they have done to help Dani see so she can be the mom she wants to be,” added Bev. “I appreciate that they understand the importance of seeing your children. They are more like family and friends than just doctors. I can’t thank them enough. They gave me my daughter back.”

Dani credits her surgical team at UW Health for refusing to let her give up, no matter how difficult things became. “Thank you isn’t enough for everything they’ve done for me,” she said. “It wasn’t just doing the basic medical care that they do every day. It was being there to comfort me - and not giving up on me or giving up hope. They helped me keep on fighting.”

WENDI DWYER: *From Vision Loss to Advocacy Leader*

Wendi Dwyer has proven time and time again that her resolve is bigger than any challenge in front of her. So, when she started losing her eyesight, she vowed to find a way to keep doing the things she loved – and in the process became an inspiration to others.

"My life's goal is to remove the stigma of blindness," Wendi said. "I want to help remove those barriers from society so that blind and visually impaired individuals can live their best lives. I realized that my having this experience could improve the experience for others if I were open and truthful about what I needed and did not pretend I wasn't struggling. I was determined to make the best of a tough situation."

It all began about 15 years ago when Wendi first noticed that she wasn't recognizing faces.

Wendi and her seeing eye dog Lily

"I would look for things with my feet instead of my hands," Wendi explained, "because I knew wasn't going to find anything with my eyes. When my brother asked me why I was doing that, I realized it wasn't normal."

At a friend's suggestion, Wendi, who was living in Chicago, IL at the time, went to an ophthalmologist. A series of tests confirmed that she had Retinitis Pigmentosa (RP), a rare eye disease that causes gradual vision loss. The condition changes how the retina – the light-sensitive layer of tissue at the back of the eye – responds to light. Vision loss occurs as the light-sensing cells gradually die off. RP is a genetic condition, meaning it can be passed down in families.

The diagnosis came as a shock.

"My vision had changed so gradually that I didn't realize I was visually impaired," Wendi recalled. "I thought it would be a matter of getting different glasses and stronger sunglasses. I had no idea I was going blind."

"Naturally, it was stressful," Wendi continued. "It was hard to fathom losing my sight and not being able to do certain things, like drive a car ever again. I wondered how I would travel while blind, or cook, or host parties. How would I keep names straight when I couldn't see faces?"

Wendi wasn't new to embracing a challenge. In fact, she's spent a lifetime working for various philanthropic organizations. In 2011, she founded Literacy at the Well, a nonprofit organization that provides reading instruction to South Sudanese women at the wells where they gather to retrieve safe water for their families. Later, Wendi would lead fundraising efforts for PBS Wisconsin, Leader Dogs for the Blind, and Foundation Fighting Blindness.

> *"Going blind is not an easy experience, but it shouldn't rob anyone of the richness of their life"*

If she tapped into the same inner strength she used for others, she knew she could persevere.

"I decided to live in the reality of the experience and not pretend it wasn't happening," Wendi said. "I realized the best thing I could do was focus on gaining skills that would enable me to do the things I loved. If I did that, I'd have the skills I needed to be successful in all areas of my life. If I really want to do something, I'm going to figure out how to do it."

Although she could no longer drive, Wendi biked everywhere. Once that was no longer safe for her, she got used to walking and using public transportation. Then, when the time came in 2017, she learned to use a sight cane. And today she has a guide dog. These are things, according to Wendi, that only a small percentage of legally blind people actually use.

"There is a stigma attached to being blind," Wendi said. "And using a cane or sight dog is scary for many people because it 'outs them.' But no one should be embarrassed to be blind. It's a natural experience. And no one should make it harder by judging us. Until this is changed, too many will be isolated instead of independent."

When Wendi moved to Madison, WI in January 2019, she came under the care of Kimberly Stepien, MD, a medical retina specialist and inherited retinal disease expert with UW Health and professor of ophthalmology with the

Wendi and her seeing eye dog Lily

University of Wisconsin Department of Ophthalmology and Visual Sciences. Dr. Stepien, along with her pediatric counterpart, Melanie Schmitt, MD, direct the Inherited Retinal Disease (IRD) Clinics at the University of Wisconsin–Madison, the only one of its kind in the state. Dr. Stepien was able to help Wendi confirm the underlying genetic cause of her retinitis pigmentosa.

The IRD clinics are a patient-focused clinic specifically dedicated to bringing inclusive expert care to individuals with IRDs that can result in early onset vision loss or blindness. Together Dr. Stepien, director of the adult IRD clinic and co-vice chair of clinical affairs, and Dr. Melanie Schmitt, director of the pediatric IRD clinic, have taken their patients' care experiences to the next level by building a focused, yet nimble team of subspecialists, genetic counselors, study coordinators, photographers, technicians, social workers and schedulers who work together to provide patients like Wendi with highly-individualized care for their IRDs.

"Losing vision due to an IRD has a great impact on the lives of the patient and their families as we have heard from Wendi, and we aim to give them the best care, knowledge and support they need," said Dr. Stepien. "Our department is also leading the research in the field of IRDs. We are a site for several clinical trials to both understand and treat IRDs, and our scientists within our department are working towards treatments such as gene therapies and stem cell therapies that we hope one day will prevent or even reverse vision loss."

Wendi's passion and insights as an advocate for those with vision loss were immediately recognized, and, a few months later, she was asked to advise the department's Patient-Centered Care Committee (PCC). The PCC's is charged to optimize patient care through improving services in areas such as low vision, mental health, transportation, health insurance, education, and advocacy.

Wendi agreed to help but initially was frustrated by what she described as a general lack of understanding of what it was like to be visually impaired as a patient.

"Going blind is a very stressful experience for a person," Wendi said. "You're not in the doctor's office to get good news. It's important that everyone understands that and doesn't inadvertently put more barriers in the way."

Wendi decided the best way to help was to write down everything that could make her experience better. The result was a list of more than two dozen items that included everything from improving lighting and increasing seating in the waiting rooms to training the front desk staff to use guiding language to direct patients to elevators and waiting rooms.

It didn't take long before Wendi's frustration transformed into appreciation as she witnessed UW Health make a series of positive changes based on her feedback. "They took me seriously, and I feel heard," Wendi said.

Perhaps the biggest improvement, according to Wendi, was the addition of a social worker to UW Health's Vision Rehabilitation Services. Under the leadership of Sanbrita Mondal, OD, Vision Rehabilitation Services provides patients with services in low vision optometry, occupational therapy, and social work – all in a coordinated setting.

"It's very important to be aware of an individual's mental health needs when they are losing their sight," Wendi said, "and having a social worker on staff helps immensely. People often think they don't need a social worker, but they do. Social workers have access to information and resources that others may not have. I recommend they utilize those services and not be afraid to ask for help."

Wendi is no longer a member of the PCC, but she hasn't stopped being an advocate. She is currently creating a social group for individuals with inherited retinal diseases. Her goal is to help individuals with IRDs find allies in their experience - and to encourage them to get out and live their lives by attending film screenings, bowling outings, and other social activities.

"Going blind is not an easy experience, but it shouldn't rob anyone of the richness of their life," Wendi said. "You can still live a full life if you learn how to do things in a different way. Take care of yourself, reduce stress, and foster peace wherever you can. It's all doable, and I am grateful for the care I receive at the University of Wisconsin IRD Clinic."

BRINGING LIFE INTO FOCUS: *Vision Rehabilitation Helps Patients Thrive*

Imagine navigating your daily routine – cooking breakfast, reading a favorite book, or crossing a busy street – through a foggy lens. For millions of Americans living with low vision, this is a reality.

Low vision is a significant loss of sight that can't be fully corrected with glasses, contact lenses, or surgery. And for those affected, even the simplest tasks can feel overwhelming and isolating.

But it doesn't have to be that way. Just ask Tim Hopping. At 75, the Wisconsin resident has lived with glaucoma for over 20 years. Though blind in one eye, he managed well – until surgery on his remaining eye left him with blurred vision and new challenges.

"I stopped driving. I had to relearn how to do things safely," Tim said. That's when Tim's local ophthalmologist referred him to UW Health's Vision Rehabilitation Services in Madison, WI – a program helping patients regain independence through personalized instruction using practical tools.

Led by Sanbrita Mondal, OD, the team includes occupational therapist Shelby Beckman, who began working with Tim in early 2025.

UW Health Occupational Therapist Shelby Beckman demonstrates safe cutting techniques

"Shelby has done so much for me," Tim said. "She is a book of knowledge. There are so many resources out there that can help people with vision loss live well. And the more I learn, the better I do."

"Vision is our most used sense, so any degree of vision loss can impact nearly every meaningful daily activity – reading, cooking, driving, socializing," Beckman explains. "Low vision occupational therapy provides patient-centered care that treats the whole person in the context of their vision loss, which differs for everyone."

Beckman works closely with patients to help them achieve their personal goals –whether that's learning to use low vision aids, adopting adaptive changes to daily routines, or developing new strategies to remain independent. Therapy sessions are tailored to each person's unique needs and may include training on how to compensate for reduced visual fields, depth perception, or contrast sensitivity, as examples.

"In occupational therapy, patients learn adaptive skills, how to use low vision tools, and compensatory strategies to maximize their proficiency and satisfaction with once routine activities in ways that they may not have thought of before their vision decline. I really enjoy problem solving with patients to find solutions for their meaningful leisure tasks, such as building model trains, crocheting, and reading to their children and grandchildren."

The clinic features a fully equipped rehabilitation room, complete with a kitchenette, driver's assessment station, and video magnifiers – providing a hands-on environment for patients to practice and grow. Every session is designed to help individuals build confidence and maintain control over their daily lives.

"The best part of my job," Beckman said, "is seeing how my patients light up when they learn about tools and strategies that empower them to continue doing the activities and hobbies they love."

In a few short months, Tim has already explored new ways to enjoy reading, discovered helpful apps for his phone and computer, and learned safe kitchen skills. But he's not stopping there.

"I used to downhill ski," Tim said, "And Shelby is helping me find a way to get back to it. I will have to adapt, but change is good. Just because I can't do things the same way doesn't mean I can't do them at all."

YOUR SUPPORT

IS CHANGING LIVES

INNOVATIVE AT-HOME TESTING

May Offer New Option for Patients Managing Age-Related Macular Degeneration

When Paulette Quick was diagnosed with age-related macular degeneration (AMD), it came as a complete shock. As a former CPR instructor and amateur radio operator, she hadn't noticed any symptoms. It was only after a routine eye exam that her local doctor referred her to a specialist at UW Health in Madison, WI for further diagnosis.

"I didn't suspect a thing," recalled Paulette. "I wasn't noticing anything at the time. But I wasn't realizing that my right eye was compensating for my left."

Under the care of UW Health retina specialist Barbara Blodi, MD, Paulette was diagnosed with neovascular age-related macular degeneration, or nAMD.

AMD is the leading cause of vision loss for older adults. Neovascular AMD is a specific type of AMD, known as 'wet' AMD that affects central vision. It occurs when abnormal blood vessels grow in the back of the eye. These blood vessels leak, causing fluid to build up and damage the macula, the central part of the eye, responsible for sharp, central vision.

The most common treatment for wet AMD is an injection of a medicine called anti-VEGF into the eye.

"These medicines help stop bleeding and leaking of fluid from abnormal blood vessels in the back of the eye," explained Dr. Blodi. "The injections may improve vision or slow down vision loss. The duration of each anti-VEGF injection is typically 1 – 3 months, so most people need to get multiple injections for many years."
Doctors typically use a 'treat and extend' method to determine how often injections are needed. Patients like Paulette often need to visit the doctor every four weeks for a check-up. During these visits, an ophthalmologist uses Optical Coherence Tomography (OCT) to take pictures of the back of the eye. If fluid is detected, an injection is given.

Researchers in the Department of Ophthalmology and Visual Sciences' Clinical Eye Research Unit (CERU), are part of a large, multi-center clinical trial aimed at testing the efficacy of a new in-home testing method, aimed at providing better – and easier – treatment for patients like Paulette.

"The main objective of this study is to determine if the use of an at-home OCT-guided treatment results in better visual acuity outcomes and/or fewer injections over a two-year period, compared to the standard 'treat and extend' dosing method," said Kathleen Schildroth, MD, the study's principal investigator. "Patients use an at-home OCT machine, similar to what is used in the doctor's office, to scan their eyes. The images are reviewed, and, if fluid is detected, the patient is scheduled for an office visit."

The study is funded in part by the National Eye Institute (NEI), with additional support from the Roche Group and Notal Vision.

Dr. Blodi, referred Paulette to the trial in November 2024.

"I knew immediately I wanted to be part of the trial," Paulette said. "I have a lot of curiosity, and I like to be part of something new. Also, I knew that whatever information would be gathered could help other people."

CERU Medical Director Dr. Mihai Mititelu examines Paulette's eyes

Paulette in clinic with CERU Manager Angie Adler

The Home OCT device is approved by the Food and Drug Administration for imaging at home between regularly scheduled office visits but is not designed to replace regularly scheduled office visits, explained Kris Dietzman, study coordinator.

> *I feel happy knowing that I'm going to be able to continue my normal activities because of the great care I am receiving."*

The daily scans of Paulette's retina are sent to Notal Vision, the device company, where they are evaluated using special artificial intelligence-based software.

"If fluid is detected, the system sends an alert to Dr. Blodi, who then reviews the scans online and decides if Paulette needs to come to the clinic," Dietzman said. "If the answer is yes, Paulette is scheduled for an in-office visit within seven days."

Paulette has found the at-home device easy to use. But even more importantly, it provides her with a sense of comfort.

"It's working very well. I do the scan on the home OCT machine early in the morning, and it's very fast – about a minute," she said. "I like knowing that if fluid shows up in my macula, I will be taken care of right away."

Based on her daily in-home scans, Paulette has been receiving injections approximately every six weeks.

"I notice that when I'm getting close to the six-week mark between injections, I start having trouble reading," she said. "The injections have improved my condition. I am seeing better in my left eye than before I started getting injections. As of now, my macular degeneration isn't holding me back, and I feel happy knowing that I'm going to be able to continue my normal activities because of the great care I am receiving."

ORTHOPTISTS PROVIDE HOPE

and Clarity in Eye Care

If you seek medical care for double vision, you might find yourself consulting an orthoptist. These professionals play a crucial yet often unrecognized role in providing specialized eye care.

"The average person has no idea what an orthoptist does," said Kali Rikkers, a certified orthoptist at UW Health in Madison, WI. "In the world of eye care, we are unique. We aren't doctors, but we see patients, diagnose them, and make recommendations for appropriate care and treatment. We always do this in collaboration with the ophthalmologists on staff. It's a very rewarding profession."

Orthoptists are healthcare professionals in ophthalmology who specialize in diagnosing and treating double vision, eye misalignment, and other visual disturbances. They offer non-surgical treatments like eye patches and special prism lenses. While they primarily work in pediatric ophthalmology and adult strabismus service, orthoptists see patients from all sub-specialties.

Dr. Rikkers with a patient, 2025

As Rikkers notes, it is a highly specialized and in-demand career. According to the American Association of Certified Orthoptists, there are fewer than 400 certified orthoptists in the entire country, with five currently employed at UW Health.

The shortage of qualified orthoptists prompted the University of Wisconsin Department of Ophthalmology to develop the UW Orthoptist Training Program in 1977. This program continues to offer two years of intensive instruction and clinical experience, after which learners can take national written and oral certification exams. At this time, the program admits only one learner per two-year training cycle.

"Because we only accept one student at a time, that individual receives a lot of attention," said Rikkers, who serves as the Orthoptist Program director. "Our faculty are committed to seeing our students succeed."

Teaching is conducted by Rikkers and other department orthoptists and faculty. As an academic institution, the University of Wisconsin also offers trainees the opportunity to learn from ophthalmology residents and clinical fellows.

"The academic environment is highly beneficial to our learners," Rikkers said. "Everyone is in full teaching mode. Our students are able to observe some really interesting cases and a wide variety of disorders and diseases." On average, a student in the UW Orthoptist Training Program will evaluate more than 1,500 patients and observe and discuss countless others.

Rikkers, who was drawn to the profession because of her interest in working with children, says that orthoptists have a specialized skill set that enables them to conduct exams and gather information from pre-verbal and non-verbal patients.

"Parents are often amazed at what we can do with their child," Rikkers said. "They often come to us with the expectation that nothing is going to work. But we have a special set of skills that we utilize every day, and we're really good at it."

Leslie France, who became a certified orthoptist in 1975 and began working at UW Health in 1982, now focuses on patient education and triage, serving as a liaison between the patient and the physician.

"Being the parent of a child experiencing double vision is stressful," France said. "That is why the orthoptists in our program learn not only important technical skills but also specific skills to help parents through an emotional time."

"

This is a career filled with joy and positivity"

"Our adult patients frequently express gratitude to us for doing such a thorough job," Rikkers said. "We can explain to them what's happening and find a solution to make their life better. Often, it's a simple thing, like a prism, that makes such a positive impact."

"Busy doctors only have so much time to spend with each patient," France said. "But we can take the time to explain everything thoroughly. You can see the lightbulb go on. Parents who were going to cancel an appointment for their infant or young child now understand the hope we can provide. You can feel them relaxing as we spend time helping them navigate their fears."

"This is a career filled with joy and positivity," Rikkers said.

Dr. Rikkers with a patient, 2025

EYE CARE LOCATIONS BEING RENOVATED

Two busy UW Health Eye Care locations in Madison, WI are getting important renovations this year. Facilities at 1 South Park Street and East Terrace Drive are expected to be completed in 2026.

"These renovations are the culmination of months of hard work by a very dedicated team at UW Health and the University of Wisconsin Department of Ophthalmology and Visual Sciences," said Department Chair Terri Young, MD, MS.

"We designed these two state-of-the-art facilities to meet the needs of both patients and medical staff. The end result will be enhanced functionality, improved patient experiences, and operational efficiency for faculty and staff."

1 SOUTH PARK

Early construction, April 2025

The 13,000-plus square-foot upgrade of the fourth floor will feature six 'pods,' each equipped with four exam rooms (24 rooms total), new testing and imaging rooms, and a team meeting area. In addition, the new space will host a laser room, two procedure rooms, and an optical shop.

Renovations are expected to be completed in early 2026.

The UW Health Clinical Operations team tours the site, April 2025

Artist rendering of remodeled entrance to 1 South Park

EAST TERRACE

This 6,500-square-foot upgrade will include 10 new exam rooms, two of which will be for pediatric ophthalmology. In addition, there will be a new procedure room, four new imaging/testing rooms, a laser room, a larger optical shop, and an expanded waiting area and scheduling space. Completion is anticipated in summer 2026.

“We designed these two state-of-the-art facilities to meet the needs of both patients and medical staff.”

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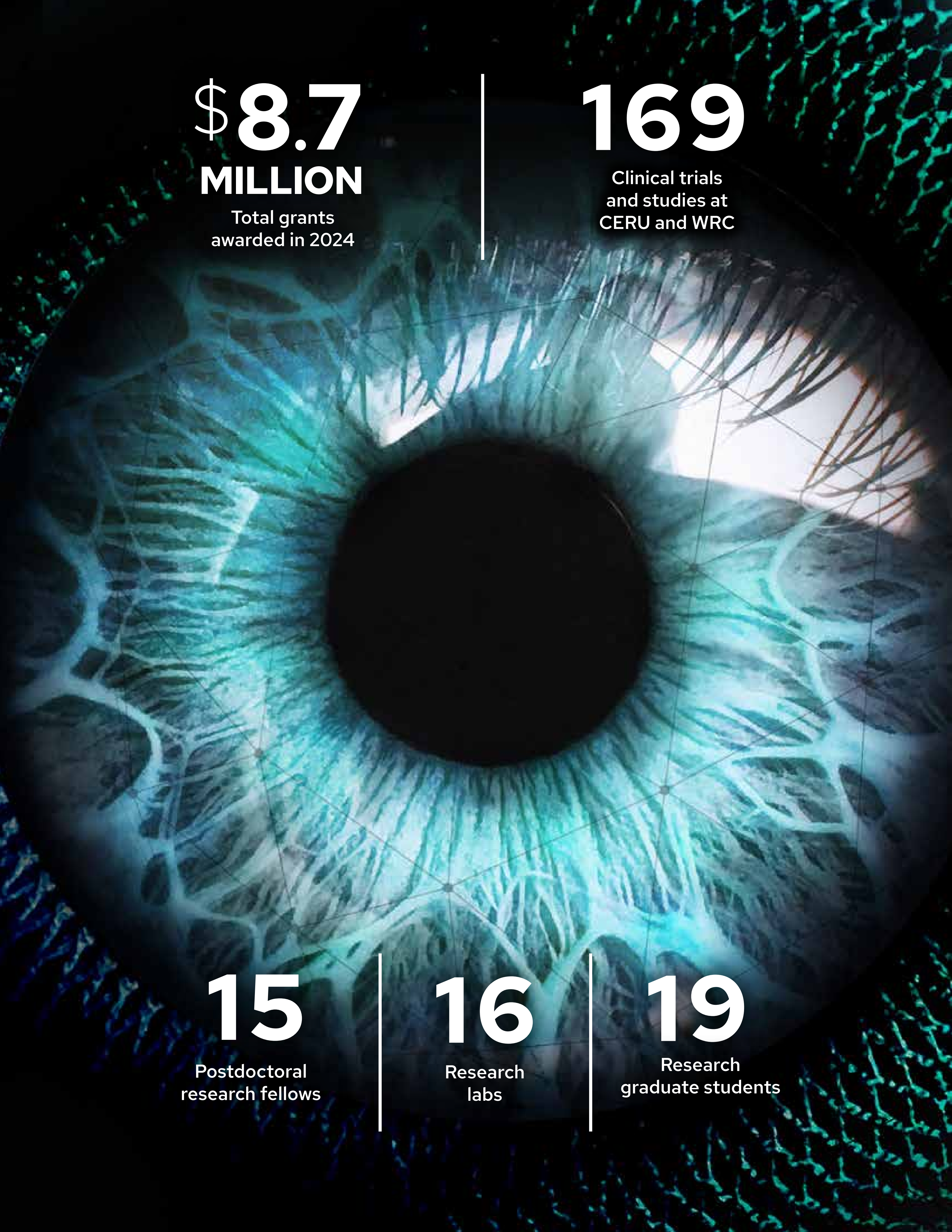


$8.7 MILLION

Total grants awarded in 2024

169

Clinical trials and studies at CERU and WRC

15

Postdoctoral research fellows

16

Research labs

19

Research graduate students

GROUNDBREAKING RESEARCH

University of Wisconsin Vision Scientists Participate in Groundbreaking Efforts to

DEVELOP TREATMENT TO CURE BLINDNESS

Two vision researchers at the University of Wisconsin-Madison are involved in groundbreaking research aimed at curing blindness through human eye transplantation. To date, there has never been a successful whole human eye transplant for the restoration of vision. However, research teams across the country, including at the University of Wisconsin–Madison, are hopeful these efforts will pave the way for this procedure.

In December 2024, the Advanced Research Projects Agency for Health (ARPA-H), an agency within the U.S. Department of Health and Human Services, announced $125 million in funding from its Transplantation of Human Eye Allografts program. UW researchers are part of two teams that received those contracts.

The two UW researchers involved in the cross-institutional work are David Gamm, MD, PhD and Robert Nickells, PhD. Dr. Gamm is part of the national team led by researchers at the University of Colorado Anschutz Medical Campus that will focus on developing novel stem cell, gene therapy, and bioelectronic technologies to promote nerve regeneration, and also on refining surgical methods. Dr. Nickells is a member of the team from Stanford University. Their focus is on developing new strategies to promote survival and regeneration of cells of the transplanted eye, donor eye procurement, and performing transplant surgeries.

“I am honored to be part of this ground-breaking new effort aimed at finding a cure for blindness”

THE CHALLENGE:

Transplants are not new in the field of ophthalmology. Over 70,000 people in the United States donate their eyes after death each year. However, only parts of the eye, most commonly the cornea at the front of the eye, are used for transplantation. This means that the millions of people blinded by conditions affecting their retina and optic nerve have no options for improvement.

This new initiative aims to address this issue by transplanting the whole donor eye and reconnecting the nerves, muscles, and blood vessels, including the optic nerve, which connects the eye to the brain. If successful, the program will generate new treatments for many leading causes of total blindness in the United States, for which there are currently no cures.

This groundbreaking project aims to achieve the goal of a successful whole eye transplant within six years.

Dr. David Gamm in his lab

THE GAMM LAB:

Dr. Gamm and his team of researchers at UW–Madison will explore how to use stem cells to repair and reconnect the optic nerve so the donor eye can communicate with the recipient's brain and enable vision.

Dr. Gamm, a professor a professor of Ophthalmology and Visual Sciences in the School of Medicine and Public Health and director of the McPherson Eye Research Institute, has been involved in this type of stem cell research for nearly two decades.

His lab has already successfully developed methods to grow authentic retinal cells and tissues from pluripotent stem cells, a powerful type of stem cell that can be used to create any type of cell or tissue in the body.

"To date my lab has primarily been focused on creating 'spare parts' of the outer retina – namely photoreceptors and retinal pigment epithelium cells. What is different about this project is the focus on the optic nerve, which is comprised of the axons of retinal ganglion cells.

Dr. Robert Nickells in his office

We are trying to create a neuronal connector, consisting of pluripotent stem cell-derived neurons, that can hopefully act as a coupler, to allow communication between the donor eye optic nerve and visual centers of the brain."

"What we are striving for is a huge undertaking," Dr. Gamm added. "But, by leveraging the combined expertise of our partners, we expect to make important advances over the next six years."

THE NICKELLS LAB:

Dr. Robert Nickells, also a professor of Ophthalmology and Visual Sciences in the School of Medicine and Public Health, has been studying whole eye transplantation for more than a decade. His team is developing a cold storage solution that keeps the donor eye healthy between recovery and transplantation. They are specifically focused on maintaining the viability of the donor eye and ensuring the health of the retina, the light-sensitive layer at the back of the eye that sends signals to the brain.

"Our goal is to develop a method of preserving donor retinal tissue for up to 24 hours," Dr. Nickells said. "Over the last several decades, we've been studying the biology of what goes on in retinal cells once they become damaged in the hopes of developing treatments to slow down or block this process. When it came to coming up with a cold storage solution, our first thought was to start with what is normally used in the transplant industry for other organs."

Surprisingly, the team discovered that UW cold storage solution, developed right here at the University of Wisconsin in the 1970s, was that industry standard. "While UW solution did fairly well at preserving retinas in our initial studies, we reasoned that we could improve its efficacy by modifying it with supplements that specifically

"After testing each supplement individually, the research team came up with a combination that seems to perfectly preserve isolated eyes after prolonged periods in cold storage."

targeted the biochemical pathways that would normally be activated in retinal cells once the donor eye was procured," explains Dr. Nickells.

After testing each supplement individually, the research team came up with a combination that seems to perfectly preserve isolated eyes after prolonged periods in cold storage.

The next step, thanks to the new ARPA-H grant funding, is to examine what happens to the eye, and specifically the highly sensitive retina, once it comes out of cold storage and is warmed up.

"We have some early indications that retinal cells start to regain their function after warming, which is good," Dr. Nickells continued. "But we also have some indications that the warming process induces a stress response, which may hamper long term survival of the retina after transplantation. Future work may include the addition of further supplements to suppress this stress response."

"I am honored to be part of this groundbreaking new effort aimed at finding a cure for blindness," Dr. Nickells added. "The next few years are going to be an exciting time for the field of ophthalmology."

TAKING STEPS TO RESTORE VISION:

Launching a Stem Cell Clinical Trial for Retinitis Pigmentosa

Stem cell-derived photoreceptor replacement therapy has been a goal David Gamm, MD, PhD for a decade and a half, beginning with the development of a process to create human photoreceptor cells (cones and rods) from induced pluripotent stem cells (iPSCs). iPSCs are stem cells that can be reprogrammed from adult skin or blood cells to a stem-cell-like state, allowing them to differentiate into various cell types, including photoreceptors.

In September 2024, the Food and Drug Administration approved a plan to begin the first-ever human trials using iPSC-derived photoreceptors for individuals with advanced forms of inherited retinal disease (IRD). Dr. Gamm, a professor in the Department of Ophthalmology and Visual Sciences and director of the McPherson Eye Research Institute, is joining other vision researchers from the University of Wisconsin–Madison in this groundbreaking trial.

BlueRock Therapeutics LP, a wholly owned subsidiary of Bayer, Inc., is managing the trial and has licensed the cell therapy (termed OpCT-001) from Opsis Therapeutics and FUJIFILM Cellular Dynamics, which supported the research, development, and manufacturing of OpCT-001.

The trial will evaluate the safety, tolerability, and the effectiveness of stem cell therapy in treating IRDs, including retinitis pigmentosa and cone-rod dystrophy. Inherited retinal diseases are a group of rare diseases that can cause severe vision loss and blindness. Each IRD is caused by at least one gene that is not working as it should. In the case of retinitis pigmentosa, the condition changes how the retina – the light-sensitive layer of tissue at the back of the eye – responds to light. Vision loss occurs as the light-sensing cells gradually die off.

The trial aims to assess OpCT-001's safety and efficacy in restoring vision for patients with certain IRDs by replacing degenerated photoreceptor cells in the retina.

"Being able to develop new stem cell technologies in my lab at UW-Madison that could ultimately help people with primary photoreceptor diseases like retinitis pigmentosa, and then advance them to a clinical trial, is something that is quite rare during the career of a physician-scientist like myself," said Dr. Gamm. "I am very grateful to have this opportunity, which would not have happened without the strong collaborations we have at UW-Madison with local and global stem cell industry leaders. I know first-hand from my clinical practice the need for safe and effective treatments for these conditions, but we need to be sure that we are doing the best thing for our patients. That is why it is so important – for patients and practitioners alike – to conduct these 'first-in-human' trials with the utmost integrity and a commitment to protection of the subject participants, both of which we are fully respected here at UW-Madison."

The trial involves two phases. The first focuses on the safety of various doses of OpCT-001 in humans. Phase 2 will test doses in a broader patient population of legally blind and vision impaired individuals. Ultimately, participants will be enrolled in multiple locations across the country.

> *"This trial gives hope to so many individuals who have lost vision prematurely."*

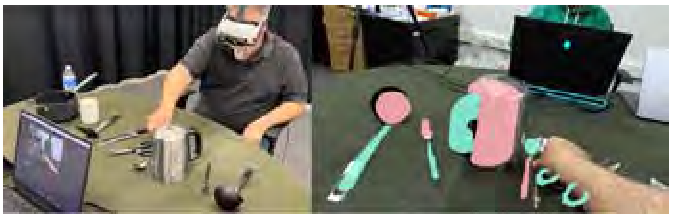
Kimberly Stepien, MD, and Michael Altaweel, MD both professors in the Department of Ophthalmology and Visual Sciences, are serving as co-principal investigators for the clinical trial locally.

"It is very exciting to be part of this clinical trial involving stem cells to treat retinal degenerations such as retinitis pigmentosa," said Dr. Stepien. "This is the culmination of many years of work by Dr. Gamm and his team at the University of Wisconsin. As an Inherited retinal disease doctor, I have many patients that lose vision to the level of legal blindness at a young age. This trial represents the first steps in understanding if we can replace retinal tissue and restore vision. This trial gives hope to so many individuals who have lost vision prematurely."

UW-Madison Vision Researchers

EXPLORE AI TECHNOLOGY *to Assist Individuals with Low Vision*

A recent R01 award from the National Eye Institute and National Institutes of Health is enabling a collaborative team of vision researchers from the University of Wisconsin–Madison to develop artificial-intelligence assisted software that will help visually impaired people in their day-to-day activities.



AI Assisted Vision Mini Workshop, 2024

The project entitled "AI-Assisted Vision: Scene-Aware Augmented Reality Systems to Support Low Vision People in Activities of Daily Living" is a huge step toward understanding the challenges and needs of people with diverse visual abilities and designing and building intelligent interactive systems to assist them.

"We plan to involve low vision professionals as well as patients in developing such technologies to ensure it is practical and useful," explained Sanbrita Mondal, OD, Chief of Vision Rehabilitation Services in the Department of Ophthalmology and Visual Sciences. "In the past, most low vision aids have been developed by sighted researchers. We want to ensure we are developing software with the input of low vision users to increase technology usability and acceptance."

Dr. Mondal is playing a key role in the grant by helping develop workshops, providing input to technology development, recruiting stakeholders and community participants. Yuhang Zhao, PhD, an Assistant Professor in the Department of Computer Sciences, is serving as principal investigator on the project.

"Low vision is a complex and pervasive condition that affects millions of people in the world," said Dr. Zhao. "However, it receives little attention in the technology literature. It is important for us to deeply understand the unique experiences and needs of low vision people and create intelligent assistive technologies that are adaptive to their contexts and preferences."

Researchers will tackle the challenges faced by people with low vision in complex activities of daily living, such as cooking and safely navigating a crowded street.

"All of these activities involve constant motion and object interactions, and current low vision aids like magnification, which distort users' natural vision or diminish important details for these activities, can't effectively support them," said Dr. Zhao.

A portion of the $1.2 million grant will support an annual workshop that brings together low vision rehabilitation professionals and patients. The inaugural AI-Assisted Vision Mini-Workshop: Opportunities and Challenges of Intelligent Assistive Technologies for Blind and Low Vision Individuals event was held in December 2024.

"It was a great day of learning about the technology research going on at the University of Wisconsin-Madison and to have discourse on what technology adaptations low vision people and specialists desire to see developed," said Dr. Mondal. "We had the opportunity to try on and use the technology that has been developed at Dr. Zhao's lab."

AI Assisted Vision Mini Workshop, 2024

Researchers from the University of Washington, the University of Texas-Dallas, and Purdue University collaborated on the event.

"We plan to hold this workshop annually," Dr. Mondal said, "to keep low vision professionals and patients up to date on the work we are doing, as well as obtain their feedback and suggestions to aid us in developing useful and acceptable solutions for people with low vision and blindness."

> *"It is important for us to deeply understand the unique experiences and needs of low vision people and create intelligent assistive technologies that are adaptive to their contexts and preferences."*

DETECTING DIABETIC EYE DISEASE EARLY HELPS PREVENT VISION LOSS

Innovative Screening Programs are Reducing the Leading Cause of Blindness in Wisconsin Working-Age Adults

Jeri Shultis knew something was wrong. He had driven south from Mauston, WI to Madison to watch his grandson wrestle at the state tournament, but he was struggling to focus on the mat.

"My eyes were just so blurry all day," Shultis recalled. "I made an appointment soon after, and the optometrist asked me if I had ever been diagnosed with diabetes." Shultis never had, but follow-up testing revealed that he did indeed have the disease. In 2016, he started diabetes treatment at Mile Bluff Medical Center, a UW Health affiliate, in Mauston. Part of that treatment included regular screenings to monitor his eye health.

Approximately 423,000 people in Wisconsin have been diagnosed with diabetes (9.1% of the adult population). Like Shultis, an additional 135,000 people in the state have diabetes but don't know it, which puts them at risk for complications. Diabetes can cause eye disease, particularly a condition called diabetic retinopathy.

High blood sugar damages the tiny blood vessels in the retina, which can cause scarring and ultimately, retinal detachment and blindness. Diabetic retinopathy is the leading cause of blindness among working-age adults in Wisconsin, but early

Dr. Yao Liu views a retinal eye photo.

diagnosis and treatment decrease the risk of vision loss by 90%. Currently, fewer than 70,000 Wisconsinites with diabetes receive yearly eye screening.

Researchers in the University of Wisconsin School of Medicine and Public Health's Department of

Ophthalmology and Visual Sciences are working to change that. Dr. Yao Liu, an associate professor of ophthalmology, started a screening program at the Mile Bluff Medical Center soon after she began traveling from Madison to Mauston each month to treat patients.

"Juneau County, which includes Mauston, is an area of great need," she said. "I saw many patients there with very advanced eye disease who, had they had access to treatment much earlier, would have had better outcomes."

Working with Mile Bluff's chief medical officer Dr. Timothy Bjelland, Dr. Liu helped primary care clinics learn to use a retinal camera to take photos of patients' eyes during routine diabetes checkups.

> *"We have known for 50 years that we can treat this disease, and it's still the leading cause of blindness in this country... That's mostly due to lack of screening."*

The clinics then send the images to specialists at UW Health, who review and recommend follow-up care for patients who show signs of diabetic retinopathy. This type of screening service, known as teleophthalmology, is critical for patients with less access to eye care specialists.

Beginning in 2015, Dr. Liu has conducted research to track the program's impact over time and identify the barriers and opportunities presented by teleophthalmology. She developed a coaching program called I-SITE to help primary care clinics better integrate this screening technology into their daily work. She also set up a Diabetes Patient Advisory Council in Mauston to engage with patients and gather their input on effective ways to educate and inform the community.

Jeri Shultis joined Dr. Liu's patient advisory council in 2017. He had been proactive in managing his diabetes since his diagnosis, and wanted to help get the word out about the screenings.

Shultis described how the advisory committee arranged for the retinal camera to be on-site to provide free demonstrations at Mauston's monthly Sharing Supper, a community dining experience intended to build relationships "free of social or economic barriers."

"Our committee helped explain to community members how the camera worked. It's not hard at all, and you don't have to have your eyes dilated," he recalled.

To date, more than 2,000 patients have received vision-saving eye care as a result of the screening program at Mile Bluff Medical Center. Screening rates, below the national average when the program started, increased substantially to the top quartile nationally.

"Feedback has been very positive," said Dr. Liu. "Primary care clinicians and patients have appreciated it, because it is often difficult to get people in to see an eye doctor. Getting screened the same day you are already in the primary care clinic is helpful to everyone."

In 2021, with funding from the National Eye Institute, Dr. Liu launched a clinical trial at 12 other rural clinics around the country, to determine whether the success at Mile Bluff Medical Center could be replicated elsewhere. In addition to Fort HealthCare and Reedsburg Area Medical Center in Wisconsin, her team works with health systems in Alabama, California, Colorado, New York, Ohio, Tennessee and Vermont. What works for one clinic may not work for others, and Dr. Liu's team wants to understand as much as possible about the barriers, as well as the opportunities for success.

Ultimately, Dr. Liu would like to see teleophthalmology become standard at every primary care clinic in the country. She would also like to see Wisconsin leading the nation with the highest screening rates for diabetic eye disease and the lowest rates of diabetes-related blindness. The goal builds on a UW legacy: The international guidelines for treating diabetic eye disease were developed at UW–Madison, thanks to a 1970s study led by Dr. Matthew "Dinny" Davis.

"We have known for 50 years that we can treat this disease, and it's still the leading cause of blindness in this country," Dr. Liu said. "That's mostly due to lack of screening."

Addressing that lack means testing new ways of making screening more efficient and effective. Approximately 20 to 30 percent of diabetes patients screened for eye disease require referral to a specialist who may perform interventions such as injections in the eye, laser treatments or surgery. For these patients, time is of the essence. Dr. Roomasa Channa, an associate professor of ophthalmology, studies a screening method that relies on artificial intelligence (AI) to provide immediate results.

Unlike standard teleophthalmology, where a primary care clinic sends images to eye specialists elsewhere, an AI-based teleophthalmology program reads the image as soon as it's taken.

"Because the tool can recognize the distinctive hallmarks of diabetic retinopathy, the clinician can tell the patient right away whether or not they have referrable disease," Dr. Channa said.

Dr. Roomasa Channa

“People living in medically underserved communities need a voice. Everyone deserves access to the best medical expertise our country has to offer.”

This increases the likelihood, she said, that patients will follow up with recommended eye care. In medically underserved areas, once patients leave the office, clinicians can lose contact with them for extended

Continued on the next page...

Detecting diabetic eye disease early helps prevent vision loss (continued...)

periods. Dr. Channa's lab developed a strategy called AI-BRIDGE that incorporates culturally adapted patient education and helps local clinics schedule appropriate follow-up eye appointments for patients. In August 2024, she was approved for a national clinical trial funded by the National Institutes of Health (NIH) and the National Eye Institute to test the effectiveness of AI-BRIDGE at nine clinics around the country.

In May, the NIH purported to terminate the funding opportunity for the award. Wisconsin is a plaintiff in a multi-state lawsuit aimed at reinstating terminated NIH grants, and the fate of the funding for Dr. Channa's grant is uncertain at the time of this story's publication.

"Wherever diabetes is increasing, so is diabetic retinopathy," said Dr. Channa. "This broadly impacts people living in medically underserved communities. As one example, here in Wisconsin, our Native and Hispanic populations are more likely to have limited access to health care and have growing rates of diabetes. This leaves them particularly vulnerable to severe complications like blindness."

> *"Wherever diabetes is increasing, so is diabetic retinopathy."*

A retinal eye photo of a patient with diabetic retinopathy. In the image on the right, diabetic retinopathy lesions are outlined by an AI algorithm.

Dr. Channa said that both standard teleophthalmology and AI-based programs offer busy clinicians options based on what works best for them, their clinics and their patients.

Drs. Liu and Channa collaborate on research to promote improved vision outcomes and share the goal of helping patients recognize the importance of screenings and treatment.

"People living in medically underserved communities need a voice," said Dr. Channa. "Everyone deserves access to the best medical expertise our country has to offer. This research is aimed at providing efficient, effective diabetic retinopathy screening to communities that currently have the worst outcomes. Our goal is to use innovative systems to save sight."

Dr. Liu's research was supported by National Institutes of Health/National Eye Institute Grants UG1EY032446 and K23EY026518, a New Investigator Award from the Wisconsin Partnership Program, a Baldwin Wisconsin Idea Endowment Award from the University of Wisconsin–Madison, an Evidence 2 Implementation Award ULTR002373 from the UW–Madison Institute for Clinical and Translational Research under National Institutes of Health / National Center for Advancing Translational Sciences, and a grant to the Department of Ophthalmology and Visual Sciences, UW School of Medicine and Public Health from Research to Prevent Blindness, Inc.

Dr. Channa's work was supported by National Institutes of Health / National Eye Institute Grants K23EY030911 and 1R01EY035994, and by a Vilas Research Award.

From Cold Sores to Glaucoma: Exploring a Potential

CONNECTION BETWEEN TWO LEADING CAUSES OF BLINDNESS

Most people have heard of glaucoma, a blinding eye disease that affects more than 3 million people in the United States. As the second leading cause of blindness worldwide, approximately 12% of individuals suffering from the disease eventually lose their vision.

Many people would be shocked to hear, however, that the same virus that causes cold sores can also lead to blindness. Recurrence of the Herpes Simplex Virus type 1 (HSV-1) is the leading infectious cause of blindness worldwide. According to the Centers for Disease Control and Prevention, approximately 1.8 million people in the United States suffer from ocular herpes each year. That's a staggering number for a condition most people associate with a lip sore.

Dr. Donna Neumann

At the University of Wisconsin–Madison, vision researchers Colleen McDowell, PhD and Donna Neumann, PhD are digging into a critical question: are these two different and significant ocular diseases simultaneously promoting ocular damage? With a $427,000 two-year exploratory grant from the National Institutes of Health, they're working to find the answer.

"HSV-1 is a life-long human pathogen that infects approximately 70% of the world population by adulthood," explained Dr. Neumann, an associate professor in the Department of Ophthalmology and Visual Sciences.

"While HSV-1 is silent in neurons most of the time, it can reactivate in response to stressors like UV exposure, emotional or physical stress, or extreme temperatures, causing disease recurrence in the eye."

If left untreated, repeated flare-ups of HSV-1 can increase intraocular pressure (IOP) — the pressure inside the eye. This inflammation and high pressure can damage the optic nerve, which carries visual signals from the eye to the bra

Dr. Colleen McDowell

This is the same th happens for many people diagnosed with glaucoma.

"What's clear is tha glaucoma and HSV are associated with increased ocular inflammation and elevated intraocula pressure," said Dr. McDowell, also an associate professor in the Department of Ophthalmology and Visual Sciences and the study's principal investigator. "But what we don't know is whether these two prominent ocular diseases together pose increased risk of ocular damage. The concept remains underexplored."

HSV-1 and glaucoma are typically managed with medications that either reduce inflammation and/or lower eye pressure.

These treatments work well for most patients, but not all. That's where the new research comes in.

"There are patients who don't respond to current therapies," said Dr. McDowell. "It is our goal to help uncover new treatments that can effectively control intraocular pressure and design therapies that stop it before it harms vision."

> *"It is our goal to help uncover new treatments that can effectively control intraocular pressure and design therapies that stop it before it harms vision."*

CLINICAL EYE RESEARCH UNIT IN 2024-2025: *A Year in Review*

The Clinical Eye Research Unit (CERU) is an academic research organization within the University of Wisconsin Department of Ophthalmology and Visual Sciences (DOVS) dedicated to advancing ophthalmic care by developing strategies to prevent and treat eye disease. CERU specializes in conducting clinical trials, translational research, and research education services, while also fostering multi-disciplinary collaborations.

NEW TEAM MEMBERS

Over the past year, four key positions within the unit were successfully filled. Angie Adler, BS, CCRC was selected as the new CERU Clinical Research Manager. She has been part of the research unit for 18 years, during which she has held various roles, including study coordinator, regulatory specialist, and research supervisor.

“I am honored to continue my professional journey in this new and exciting role. I look forward to collaborating with the CERU team, as well as with our study participants, investigators, sponsors and members of our department and the broader UW community,” Adler said.

In her new position, she will work closely with CERU Medical Director Mihai Mititelu, MD, MPH, FASRS, and Christina-Thomas Virnig, PhD, Director of Translational Research and CERU administrative liaison, to help shape the unit’s trajectory of growth and development.

In addition, Nicole Boone joined the unit in November 2024 as a Clinical Research Coordinator, bringing a passion for both education and research. In June 2025, Meg Hackbarth and Matt Gilles were welcomed to CERU as Regulatory Coordinators. They both bring a wealth of experience in regulatory support and study coordination, collaborating closely with investigators, study participants, and sponsors.

ADDITIONAL SPACE

CERU is acquiring part of the patient check-in area on the third floor of UW Health University Station Eye Clinic, which will be converted into dedicated patient care and research space. Construction is set to begin this fall, allowing for the optimization of space in other areas. Additionally, CERU has remodeled a different space in the same building to house a functional vision mobility maze for a newly launched Phase 1 clinical trial for primary photoreceptor disease.

EXPANDING PROJECTS AND PARTNERSHIPS

“The growth of our team and space reflects the unit’s continued flourishment, translating into an increasingly diverse portfolio of promising research opportunities for our patients,” said Dr. Mititelu. “Over the past five years, we’ve nearly doubled the number of studies we offer.”

This year, CERU investigators and staff have contributed to more than 90 research projects, including federal and industry-sponsored trials, investigator-initiated studies, databases, and collaborations.

The unit has launched several new and promising clinical trials for a wide range of ocular conditions, including exudative age-related macular degeneration, radiation retinopathy, and inherited retinal diseases. DOVS faculty collaborating with CERU have also initiated investigator-initiated projects studying novel ocular imaging modalities that aid in our understanding of various eye diseases ranging from geographic atrophy to pediatric myopia to diabetic retinopathy, among others.

CERU supports clinical trials initiated within the University of Wisconsin–Madison School of Medicine and Public Health and is expanding its collaborations across campus to include partners such as UW Hospital, the Carbone Cancer Center, and the School of Veterinary Medicine. There are also collaborations with other departments, including Neurology and Pediatrics. The unit provides expertise in all ophthalmology-related aspects of these important collaborative trials.

The CERU team, 2025

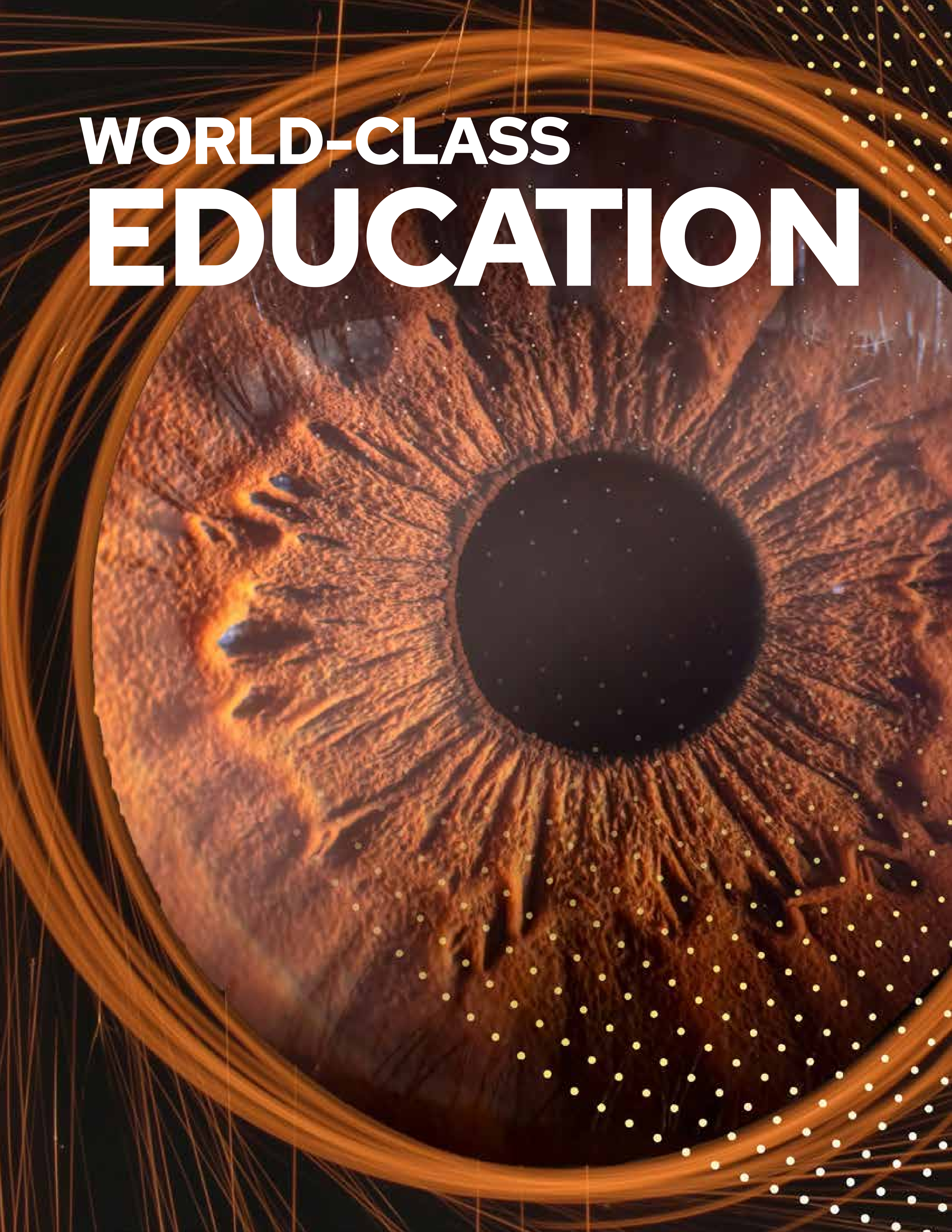
"Our partnership with Carbone Center is particularly important and has been experiencing steady growth over the past five years," added Dr. Mititelu. "A number of both existing and experimental cancer treatments have potential ocular side-effects, many of which we are the first ones to identify. The trials evaluating these complex cancer therapies have specific protocols for monitoring study participants. Our team coordinates all eye-related aspects of the research protocol, including ophthalmology exams and ancillary testing. By serving as a central resource, our unit is uniquely poised to support every patient who decides to participate in a cancer clinical trial that can potentially affect vision."

> *By serving as a central resource, our unit is uniquely poised to support every patient who decides to participate in a cancer clinical trial that can potentially affect vision."*

In October 2024, CERU principal investigators and staff led a course titled "Orchestrating Clinical Research in Ophthalmology – A Sites Guide for Initiating Clinical Research in Your Practice" at the American Academy of Ophthalmology annual meeting in Chicago, IL. Since then, CERU has partnered with an Idaho ophthalmology practice to support the growth of their clinical trials infrastructure. "This exciting partnership is a first for us. In addition to providing opportunities for shadowing our staff in Madison, the CERU has created guidelines regarding research staffing and training, feasibility assessments, registry development, EMR integration, network building, and trial identification," said Adler.

"The CERU team would like to express their sincere gratitude to all the faculty who have graciously shared their time and expertise by participating in clinical trials," said Dr. Mititelu. "The unit's success is a direct reflection of our investigators' commitment to advancing ophthalmology through virtually every facet of clinical research."

WORLD-CLASS EDUCATION



3

Pathology/Wisconsin Reading Center pre-residency fellows

5

Clinical fellows

14

Residents

from **12** states

59

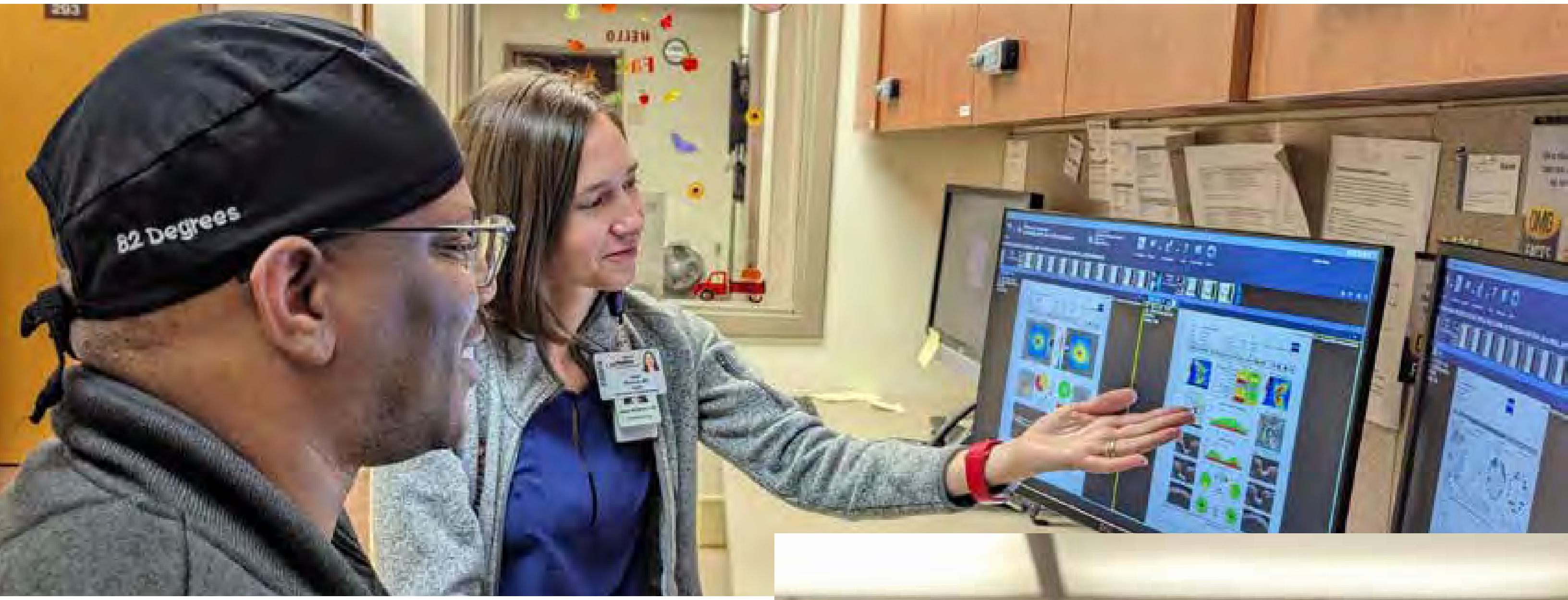
Medical students/ visiting medical students

TRANSFORMING RESIDENCY EDUCATION:

Innovation in Research and Real-World Readiness

The Ophthalmology Residency Training Program at the University of Wisconsin School of Medicine and Public Health has undergone an exciting evolution – one that's redefining how future ophthalmologists are trained, mentored, and empowered. With updates to both research and didactic education, the program is setting a new standard for excellence in academic medicine.

"This curriculum teaches residents how to take a project from concept to completion," said Anna Momont, MD, vice chair of resident education and residency program director. "Through presentations at local, national, and international conferences and publication in peer-reviewed journals, our residents are making a real impact on patient care."



Above: Ophthalmology resident Dr. Georges Guillaume and Dr. Anna Momont
Right: Ophthalmology residents Drs. Samuel Wittier and Lucas Maakestad

RESIDENT RESEARCH CURRICULUM UPDATE

In 2019, the Department of Ophthalmology and Visual Sciences launched the Resident Research Committee (RRC) to elevate the resident research experience from informal case reviews to rigorous, high-impact scholarship. Comprised of program leadership, basic and clinical science faculty members, and administrative support, the multidisciplinary committee meets monthly to guide residents through a structured research journey.

Thanks to the RRC's efforts, ophthalmology residents now benefit from:

- A clear research rubric with defined milestones
- Dedicated mentorship from faculty
- Protected time to focus on scholarly work

Under the new research rotation structure, every resident now participates in at least one research project during their residency training, gaining hands-on experience in study design, data analysis, and academic writing.

The Resident Research Curriculum was spearheaded by Drs. Andrew Thliveris, Robert Nickells, Michael Nork, Tetyana Schneider and Christina Thomas-Virnig. Five years after inception, it has yielded impressive results. For example, our residents have won "Best Resident Research Presentation" award at the Wisconsin Ophthalmology Research Day two years in a row.

DIDACTICS UPDATE: REVITALIZING RESIDENT LECTURE SERIES

This academic year also marked the debut of the Chief Resident Symposium, a new lecture series designed to broaden the scope of traditional didactics and prepare residents for the real-world complexities of medical practice. Organized by Chief Resident Breanna Aldred (Class of 2025) the symposium goes beyond clinical training to explore topics including:

- Social determinants of health
- Physician wellness and ergonomics
- Financial literacy and contract negotiation

> *"Through presentations at local, national, and international conferences and publication in peer-reviewed journals, our residents are making a real impact on patient care."*

The inaugural lineup of guest speakers brought diverse expertise and real-world experience to the table. In addition to Dr. Momont, residents engaged with Calli Becker, MSW, APSW, Steven Hill PT, and Michael Johnson, JD, all of whom shared valuable perspectives on patient advocacy, workplace wellness, and navigating the business side of medicine.

"This initiative reflects a growing recognition that today's ophthalmologists must be more than skilled clinicians and surgeons," said Jonathan Chang, MD, associate residency program director. "They must also be informed advocates, savvy negotiators, and resilient professionals. By creating space for these conversations, the Chief Resident Symposium is helping shape the next generation of leaders in eye care."

Drs. Daniel Knoch and Rushi Mankad at Wisconsin Ophthalmology Research Day, 2025

The work to improve the resident lecture series will continue as Chief Resident Rushi Mankad (Class of 2026) takes the reins. Drs. Momont and Chang have also created a Basic Science Lecture Series Redesign Committee to develop a more interactive learning experience for the residents beyond traditional lectures.

Dr. Alana Bryant, PGY2 and member of the Redesign Committee stated "As a new PGY2, I've quickly come to understand the importance of finding and adapting a sustainable means to study in residency. One of the strongest reasons I ranked this program #1 is the educational structure; the commitment to providing residents high quality education is apparent. I am incredibly excited to be a part of this committee and hope that my contributions will lead to lasting, impactful change that will benefit both current and future residents. My goal as a member is to build on the existing design to keep learning in residency engaging and fun without feeling like a daunting burden."

PREPARING TOMORROW'S OPHTHALMIC SURGEONS:

The Andrew T. Thliveris, PhD, MD Surgical Skills Training Facility

For any ophthalmology trainee in the University of Wisconsin Department of Ophthalmology and Visual Sciences (DOVS), the hands-on experience gained at the Andrew T. Thliveris, PhD, MD Surgical Skills Training Facility (SSTF) is a cornerstone of their education.

The facility honors Professor Emeritus Andrew T. Thliveris, who retired from the UW in 2023. Originally located in a small, converted closet at the William S. Middleton Veterans Administration Hospital in Madison, WI, the training space could accommodate only two learners. In 2023, it relocated to a newly renovated space at the UW Health University Station Clinic. The upgraded facility now supports up to 10 learners simultaneously and features state-of-the-art equipment that replicates an operating room environment. It is available for use with 24-hour access, including weekends.

Dr. Kevin Elwood (ophthalmology resident '24) in the lab

"The SSTF is one of the most advanced surgical skills training facilities in the country, and it offers a hands-on experience that is crucial for surgical training," said Travis Rumery, DO, SSTF medical director. "We believe that the foundation of surgical training occurs in the surgical training wet lab, where learners build skills, familiarity, and confidence in the steps of ophthalmic surgery prior to caring for patients in the operating room."

Hands-on training in the SSTF is an integral part of the ophthalmology curriculum for learners at every stage of their academic journey, from pre-medical and medical students to ophthalmology residents, clinical fellows, and faculty. The facility also accommodates various learning purposes, programs, and initiatives, offering multifaceted surgical skills training in ocular and orbital anatomical instruction, basic and advanced cataract surgery, oculoplastic surgery, glaucoma surgery, open globe surgery, preparation for global ophthalmology fieldwork, and more.

The lab features 10 height-adjustable wet lab workstations, supporting proper ergonomics for the user. Each one is outfitted with cutting-edge equipment, including a surgical-grade microscope with a flexible arm tabletop stand and integrated video and foot pedal control. A high-resolution screen/monitor connected to the wet lab space allows for collaborative learning.

In April 2025, the department installed a new, upgraded EyeSi Surgical Simulator. This state-of-the-art virtual reality simulator plays a vital role in enabling residents to sharpen their surgical techniques in a safe, controlled environment — before they step into the operating room. According to Dr. Rumery, an ophthalmology resident receives more than 20 hours of formal instruction on the simulator, along with additional self-directed training.

"The simulator offers extensive instructional resources," Dr. Rumery said, "covering fundamental skills, surgical techniques, cataract and retina procedures, and complication management."

"In addition," Dr. Rumery said, "a recent upgrade, the Smart Wet Lab, enables learners, with a simple touch, to send recordings of their work to an attending supervisor for immediate feedback. The result is improved communication and streamlined instruction."

"This equipment is an invaluable asset to our department," Dr. Rumery continued, "and it would not have been possible without the incredible generosity and support of the entire DOVS community. I extend a heartfelt thank you to everyone who contributed to making it a reality."

> *"The possibilities are endless."*

Looking ahead, Dr. Rumery has ambitious plans for the future.

"We intend to develop a video library of faculty-performed surgical cases, develop a laser eye surgery curriculum, and offer pediatric surgery instruction," Dr. Rumery said. "We also hope to provide classes and continuing education opportunities to our alumni, global partners, and the broader ophthalmology community. The possibilities are endless."

Ophthalmology residents receive hands-on training in the SSTF

A VISION FOR THE FUTURE:

Wendy Huang's Optometry Training at UW Health

Wendy Huang's love of optometry began at an early age. "I have really bad eyesight," Huang explained. "I'm extremely nearsighted in both eyes. I went to an optometrist when I was very young and was immediately fascinated by the field."

That passion remains.

Huang, who lives in the Madison, WI area, is a fourth-year student at the Illinois College of Optometry in Chicago, IL, where she is earning her Doctor of Optometry degree. As the final step in that training, Huang spent three months at the UW Health Eye Clinics in Madison, WI completing an externship.

Wendy Huang with Dr. Kevin Kurt

"The optometry externship program with UW Health and UW health and the University of Wisconsin–Madison Department of Ophthalmology and Visual Sciences is designed to prepare future optometrists to be comfortable in all areas of practice," explained Kevin Kurt, OD, who serves as the optometry externship program director. "During their time with us, externs like Wendy conduct preliminary patient examinations, including all diagnostic testing. They make a diagnosis and present their recommended treatment plan to the attending optometrist."

During the 2024-25 academic year, Huang spent 12 weeks at each of four clinical sites in the Midwest, where she received hands-on, practical clinical experience.

"My rotation at UW Health was my final one, and my best one!" Huang said. "Each week I focused on a different specialty, from primary care, glaucoma, and pediatrics to specialty contact lenses and urgent care. I was able to see many different eye diseases and conditions, which provided me with an exceptionally well-rounded experience."

During her externship, Huang saw approximately 8 to 12 patients per day, depending on the specialty.

Huang enjoyed her time in the urgent care clinic the most. "I like seeing a variety of patients," she said, "from 5-year-olds all the way up to 100-year-olds. I'm able to have different interactions with each person. And, of course, the diseases presented vary greatly."

> *"They asked me what I wanted and needed to learn during my rotation, as opposed to following a scripted program... It was a truly incredible experience, and I cannot thank them enough!"*

One of Huang's most memorable cases involved a young child who claimed he couldn't see, despite having perfect 20/20 vision. "It wasn't making sense," Huang recalled. "Then, I talked to the attending physician, who suggested I observe how the child interacted with his parent. I immediately noticed that the boy's mother was always on her phone, and the child wanted to get her attention. A couple of months ago I would have been flustered by the situation, but now I am confident that should I experience this again, I'll know how to proceed."

Wendy Huang examines a patient's eyes

"Because we are a large medical center, our externs have the opportunity to experience a variety of patients and cases that they wouldn't get everywhere," said Dr. Kurt, who is "a clinical adjunct faculty member in the Department of Ophthalmology and Visual Sciences. "Our externs also travel to different UW Health clinics to experience a wide variety of offices and providers during their rotation. This is a crucial component of the training process because exposure to different providers results in different perspectives on how to approach and treat a case."

Wendy Huang in clinic

"I am so grateful to Dr. Kurt as my externship coordinator and Dr. Karina Conlin, optometry service chief, for arranging the experience," Huang said. "They asked me what I wanted and needed to learn during my rotation, as opposed to following a scripted program. They wanted me to train on the specific skills that I needed to work on. This approach was particularly important as it was my last site. It was a truly incredible experience, and I cannot thank them enough!"

After graduation, Huang will remain in the Madison area to complete a one-year optometry residency anterior segment and specialty contact lenses at SSM Health/ Davis Duehr Dean.

"I loved working at UW Health and will remember my training fondly," Huang said. "The people were friendly, and I appreciated the camaraderie and balance in the working environment between the ophthalmologists and the optometrists. Everyone is respectful to everyone else, no matter their position. UW Health is a great place to work."

VETERANS ADMINISTRATION OPTOMETRIST HONORED

for Excellence in Ophthalmology Resident Education

Chelsea Linzmeier knew by the eighth grade that she wanted to become an optometrist. With years of hard work, she achieved that goal. Now, about a decade and a half later she channels that same passion and energy into mentoring the next generation of eye care professionals.

Dr. Linzmeier, an optometrist at the William S. Middleton Memorial Veterans Administration (VA) Hospital in Madison, WI, was recently honored as the 2025 Distinguished Community Educator by the University of Wisconsin Department of Ophthalmology and Visual Sciences.

Dr. Chelsea Linzmeier

"One of my favorite things about working at the VA is the learning environment," Dr. Linzmeier said. "Every day I witness the collaboration, the teaching, and the teamwork that ensures our patients – our veterans – receive the exceptional care they deserve. I am grateful, honored and humbled to be a small part of that."

Dr. Linzmeier earned her four-year optometry degree from the Pennsylvania College of Optometry in 2008. As part of her training, she completed a four-month rotation at the VA clinic in Tennessee. That experience sparked a deep connection with the veteran population – one that would shape her career.

Following graduation, Dr. Linzmeier moved to Madison and met Andrew T. Thliveris, PhD, MD, then chief of ophthalmology services at the VA at the time. Although there wasn't an opening then, he promised to call her when one became available. Two years later, he did – and in 2010, Dr. Linzmeier joined the VA team. She has loved every minute of it.

"There is something to learn to from everyone," she said. "It brings me joy to connect with our veterans and ensure they get the care they deserve. It's incredibly rewarding to work in an environment that values that approach."

Dr. Linzmeier's clinical focus includes specialty contact lenses and low vision rehabilitation. In 2015, her role expanded to include training the ophthalmology residents in these vital services.

"Teaching ophthalmology residents wasn't something I anticipated," she recalls, "but it's something I truly enjoy. I love helping them discover the different options available to our veterans. When we collaborate, we can guide patients to the right person and give them hope. That can be just as important as the service itself."

At the University of Wisconsin, ophthalmology residents rotate through various service areas, including the VA. The rotations are structured such that Dr. Linzmeier works with each resident individually and is able to tailor the training to what each needs and wants.

Dr. Linzmeier credits her own mentors for shaping her path. Dr. Thliveris showed her what was possible. Dr. Karen Hoffman, a low vision specialist at the VA, taught her the intricacies of low vision care. And Dr. Daniel Knoch, the current chief of ophthalmology services, has supported her efforts in resident education.

"If you treat every patient as your father, your son, your daughter – someone you love - you will never go wrong," she said. "I take time to get to know something special about each patient – something that doesn't have anything do with their eyes. When I understand what makes them tick, I can provide better care."

She smiles vibrantly. "Honestly, I think I get more out of every interaction than my patients do. I leave work every day fulfilled and rewarded."

"When I understand what makes them tick, I can provide better care."

THE LEGACY OF EXCELLENCE IN EYE CARE

Continues at the Madison Veterans Administration Hospital

As a teaching hospital that is deeply connected to the University of Wisconsin School of Medicine and Public Health, the William S. Middleton Memorial Veterans Hospital plays a vital role in training future ophthalmologists. This partnership creates rich opportunities for medical students, residents, and faculty alike.

"Our collaboration with the Department of Ophthalmology and Visual Sciences (DOVS) is a cornerstone of our training program," said Daniel Knoch, MD, chief of ophthalmology services at the VA. "Learners gain exceptional experience, and veterans receive top-tier care. It's a win-win for everyone involved."

"Dr. Thliveris worked tirelessly for decades to ensure veterans received the highest standard of care. I'm honored to carry forward his legacy."

Dr. Thliveris retired in 2023 after 28 years with the department, including 16 serving as the VA Service Chief. Later that year, Dr. Knoch was named the inaugural Carl and Mary Ann Berg Family Professor of Ophthalmology – a position created to attract top talent and elevate care for veterans. This professorship was specifically awarded to the individual who serves in the role as the Ophthalmology VA Service Chief. Dr. Thliveris stewarded the professorship though his personal relationship with the Berg family.

Members of the VA ophthalmology provider team spend time with Bill Hunter, a 102-year-old World War II veteran.

In 2023, DOVS welcomed two new faculty members – Dr. Abigail Jebaraj and Dr. Eric Weinlander – both of whom serve veterans at the VA. That same year, the Accreditation Council for Graduate Medical Education approved a departmental request to add an additional, fourth, ophthalmology resident to their training program.

"Having more providers translates to improved access to eye care for our veterans," said Dr. Knoch, who also serves as the Vice Chair of Education and Faculty Development at DOVS. "We've also been able to renovate parts of the clinic, including new slit lamps in procedure rooms and a refreshed break room for staff."

Dr. Knoch credits his predecessor, Andrew T. Thliveris, PhD, MD with laying the groundwork for these important improvements.

"This professorship has been transformative," said Dr. Knoch. "It's empowered me to pursue new initiatives in quality improvement, research, and education – all in service of our veterans."

> *"Having more providers translates to improved access to eye care for our veterans."*

Providing Excellence in Ophthalmology Resident Education:

SPOTLIGHT ON OCULOPLASTICS

For nearly two decades, the three-part Essential Oculoplastics course has played an instrumental role in helping ophthalmology resident trainees at the University of Wisconsin–Madison (UW) School of Medicine and Public Health hone their craft.

Drs. Richard Dortzbach and Bradley Lemke

At the UW, ophthalmology residents complete a one-year internship with the Department of Medicine, followed by three years of specialty training with the Department of Ophthalmology and Visual Sciences. During the first year of their ophthalmology residency, learners spend the majority of their time in the UW Health Eye Clinic, where they develop proficiency in all areas of the ophthalmologic examination. The second and third years of residency provide training in all aspects of ophthalmic surgery and various subspecialty areas, including oculoplastics.

A crucial component to the oculoplastics curriculum is the Essential Oculoplastics skills transfer course. The three-year cycle of coursework is intended to teach residents the essential components of oculoplastic surgery in a progressive format. Essential Oculoplastics 1 and 2 are lab-based and involve cadaver dissection. Residents practice specific procedures that every ophthalmologist should understand and know how to perform. Essential Oculoplastics 3 varies each cycle and often features guest speakers from other universities and other UW departments. Previous topics have included thyroid eye disease and ocular oncology.

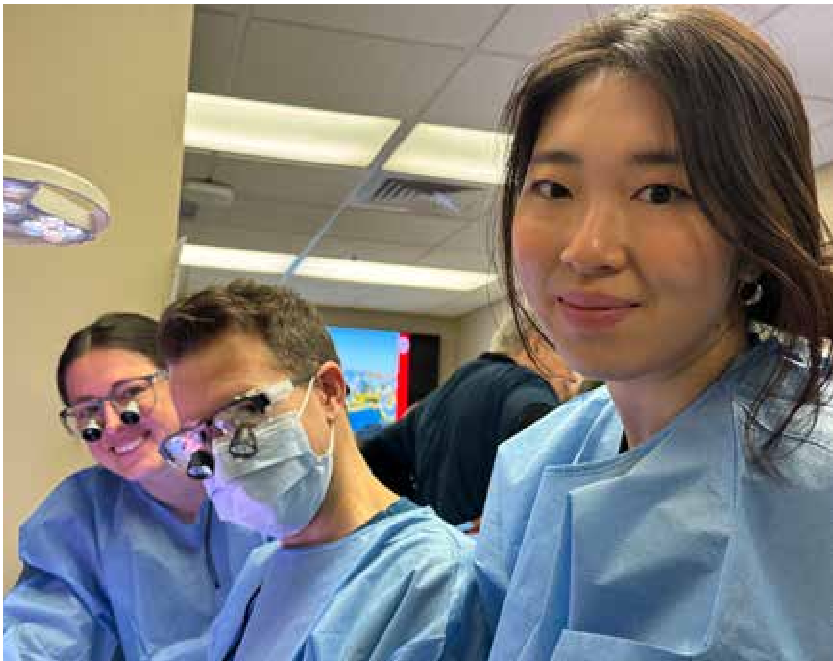
"This course is a foundational component to our resident training curriculum," said Suzanne van Landingham, MD, course co-director. "It is a great opportunity for our residents to be fully hands-on, and to ask questions of instructors in a way that may not be possible in the operating room. The course compliments and augments the classroom-based teaching that the residents receive as part the Basic Science Lecture series and the additional hands-on learning they receive during their oculoplastic rotation."

The course is always co-directed by the current oculofacial plastic surgery fellow, which, according to Dr. van Landingham, is vital to the program's – and the residents' - success.

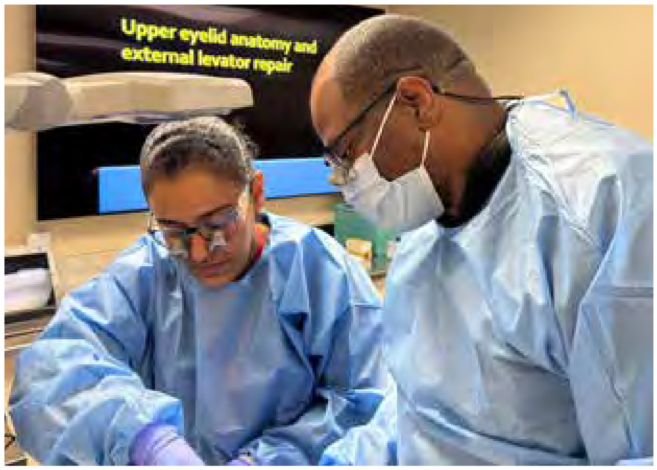
"The oculoplastics fellow is not only is instrumental in making the course happen at the UW," said Dr. van Landingham, "but they also learn how to host a cadaver lab, which is a skill they can carry into their next job."

> *"We changed it to a skills transfer format, so that residents could make big strides on their surgical skills rather than just learning anatomy."*

Ophthalmology residents in the lab



Ophthalmology faculty, fellows, and staff, 2025



Oculoplastics training has evolved over the years. The Essential Oculoplastics course as it's known today started in 2008 under the direction of Mark Lucarelli, MD, FACS and Cat Burkat, MD, FACS.

"It used to be a yearly course that focused primarily on anatomy and cadaver dissection," said Dr. Burkat, who first experienced the course back in 2003 as a fellow. "There were alternating years of didactics with a guest visiting speaker to teach without dissection. Eventually, though, we realized it would be great to create a graduated course that would teach the residents different things each year so that they could build on their skills, starting with more basic techniques and culminating with advanced techniques by the time they graduated."

Hence Essential Oculoplastics was born.

"We changed it to a skills transfer format, so that residents could make big strides on their surgical skills rather than just learning anatomy," said Dr. Lucarelli.

The course faculty include full-time UW oculoplastics faculty - Drs. van Landingham, Burkat, and Lucarelli - and clinical adjunct faculty (Drs. John Rose, Brett Pariseau, and Bradley Lemke). Professor Emeritus Dr. Richard Dortzbach, who fouded the UW oculoplastic surgery program in 1968, frequently participates as well.

"As an instructor, my favorite memories are the 'aha!' moments, when something clicks for a resident after they've had that hands-on, no-rush opportunity to practice a surgical technique. I love seeing the enthusiasm and the energy from the learners. It lasts all day," Dr. van Landingham said.

Spotlight on Medical Student Education:

OPHTHALMOLOGY 911

Several years after the launch of the innovative ForWard Curriculum at the University of Wisconsin School of Medicine and Public Health, the Department of Ophthalmology and Visual Sciences continues to advance medical student opportunities in vision research with a robust research elective. The basic science selects course, Ophthalmology 911, "Introduction to the Visual System," has been a staple in the medical student curriculum since 2019.

"Introduction to the Visual System is designed to help students become familiar with the basic science component within ophthalmology," said Professor Curtis Brandt, PhD, who serves as course director. "The course includes comprehensive analyses of four common ophthalmic diseases, including ocular surface infections and immunology, glaucoma, diabetic retinopathy, and age-related macular degeneration."

In addition, learners also observe in a subspeciality clinic or operating room one-half day per week under the direction of a dedicated faculty member associated with one of the ophthalmic diseases covered in the course. At the end of the month, the students present a research paper related to their research project and submit a brief writeup of their research results. In addition to Dr. Brandt, nine ophthalmology faculty teach in the program.

"Our goal as instructors is to set future ophthalmologists and vision researchers up for success by introducing them to the potential of a research or clinical career path," said Dr. Brandt. "It's exciting to see how much the medical students enjoy all aspects of this course."

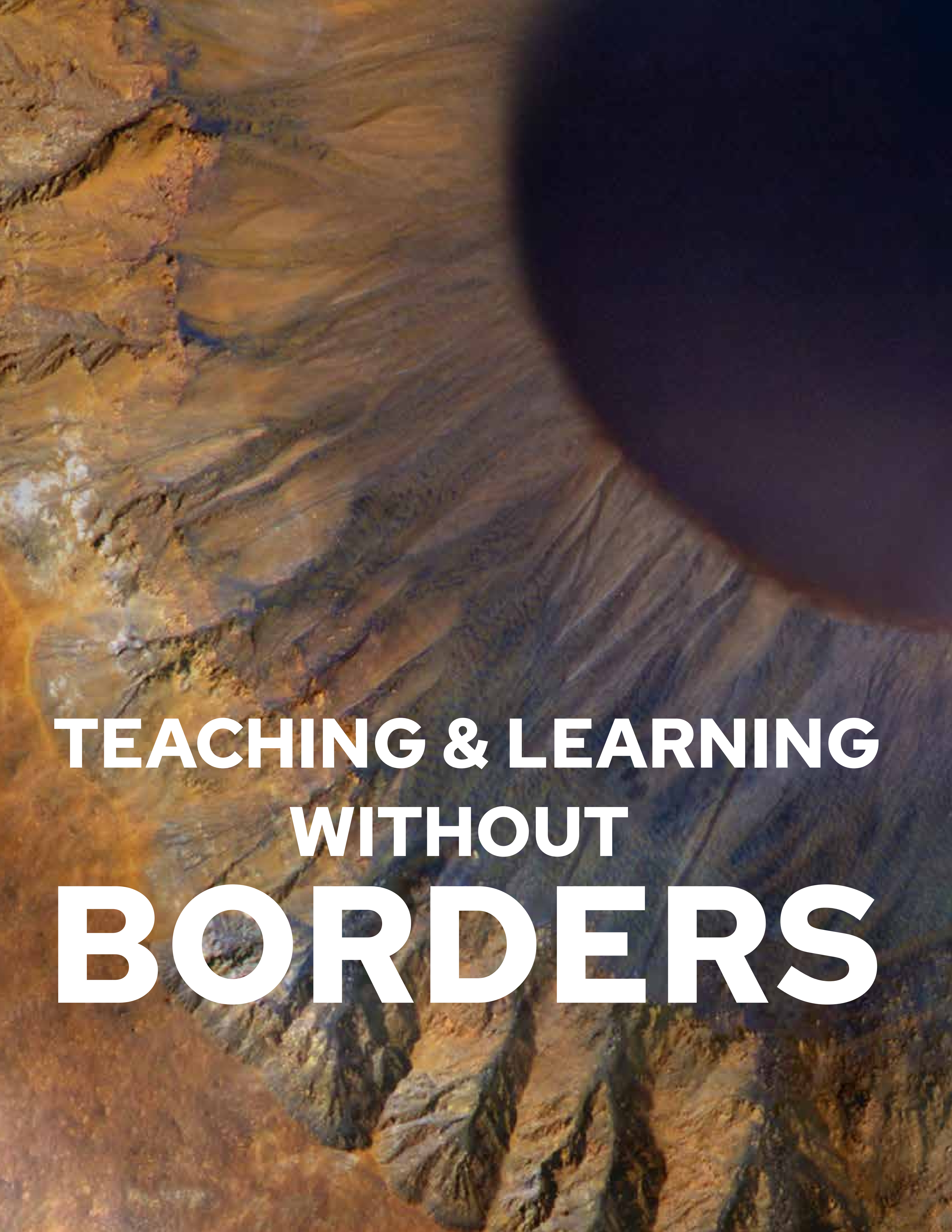
Dr. Brandt in his lab

> *"The course includes comprehensive analyses of four common ophthalmic diseases."*

During the 4-week course, learners engage in a series of weekly didactic lectures on a specific disease topic. They also complete a month-long research project, which can range from a laboratory experiment to running through a designed analysis of a mock clinical trial.

Samuel Whittier, MD
Ophthalmology Resident, Class of 2025
Currently in private practice, Ames, IA

"Having a positive impact on someone's vision is hard to beat. One of the biggest things I will take away from my ophthalmology training at the University of Wisconsin is the fact that I will always feel like part of the family. I know I will always be supported and will have a circle of friends and colleagues that will last a lifetime."



TEACHING & LEARNING WITHOUT BORDERS

2,000+

Patients impacted through additional self-reported local and global outreach by DOVS faculty and UW Health employees

32

Global ophthalmology-focused learning activities/programs

5 YEARS

Integrated Global Ophthalmology Curriculum in UW Ophthalmology Residency Program

10 YEARS

UW Ophthalmology Residency rotation at Dr. Shroff's Charity Eye Hospital, India

58%

Clinical and research faculty who contributed to global ophthalmology activities

21%

Clinical and research faculty who presented at international conferences or meetings

GLOBAL IMPACT THROUGH OPHTHALMOLOGY:

Highlights From the Year

In the Department of Ophthalmology and Visual Sciences (DOVS), we are committed to sharing our experience, knowledge, and resources with institutions around the world. Through valuable, strategic partnerships in India and the Philippines, we engage in exchange opportunities, share in new knowledge and resources, and learn alternative methods of saving sight to help those in need.

Ophthalmology faculty and residents in India, 2025

CELEBRATING 10 YEARS OF PARTNERSHIP IN INDIA

In early 2025, DOVS marked a decade of collaboration with Dr. Shroff's Charity Eye Hospital in New Delhi. This year's rotation was historic, welcoming our first basic science researcher, Gillian McLellan, BVMS, PhD, alongside senior residents Breanna Aldred, MD, Georges Guillaume, MD, and Sam Whittier, MD. Residency Program Director Anna Momont, MD, also joined the team.

From hands-on training to collaborative research, this enduring partnership continues to advance global ophthalmology and improve patient care across borders.

IN THE PHILIPPINES

In May, the Guillermo and Marta de Venecia Fund supported a one-week rotation in the Philippines for alum Christine Larsen, MD (Glaucoma Fellow '13), and PGY3 resident Rushi Mankad, MD. They worked alongside DOVS fellowship alumni Dr. Catherine Qui-Macaraig (Pediatric Fellow '94) and Dr. Edith Navarro (Cornea Fellow '95) at the Tzu Chi Eye Center, University of Santo Tomas (UST), UST-Hospital, and Cardinal Santos Medical Center (CSMC). A generous donation of surgical supplies from Glaukos to the Tzu Chi Medical

DOVS ALUMNI AND RESIDENTS SERVE

"Global ophthalmology reminds us how much can be accomplished with limited resources and deepens our gratitude for the advantages we often take for granted within our own healthcare system."



Left: Dr. Wittier in surgery, India, 2025
Right: Drs. Larsen and Mankad in the Philippines, 2025

Dr. Larsen in surgery, Philippines, 2025

Foundation enabled Dr. Larsen to deliver the organization's first-ever training in Minimally Invasive Glaucoma Surgery.

Dr. Mankad assisted in cataract, glaucoma, and retina surgeries. "I was struck by the high volume and complexity of disease," said Dr. Mankad. "The efficiency of the free eye clinic was incredible—it serves hundreds of patients daily, many of whom travel overnight and wait outside just for the chance to be seen. Practicing in this resource-limited setting deepened my respect for our international colleagues and highlighted the urgent global need for accessible eye care. I'm especially grateful to Dr. Catherine Macaraig, Dr. Edith Navarro, and Dr. Antonio Say for their generous hospitality and mentorship."

Dr. Mendoza at Wisconsin Ophthalmology Research Day, 2025

Dr. Larsen echoed the sentiment.

"During my residency, I was fortunate to participate in several international service experiences," Dr. Larsen said, "and it was especially meaningful to help provide that same opportunity to another trainee as alumni faculty. The partnership between our institutions is truly inspiring - built on mutual respect, cultural exchange, and collaborative learning. Global ophthalmology reminds us how much can be accomplished with limited resources and deepens our gratitude for the advantages we often take for granted within our own healthcare system."

GUILLERMO AND MARTA DE VENECIA FUND SUPPORTS INTERNATIONAL FELLOWSHIP AND CULTURAL EXCHANGE

In June, the Guillermo and Marta de Venecia Fund also supported Daniel Mendoza, MD— a vitreoretinal fellow from Cardinal Santos Medical Center (CSMC) in Manila, Philippines – for a one-week clinical rotation with the University of Wisconsin retina team. Dr. Mendoza engaged in patient care, research, and clinical trials, and presented his work at Wisconsin Ophthalmology Research Day. He also received a certificate of completion during the department's graduation celebration.

This biannual exchange with CSMC fosters global learning, professional development, and lasting connections.

Dr. Mendoza joins
Dr. Jeremy Rogers in the lab

VISITING RESIDENT REFLECTS

on Her New University of Wisconsin-Madison 'Family'

What is notable when talking to Dr. Yvette Sioson is how her smile increases as she speaks of her passion for helping the people in her home country avoid blinding eye disease. That dream was what motivated her to travel more than 7,000 miles from her home in the Philippines to Madison, WI.

Dr. Sioson, a third-year ophthalmology resident trainee at Santo Tomas Hospital in the Philippines, recently spent a four-week residency research and clinical observership with faculty members of the University of Wisconsin Department of Ophthalmology and Visual Sciences.

Dr. Yvette Sioson with a patient

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 that ran until 2022.

"I am so grateful for this once-in-a-lifetime opportunity to experience eye care in an ideal setting," Dr. Sioson said. "I was able to broaden my exposure to more advanced clinical skills that will help me in my future career."

Dr. Sioson credits her father, an ophthalmologist, for sparking her interest in the field. "His clinic was near my school when I was young," Dr. Sioson recalls. "During my breaks I would wait for him at the clinic. That was the beginning for me. I was exposed early on to how he saw patients and the different machines he used to provide care. By the time I went to medical school, I had a strong desire to practice ophthalmology as my specialty."

During her observership, Dr. Sioson was mentored by oculoplastics surgeon Cat Burkat, MD, FACS.

"Dr. Burkat is a wonderful person," Dr. Sioson said. "She has a lot of fresh ideas and is incredibly efficient when seeing patients. Aside from these professional aspects, she was very nice and accommodating to me. She always asked how I was and if I need something. She took care of me well during the entire rotation."

In addition to oculoplastics, Dr. Sison is considering retina as a subspecialty. "I live in a small providence in the Philippines, where diabetic retinopathy is very prevalent," she said. "And there is a scarcity of doctors in the rural areas. Because of this, I know many rural patients don't receive the care they should. My hope is to bring service to them, hopefully allowing for earlier diagnosis and treatment – and ultimately avoiding vision loss."

In addition to observations in clinical and surgical service, Dr. Sioson conducted a research project under Dr. Burkat's guidance. The study investigated Parry-Romberg Syndrome, a rare disorder that causes deterioration of the skin and soft tissues of the face. The project reviewed and described the epidemiological and clinical features of the disease and how cases are successfully managed.

"In the Philippines, we lack the funding necessary to conduct large research projects and clinical trials," Dr. Sioson said. "But I learned during my observership here that we don't need to do complicated projects to be able to positively contribute to the growth of the field."

Dr. Sioson also noted some significant differences between patient care in the United States and the Philippines, particularly in terms of patient privacy. In the Philippines, exam rooms are large, open areas, with multiple patients sharing the same space. Also, physicians in the United States are able to spend more time with their patients than Filippino doctors are.

"The doctors here take a lot of time to explain to their patients what is going on," Dr. Sioson said. "In the Philippines, we see a larger number of patients than the

> *"We are committed to… enhancing our offerings to ensure our learners obtain rich clinical and surgical experiences, top-notch mentoring and an unparalleled research experience."*

Drs. Burkat and Sioson in clinic

doctors do here. So, while we want to take our time, we usually have to cut it short. We aren't able to give the best quality of care because of that."

Dr. Sioson was also impressed with the efficiency provided by electronic records. "In our institution we still use paper," she said. "Coming here I saw how efficient the electronic process is. I think that helps doctors give more time to their patients, allowing them to focus on the more important parts of the process, which is evaluating and managing patients."

Dr. Yvette Sioson

"I intend to try to implement these concepts back home," Dr. Sioson continued. "Of course, it would be very difficult to do that myself. But maybe I can talk to colleagues and we can start little by little and hopefully in the next few years could somehow be closer to how things work here."

The four weeks went quickly, but it was time well spent. Dr. Sioson said it has motivated her to research international fellowship programs in Singapore and Australia.

Dr. Sioson's experience in Madison wasn't all work, as she took time to explore the community. She went to the capital, the farmer's market, restaurants, local lakes and parks, and of course sampled ice cream and cheese curds.

"I had heard your cheese was the best, and I can now say 'yes, it is!'"

Dr. Sioson credits the UW faculty and education team with making her feel welcomed and supported.

"I am very grateful and honored to have met everyone here," she said. "This was my first time travelling to the United States and my first time travelling alone - and not just for a few days but quite a long time. I was very nervous about how I would integrate with the other members of the faculty and the residents. But I was pleasantly surprised at how nice everyone was. I didn't have to adjust that much. I felt very welcomed and supported by everyone. I felt like a part of the family during my stay."

UW-Madison Scientist Awarded Prestigious Fellowship to Explore

NEW THERAPIES IN THE FIGHT AGAINST BLINDNESS

A University of Wisconsin vision scientist has been awarded a prestigious global fellowship to investigate new therapies for rare inherited blindness.

Bikash Pattnaik, PhD, MPHIL, has been named a 2025-2028 VAIshwik BHArtiya Vaigyanik (VAIBHAV) fellow by the Indian government's Ministry of Science and Technology. This highly competitive fellowship underscores the University of Wisconsin—Madison's leading role in ophthalmic research worldwide.

Dr. Bikash Pattnaik

"I am humbled and deeply honored to represent UW-Madison as a VAIBHAV fellow," said Dr. Pattnaik. "This fellowship reflects the idea that science transcends borders, uniting us as global citizens in our quest for knowledge and discovery. Together, we aim to bring hope to those with rare and ultra-rare conditions, proving that no disease is too rare to matter."

Dr. Pattnaik, an Associate Professor of Pediatrics and affiliate faculty member with the Department of Ophthalmology and Visual Sciences, will collaborate with colleagues from the Indian Institute of Technology in Hyderabad, the LV Prasad Eye Institute in Hyderabad, and the National Institute of Science Education and Research in Bhubaneswar. Their joint efforts will focus on exploring novel therapies for combating both acquired and inherited blindness. Inherited diseases – those passed down from parent to child- are rare and result from genetic mutations. Dr. Bikash's collaborative research strives to understand how these genetic changes cause blindness.

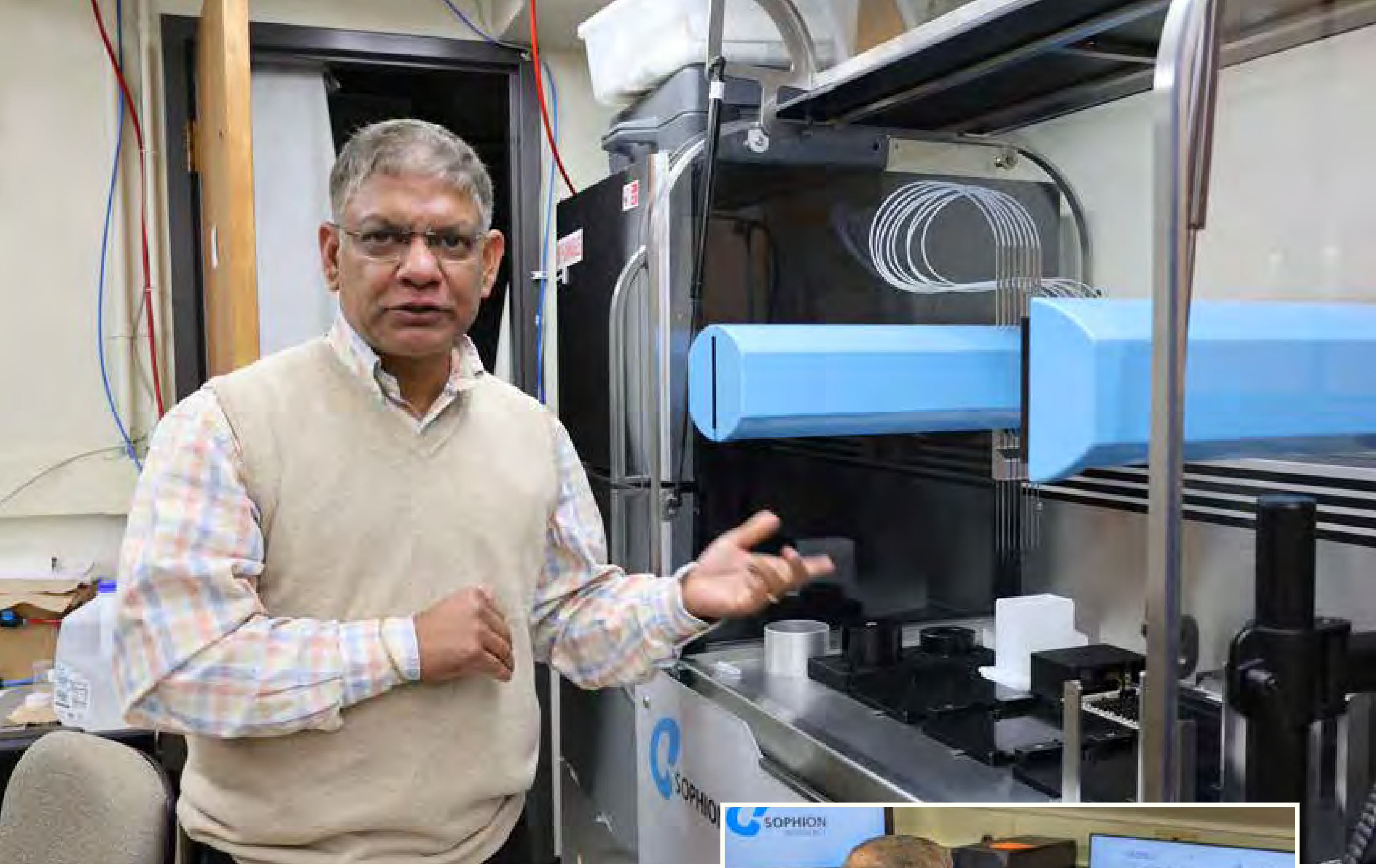
The first step is to look at the protein Transient Receptor Potential Cation Channel Subfamily M Member 1 (TRPMI).

"TRPM1 is a protein important for how our eyes turn light into signals that the brain can understand," said Dr. Pattnaik. "When light hits the eyes, TRPM1 helps let calcium into certain eye cells, starting a process that sends visual information to the brain. Mutations in the TRPM1 gene can cause night blindness."

Dr. Bikash and his collaborators will also study the impact of Hypoxic-Ischemic Encephalopathy (HIE), a condition caused by reduced blood flow and oxygen, on the brain and inner retina.

"We believe that the lack of oxygen in the inner retina leads to cell damage and death," explained Dr. Pattnaik. "We will use a multielectrode array - a grid of small sensors - to study how HIE affects the electrical activity of retinal cells and how they communicate with one another."

> *"This fellowship reflects the idea that science transcends borders, uniting us as global citizens in our quest for knowledge and discovery. Together, we aim to bring hope to those with rare and ultra-rare conditions, proving that no disease is too rare to matter."*



Dr. Bikash Pattnaik in his lab

The hope is that this research will lead to better diagnoses of inherited diseases and new therapies, including expanded genetic counseling and genome editing.

“Developing such therapies takes time, global collaboration, rigorous testing, and clinical and regulatory approval before they become widely available,” said Dr. Pattnaik.

“This fellowship makes global collaboration in the search for answers possible.”

The award runs from April 1, 2025 to March 31, 2028. Initial funding will cover travel, local research, and living expenses for at least one month to help facilitate program development. Dr. Pattnaik intends to travel to India to conduct research sometime in late 2025.

COMMITMENT TO EXCELLENCE

NEW OPHTHALMOLOGY PROFESSORSHIP AWARDED

to Cat Burkat, MD, FACS

Cat Burkat, MD, FACS, a professor in the Department of Ophthalmology and Visual Sciences (DOVS) at the University of Wisconsin–Madison School of Medicine and Public Health formally received the inaugural appointment to the Lions Eye Bank of Wisconsin (LEBW) Professorship at a special celebration at the Health Science Learning Center in Madison, WI in May 2025. The professorship recognizes Dr. Burkat's outstanding achievements in oculofacial plastic and reconstructive surgery and her unwavering dedication to patients locally, nationally, and internationally.

"The Lions Eye Bank of Wisconsin is honored to support the endowed professorship awarded to Dr. Cat Burkat, whose groundbreaking work in global ophthalmology and corneal neurotization reflects our shared commitment to reducing blindness and expanding access to vision-restoring treatments," said LEBW Chief Executive Officer Stacie Troha. "Dr. Burkat's leadership in advancing sustainable care models, particularly in economically disadvantaged regions, and her focus on applied stem cell therapies, exemplify the innovative spirit this professorship was designed to foster. We are confident that this collaboration will accelerate the discovery of new therapeutic processes and broaden the use of donated corneal tissue in treating curable blindness worldwide. We look forward to the transformative impact this partnership will have on patients, practitioners, and the future of eye care."

Dr. Burkat earned her Bachelor of Arts degree from Harvard University in Cambridge, MA in 1995 and her Doctor of Medicine degree at the University of Rochester in Rochester, New York in 1999. She completed her internal medicine internship and ophthalmology residency training at Strong Memorial Hospital at the University of Rochester, where she was selected to lead as chief resident in her final year. Dr. Burkat then completed dual fellowship training in ophthalmic plastic and reconstructive surgery and facial cosmetic surgery at the University of Wisconsin-Madison and University of Wisconsin Hospital and Clinics in 2005 and immediately joined the faculty at DOVS.

Dr. Burkat is Professor of Oculoplastics, Facial Cosmetic and Orbital Surgery in the School of Medicine and Public Health and is considered an international expert in orbito-facial prosthesis. Throughout her career, Dr. Burkat has been active

Dr. Cat Burkat

> *Dr. Burkat's leadership in advancing sustainable care models, particularly in economically disadvantaged regions, and her focus on applied stem cell therapies, exemplify the innovative spirit this professorship was designed to foster."*

in associations both at home and abroad. She has been honored with leadership and teaching awards by the American Academy of Ophthalmology and the American Association for Pediatric Ophthalmology and Strabismus, just to list a few. She has been invited to lecture worldwide in Canada, Mexico, Italy, Puerto Rico, Nepal, Brazil, Vietnam, India and the Philippines.

Dr. Burkat currently serves as the co-director of the DOVS Global Ophthalmology Initiatives Program and has been instrumental in establishing collaborative medical, research and educational exchange programs between DOVS and the University of Santa Tomas, Cardinal Santos Medical Center, and the Tzu Chi Eye Center in Manila, Philippines. As an esteemed authority in oculoplastics and global ophthalmology, Dr. Burkat recently published a textbook as editor in chief entitled "Global Oculoplastics: A Guide to the Care of Patients in Resource-Poor Environments" and has directed over 80 skill courses/breakfast roundtables at annual American Academy of Ophthalmology meetings to help advance the education of ophthalmologists around the world.

Dr. Burkat also works with local middle and high school students, especially those from underrepresented populations, to expose them to medicine and ophthalmology, while also working to increase vision screenings for young children.

"Dr. Burkat's leadership and service portfolio is exemplary, with expansive local to international impact, and she is more than deserving of this recognition," said Department Chair Terri Young, MD, MBA. "Dr. Burkat's pioneering academic and clinical work in corneal neurotization procedures aligns with broader efforts to increase the availability and use of donated ocular tissues, helping to improve outcomes for patients who may not benefit from traditional treatment options. Her efforts in both developed and underserved regions align with the UW and Lions Eye Bank of Wisconsin's commitment and ethos to reduce healthcare disparities and expand access to treatment for all."

This professorship is for a 5-year term January 1, 2025, through December 31, 2029, and is renewable.

ABOUT LIONS EYE BANK OF WISCONSIN

The Lions Eye Bank of Wisconsin is a non-profit organization dedicated to restoring sight through the recovery and transplantation of corneal tissue. The LEBW is honored to support Wisconsin corneal tissue donors and their families and to collaborate with the state's leading transplant surgeons to ensure that residents of our state have access to the life-changing gift of sight through transplantation.

Left to right: Ivan Castaneda (LEBW Surgical Services Manager); spouse Jason Schoephoester; daughter Hisa; Dr. Burkat; Tolulope Oyedun, MD (LEBW Director of Clinical & Technical Services); Michael Nork, MD; Rick Daluge (Chair, LEBW Board), and Department Chair Terri Young, MD, MBA.

HONORS

HONORS

New

DEPARTMENT LEADERSHIP

The University of Wisconsin Department of Ophthalmology and Visual Sciences named one new vice chair and two new clinical service chiefs in 2025.

KARINA CONLIN, OD
is the new co-vice chair of clinical affairs. Dr. Conlin, a clinical adjunct professor, earned her Doctor of Optometry from the Illinois College of Optometry in Chicago, IL and completed a residency at Veterans Affairs Hospital, Nova Southeastern College of Optometry, in Miami, FL. Dr. Conlin joined the department in 2016.

JANET CUSHING, OD
is the new service chief of optometry. Dr. Cushing, who is a clinical adjunct assistant professor, earned her Doctor of Optometry from the University of Houston College of Optometry in Houston, TX. After serving a few years in Texas, she joined the team at UW Health in Madison, WI as a clinical optometrist in 2004.

HEATHER POTTER, MD
is the new service chief of comprehensive ophthalmology. Dr. Potter is a professor and chief of the ophthalmic pathology service. Dr. Potter completed medical school at the University of Iowa Carver College of Medicine in Iowa City, IA. She then completed an ophthalmology residency and a fellowship in ophthalmic pathology at the University of Wisconsin Hospital and Clinics. She joined the faculty in 2006.

PROMOTIONS

Four accomplished ophthalmology faculty members in the School of Medicine and Public Health successfully campaigned and received approval of their promotion dossiers. Congratulations Drs. Channa, Larson, van Landingham, and Warner.

ROOMASA CHANNA, MD
was promoted to Associate Professor with tenure.

JENNIFER LARSON, MD
was promoted to Associate Professor, Clinical Health Sciences track.

SUZANNE VAN LANDINGHAM, MD
was promoted to Associate Professor, Clinical Health Sciences track.

EVAN WARNER, MD
was promoted to Associate Professor, Clinical Health Sciences track.

MORE HONORS

TERRI YOUNG, MD, MBA

professor and chair of the Department of Ophthalmology and Visual Sciences, has been elected as the next president of the Association for Research in Vision and Ophthalmology (ARVO). ARVO is the largest eye and vision research organization in the world, with global membership of nearly 12,000 researchers from over 60 countries. Dr. Young began her term as president-elect in 2025 and will assume the presidency in 2026. Dr. Young is also president of the Association of University Professors in Ophthalmology (AUPO). AUPO champions an academic ophthalmology community to promote and advocate for excellence in ophthalmic education, professional development, research, and clinical care.

WHITNEY STEVENS-SOSTRE, PHD

a post-doctoral researcher in the University of Wisconsin-Madison Department of Ophthalmology and Visual Sciences, was selected to receive a Hanna Gray Fellowship from the Howard Hughes Medical Institute. The award recognizes Dr. Stevens-Sostre as an outstanding early career scientist in the field of ophthalmology and visual sciences.

THE LEGACY OF A VISIONARY:

Dr. Andrew Thliveris' Lifelong Commitment to DOVS

After 28 years of dedicated service to the University of Wisconsin's Department of Ophthalmology and Visual Sciences (DOVS), Andrew T. Thliveris, PhD, MD retired in 2023 to his peaceful 30-acre fruit orchard in Colorado. But his heart never left DOVS.

Known for his wisdom, warmth, and humor, Dr. Thliveris continues to be a cherished presence at department events, especially graduation and the Phacoemulsification cataract extraction course he once directed. His commitment to nurturing future ophthalmologists remains unwavering - both through mentorship and generous philanthropy.

A spirit of philanthropic giving runs deep in his family. Dr. Thliveris serves as co-trustee of the Carl and Mary Ann Berg Charitable Remainder Trust. Carl Berg, a real estate entrepreneur and venture capitalist, is Dr. Thliveris' second cousin. Raised in New Mexico by a schoolteacher mother after his father died heroically in a workplace accident in an effort to save the life of a co-worker, Berg built his fortune in Silicon Valley by investing in over 100 tech startups, and co-founding the biopharma company Berg Health, now k nown as BPG Bio.

Dr. Andrew T. Thliveris

"Carl is one of the humblest men you'll ever know," Dr. Thliveris said. "He could be in the middle of a large group of people, and you'd never know how accomplished he had become. He grew up to be a risk-taker, and he understood the true meaning of sacrifice. He recognized early on the importance of serving a veteran population that put everything on the line, and paid the ultimate sacrifice, like his dad, with their lives." As co-trustee, Dr. Thliveris has helped funnel needed

Dr. Thliveris with Drs. Sarah Nehls and Daniel Knoch at PHACO. 2023
Photo credit: Andy Manis

financial support into transformative DOVS initiatives such as the Global Ophthalmology and Teaching Enhancement Funds.

Dr. Andrew T. Thliveris

"It may take a while, but if you are surrounded by the right people, you can make good decisions."

Dr. Thliveris with ophthalmology resident Dr. Ashley Lundin, 2015

These programs open doors for learners to gain global patient care experience, attend clinical and vision research conferences, and access vital tools.

Perhaps most meaningful, however, is the establishment of the Carl and Mary Ann Berg Family Professorship of Ophthalmology, awarded to Dr. Daniel Knoch in 2023. Dr. Knoch is a full professor in the Department of Ophthalmology and Visual Science, and Chief of the Ophthalmology Service of the Middleton Veteran's Administration Hospital in Madison. This first-of-its-kind professorship ensures top-tier care for veterans and empowers its holder to make important decisions and impact change for that service.

Dr. Thliveris credits his enduring dedication to one simple value: family.

"Greeks are all about family," he said. "And DOVS has always been one of mine. We've grown together, faced challenges together, and built something lasting."

As he looks back on his career, his biggest piece of advice to the future generation of ophthalmologists is something he lives by to this day - know that you don't know everything.

"Serving as co-trustee of Carl and Mary Ann's estate has been challenging to say the least," Dr. Thliveris said, "but it's been incredibly fascinating and rewarding at the same time. When I started doing all of this trustee work, I didn't know about initial public offerings, venture capital, and real estate. I had a lot to learn. But I stand by the notion that if you have strong principles and you know that you don't know, then you'll find out what you need by seeking out individuals who do have the expertise or by educating yourself. It may take a while, but if you are surrounded by the right people, you can make good decisions."

Dr. Thliveris and faculty enjoy ice cream with residents

When asked if he misses practicing ophthalmology, he smiles. "Truthfully, I can say that I just haven't thought about it - because I'm trying to grasp the complexity of other endeavors. But my heart swells every time I return to UW–Madison to see the ophthalmology residents and faculty. DOVS has been a huge part of my life, and they are my family. It's been an honor to be part of this incredible DOVS village."

Dr. Thliveris at graduation, 2025

Drs. Daniel Knoch, Terri Young, and Andrew Thliveris, graduation, 2022

Donor

HONOR ROLL

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, 2024 and June 30, 2025.

$100,000 +

Carl and Mary Ann Berg Charitable Remainder Trust
University of Wisconsin Medical Foundation

$10,000 – 99,999

American Endowment Foundation
Charles Joseph and Carole Anderson
Irving and Dorothy Levy Family Foundation Inc.
Muskingum County Community Foundation
Mary Pratt
Retina Research Foundation

$5,000 – 9,999

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Morgan Stanley Global Impact Funding Trust
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Terri Young

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Roger and Patricia Birkett
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Beverly and Robert Acker
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Kitty and James Brussock
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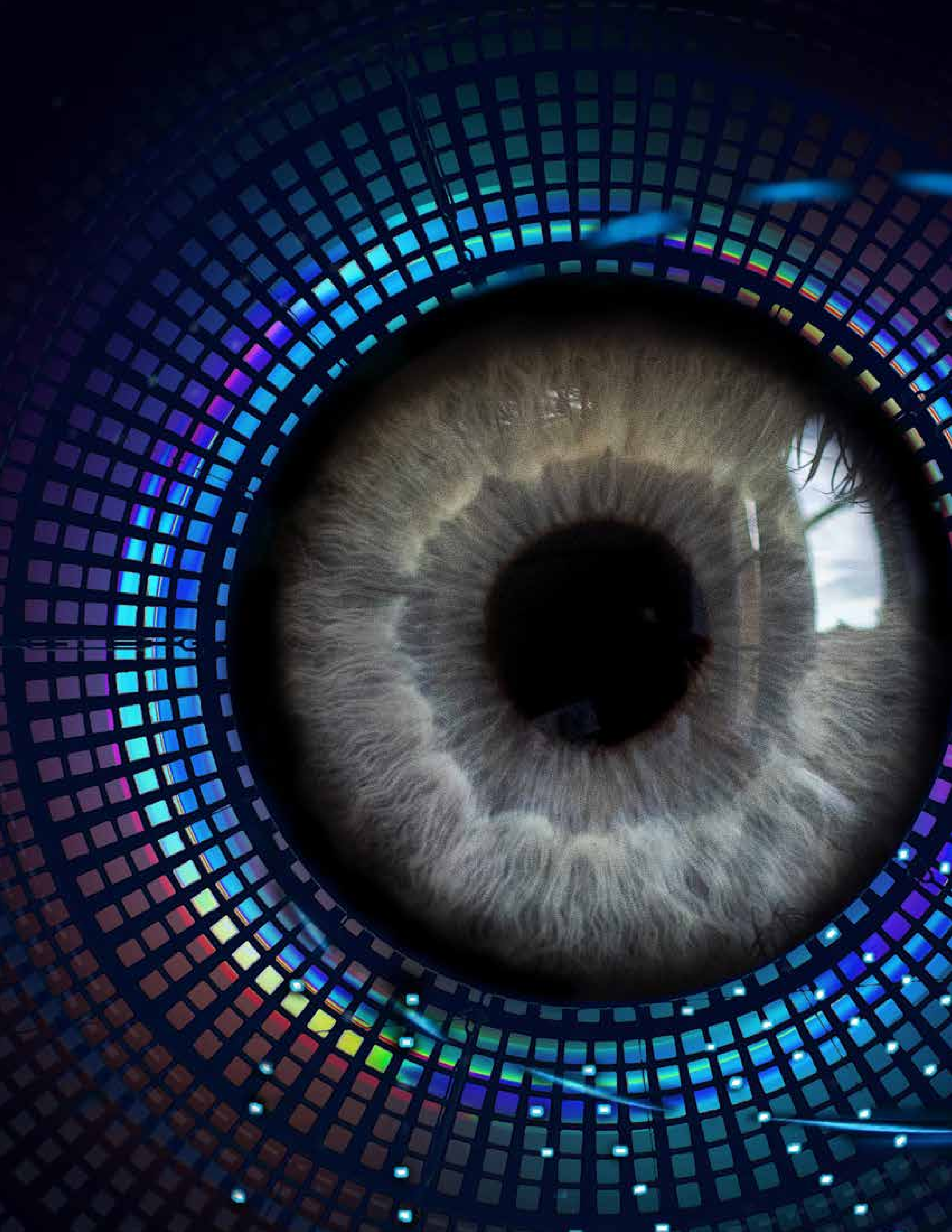

WHO'S WHO

SAPNA GANGAPUTRA, MD, MPH

Receives 2024 Distinguished Alumni Award

Even though Sapna Gangaputra, MD, MPH considers her path into ophthalmology a non-traditional one, it hasn't stopped her from achieving excellence in the field.

Dr. Gangaputra is the recipient of the University of Wisconsin Department of Ophthalmology and Visual Sciences (DOVS)' 2024 Distinguished Alumni Award. She received the honor at a special Alumni and Friends reception at the American Academy of Ophthalmology conference in Chicago, IL on October 19, 2024.

"Winning this award is overwhelming," said Dr. Gangaputra, who is the Associate Vice Chair for Clinical Research and Uveitis Division Chief at Vanderbilt University Medical Center in Nashville, TN. "I am grateful for everything DOVS invested in my training."

Dr. Gangaputra graduated from her ophthalmology residency at the University of Wisconsin–Madison in 2016. After that, she completed specialty fellowship training in uveitis and medical retina at the National Eye Institute in Bethesda, MD. She specializes in the evaluation and treatment of inflammatory diseases of the eye, with particular focus on the use and monitoring of systemic immunosuppression, diabetic eye disease, and age-related macular degeneration.

Beyond her clinical commitments, Dr. Gangaputra is actively engaged in clinical research. She has authored numerous papers in peer-reviewed scientific journals, presented at national meetings, and contributed chapters to ophthalmology textbooks. She is a distinguished member of the American Academy of Ophthalmology, the Association for Research in Vision and Ophthalmology, and the American Uveitis Society.

She credits the UW ophthalmology residency training for setting her up for success.

"The program was excellent, and it takes a village," she said. "Now that I'm an attending physician and train ophthalmology residents myself, I understand how much we put into it."

Dr. Sapna Gangaputra

"I wasn't a traditional candidate," she adds. "I was a foreign medical graduate with eight years of research under my belt before I even came into my ophthalmology residency. The University of Wisconsin took a chance on me, and I am so grateful."

Dr. Gangaputra earned her medical degree at Jawaharlal Nehru Medical College, Belgaum, India, where she practiced ophthalmology prior to relocating to the United States in 2004. She then attended Johns Hopkins University in Baltimore, MD, where she completed a Master's in Public Health with a concentration in public health ophthalmology. She followed that with four years as a post doctorate fellow, where she worked on a uveitis project. After that, she moved to Madison and joined the team of researchers at the Wisconsin Reading Center (WRC).

> *"I tried my best to be an empty slate during my residency... I wanted every experience to be unique."*

"At the WRC, I was able to dive more deeply into my uveitis research," she said. "I wasn't only involved in chart review like I was in my post-doc followship, but was now also examining and interpreting images of uveitis. I was part of the Data and Safety Monitoring Committee, too, so I really got to understand how a uveitis trial runs."

Dr. Gangaputra with Drs. Timothy Daley and Burton Kushner at the American Academy of Ophthalmology conference, 2024

She stayed at the WRC for 4 years, before moving into the School of Medicine and Public Health for an ophthalmology residency.

"I tried my best to be an empty slate during my residency," she said. "I wanted every experience to be unique. I learned so much from my glaucoma teachers; I learned so much from the pediatrics faculty, and everybody. And of course, I can't forget the role that the nurses and technicians played in my life. The technicians taught me how to prepare to see a patient, and in the operating room, it was Doreen [Reilly] who could hand me an instrument before I even asked for it."

Dr. Gangaptura hopes the next generation of eye care specialists will dedicate their careers to subspecialities like pediatric ophthalmology and uveitis, where there are staffing shortages.

Despite her thriving clinical practice and robust research program, Dr. Gangaputra considers her biggest success to be balancing her busy professional life with her family life. "My biggest achievement has been my son who won a citizenship award that was given to only one child in the entire 5th grade," she said.

"The one thing I think about is whether I am being a good parent," she continued. "Am I giving my son enough time? Am I able to teach him what I need to teach him as a parent? So, my biggest achievement is being able to balance my house, my son, and my work."

"This award is my answer to all of the people who chose me, who helped me get into residency, who invested in me, who believed in me," Dr. Gangaputra added. "This is my show of gratitude, that everything they put into me made a difference. I intend to keep returning the favor to the next generation of eye doctors for as long as I'm in academia."

Dr. Gangaputra is joined by her son and Drs. Yao Lui and Barbara Blodi

ALUMNI SPOTLIGHT: DEBORAH SHERMAN '91

After dedicating 30 years to her career as a board-certified ophthalmologist and a fellowship trained ophthalmic plastic surgeon, Dr. Deborah Sherman has one key piece of advice for new providers: "Never think you know it all, and never stop learning."

Dr. Sherman completed her fellowship in Oculofacial Plastic Surgery at the University of Wisconsin School of Medicine and Public Health in 1991, under the direction of Drs. Richard K. Dortzbach, Brad Lemke, Russell Gonnering, and David Lyon.

Reflecting on her training, she remarked, "Then and now, the University of Wisconsin is and was a premier place to train as a Fellow in Oculofacial Plastic Surgery."

Dr. Sherman credits Dr. Dortzbach with imparting five essential rules she continues to follow:

1. Arrive on Lombardi time – 15 minutes early.
2. No small talk for the fellow for the first six months. Instead, focus on listening and learning best practices.
3. Review scans with the radiologist personally to enhance learning.
4. Never leave home without a medical camera.
5. Conduct before and after photo reviews at the end of every clinic day to assess outcomes and discuss improvements.

> *"Never think you know it all, and never stop learning."*

Immediately after completing her fellowship, Dr. Sherman established her private practice in Nashville, TN, where she continues to practice. She also serves as a clinical faculty member at the Vanderbilt Eye Institute and as an Allergan Medical Institute Trainer, teaching proper techniques for cosmetic injectables worldwide.

"I was honored to serve as a lead trainer for the launch of Botox Cosmetic in China in 2011," said Dr. Sherman, "and also for the launch Belkyra, a fat busting injection, in Australia, Italy, Norway, Sweden, Poland, Ireland and Denmark."

Despite her impressive professional achievements, Dr. Sherman considers being a mom to her sons, Jonathan and Jackson, her greatest accomplishment.

Dr. Deborah Sherman

ALUMNI SPOTLIGHT: RONALD LANGE *'84, '85*

Ronald Lange, MD was inspired at the age of 10 to pursue a career in eye care by his optometrist. The rest, as they say, is history.

"The best advice I would give anyone entering any medical field is to always put family first, stay curious, and keep learning," Dr. Lange said. "Maybe this balance is why, after 40 years, I still love what I do."

Dr. Lange is a retina specialist based in northern

Dr. Ronald Lange

Wisconsin. He completed his ophthalmology residency with the University of Wisconsin (UW) Department of Ophthalmology and Visual Sciences in 1984, followed by a medical retina fellowship in 1985.

"My favorite memory from my training at the UW is probably the incredible amount of hands-on experience I received as primary surgeon. I wasn't merely observing," Dr. Lange recalled. "My most memorable experience involved a graduate engineering student who suffered a traumatic eye injury from a hydraulic line explosion. I initially sutured his corneal laceration. Then a week later, I assisted with the repair, which was a complex process involving removal of a plastic foreign body and dislocated lens from the vitreous cavity. A keratoprosthesis was placed, followed by vitrectomy done by Dr. Thomas Stevens. After that, I completed a corneal transplant."

After concluding his ophthalmology training, Dr. Lange joined another DOVS graduate, Dr. C. Thomas Dow, in private practice in Eau Claire, WI. What began as a small clinic has grown into a multi-specialty group with eight doctors and several outreach locations, including Cumberland, where Dr. Lange started outreach in 986 and now spends half his time. Dr. Lange also served as chief of surgery at Sacred Heart Hospital for 26 years, which included a major renovation and expansion of services.

Beyond clinical care, Dr. Lange has been a passionate advocate for diabetes education. He chaired the Diabetes 2000 initiative, promoting awareness of the link between blood sugar control and eye health, and served on the board of the American Diabetes Association's local affiliate. He has been a member of the American Academy of Ophthalmology for 44 years.

"The most rewarding thing about my work has been the patients who have placed their trust in me," Dr. Lange said. "I have been seeing many of them for several decades. The most memorable is a young woman I first saw in 1986, when she was only 15 years old. She was diagnosed with severe proliferative diabetic retinopathy. I was able to successfully treat both eyes with pan retinal photocoagulation, a laser-based treatment for retinal disease. I still see her yearly. She is now a grandmother and has maintained excellent vision."

Outside of work, Dr. Lange enjoys snowshoeing, hunting, and fishing with Pat, his wife of 46 years, his sons, and grandson.

> *"Maybe this balance is why, after 40 years, I still love what I do."*

HELP TRAIN

FUTURE LEADERS IN EYECARE

NEW CHIEF ADMINISTRATIVE OFFICER

The University of Wisconsin (UW) Department of Ophthalmology and Visual Sciences (DOVS) is pleased to announce that Jessica Karls-Ruplinger, JD has been chosen to serve as the next Chief Administrative Officer.

In this role, Karls-Ruplinger is responsible for broad administrative leadership and operational expertise for the clinical, educational, research, and community engagement programs of the department.

"I am deeply honored to join DOVS, which is recognized as one of the leading ophthalmology programs in the nation," said Karls-Ruplinger. "From the moment I arrived, I have been impressed by the remarkable accomplishments of our dedicated providers, researchers, and staff. Their unwavering dedication, enthusiasm, and genuine compassion for our mission are truly inspiring."

"It is with great enthusiasm that I welcome Jessica to this pivotal role," said Department Chair Terri Young, MD, MBA. "Jessica's extensive leadership experience in policy development, strategic planning, human resources, and operations, combined with her commitment to our People First culture, makes her the perfect fit as our Chief Administrative Officer."

> *"From the moment I arrived, I have been impressed by the remarkable accomplishments of our dedicated providers, researchers, and staff. Their unwavering dedication, enthusiasm, and genuine compassion for our mission are truly inspiring."*

Karls-Ruplinger joins DOVS from the UW Department of Surgery, where she served as the Director of Research

Jessica Karls-Ruplinger, JD

Operations. Prior to that, she served as Chief of Staff in the Office of Human Resources at UW-Madison. She also served more than 13 years as an attorney for the non-partisan Wisconsin Legislative Council.

Karls-Ruplinger, who joined DOVS in January 2025, replaces Linda Callow, MBA, who retired after 17 years of service to the department and 31 years with UW–Madison.

CLINICAL AND RESEARCH FACULTY

Michael M. Altaweel, MD
Professor, Retina Service Chief, Vitreoretinal Surgery Fellowship Co-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-Director Global Ophthalmology Initiatives

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

Cat N. Burkat, MD, FACS
Professor, Co-Director Global Ophthalmology Initiatives

Jonathan S. Chang, MD
Associate Professor, Vitreoretinal Surgery Fellowship Co-Director, Associate Residency Program Director

Roomasa Channa, MD
Assistant Professor

Yanjun (Judy) Chen, MD, PhD
Associate Professor, Neuro-ophthalmology Service Chief

Gordon Crabtree, MD
Assistant Professor, DOVS Wellness Director (as of July 1, 2025)

Amitha Domalpally, MD, PhD
Associate Professor, Wisconsin Reading Center Research Director

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

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

Justin L. Gottlieb, MD
Professor

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

Abigail Jebaraj, MD
Assistant Professor, Director of DOVS Saturday Free Clinics (as of July 1, 2025)

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

Daniel W. Knoch, MD
Carl and Mary Ann Berg Family Professor, Vice Chair of Education and Faculty Development , William S. Middleton Memorial Veterans Hospital Ophthalmology Chief

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

Jennifer C. Larson, MD
Associate Professor, Director of Ophthalmology Medical Student Education, Department of Corrections Clinic Medical Director

Yao Liu, MD, MS
Associate Professor, William and Phyllis Huffman Research 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

Colleen M. McDowell, PhD
Associate 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
Associate Professor, Vice Chair of Resident Education, Residency Program Director, Director of DOVS Saturday Free Clinics (through June 30, 2024)

Freya Mowat, PhD, BVSc
Assistant Professor

Sarah M. Nehls, MD
Professor, LASIK Center Medical Director

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, Comprehensive Ophthalmology Service Chief (as of July 1, 2025), Ophthalmic Pathology Service Chief, DOVS Wellness Director (through June 30, 2024)

Travis C. Rumery, DO
Assistant Professor, Surgical Skills Training Facility Medical Director

Patricia C. Sabb, MD
Assistant Professor

Stephen K. Sauer, MD
Associate Professor

Kathleen R. Schildroth, MD
Assistant Professor

Melanie Schmitt, MD
Associate 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

Douglas Snyder, MD
Assistant Professor, DOVS Medical Director of Quality and Safety

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

John E. Temprano, MD
Associate Professor, Comprehensive Ophthalmology Service Chief (through June 30, 2024), Department of Corrections Clinic Medical Director

Suzanne W. van Landingham, MD
Associate Professor

Evan J. Warner, MD
Associate Professor, Cornea and Anterior Segment Service Chief, Lions Eye Bank of Wisconsin Medical Director

Eric Weinlander, MD, FACS
Assistant Professor

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

Ismail Zaitoun, PhD
Assistant Professor

CLINICAL ADJUNCT FACULTY

Paige Arthur, MD
James Bell, MD
Joseph T. Bergmann, MD
Tyler Boulter, MD
Thomas Castillo, DO, MBA
Dongmei Chen, MD
Karina Conlin, OD
Janet Cushing, OD
Sima Das, MD
Mark Duffy, MD, PhD
Ayman Elnahry, MD
Jacob Evans, MD
Daniel Fary, MD
Alexander Foster, MD
Robert Funk, MD
Sarah Groessl, MD
Michal Gutowski, MD
Kara Harbick, MD
Andrew Kornaus, OD, FAAO, FSLS
Amol D. Kulkarni, MD
Kevin Kurt, OD
Christine Larsen, MD
Bradley M. Lemke, MD
Michele Martin, OD
Sanbrita Mondal, OD
Asha Okorie, MD
Brett Pariseu, MD
Nayan Patel, OD
Julie Pegu, MD
William J. Reynders, MD
John G. Rose, MD
Jeffrey L. Shere, MD
Amy Walker, OD, MBA, FAAO
Wei-Chaun Wang, MD
Steven Whitford, MD
Kevin Wienkers, MD
Mitchell Wolf, MD
Lee Woodward, MD

AFFILIATE FACULTY

Anne Griep, PhD
Professor, Cell and Regenerative Biology

Natascha Merten, PhD, MS
Assistant Professor, Population Health Sciences

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

Donna Peters, PhD
Professor, Pathology and Laboratory Medicine

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

Yuhang Zhao, PhD
Assistant Professor, Computer Science

OPTOMETRY FACULTY

Karina Conlin, OD, FAAO, ABO Diplomate
Clinical Adjunct Assistant Professor
Clinical Optometrist, Co-Vice Chair of Clinical Affairs (as of July 1, 2025), Optometry Service Chief (through June 30, 2025)

Janet Cushing, OD
Clinical Adjunct Assistant Professor
Clinical Optometrist, Optometry Service Chief (as of July 1, 2025)

Tracy A. Klein, OD
Clinical Optometrist

Andrew Kornaus, OD, FAAO, FSLS
Clinical Adjunct Assistant Professor
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
Chief of Vision Rehabilitation Services
Clinical Adjunct Assistant Professor/
Senior Research Scientist III
Clinical Optometrist

Emily Parker, OD
Clinical Optometrist

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

Kelsey L. Rickels, OD
Clinical Optometrist

Michael Rickels, OD
Clinical Optometrist

Amy L. Walker, OD, MBA, FAAO
Clinical Adjunct Assistant Professor
Clinical Optometrist
Co-Vice Chair of Clinical Affairs
(through June 30, 2025)

Visiting PROFESSORS

Tatyana Milman, MD
Wills Eye Hospital and Thomas Jefferson University
GRAND ROUNDS
"Consultations in Eye Pathology"
July 19, 2024

Shameema Sikder, MD, FACS
Johns Hopkins University
FRONTIERS IN VISION RESEARCH
"Artificial Intelligence Driven Surgical Skill Optimization"
July 26, 2024

Manas Biswal, MFSc, PhD
University of South Florida
GRAND ROUNDS
"Translational Insights from a Preclinical Mouse Model of Dry Age-related Macular Degeneration (AMD): Phenotypes and Therapeutic Evaluation"
August 16, 2024

Grant Liu, MD
University of Pennsylvania
GRAND ROUNDS
"Eye Movement Disorders You Don't Want to Miss (with Lots of Videos!)"
August 23, 2024

Rajeev Muni, MD
University of Toronto
GRAND ROUNDS
"Journey In Advancing Retinal Detachment Repair"
September 6, 2024

Goldis Malek, PhD
Duke Eye Center
SANDRA LEMKE TROUT LECTURE
"Potential Therapeutics for Age-Related Macular Degeneration: The Nuclear Option"
September 13, 2024

Robert Mullins, MS, PhD
University of Iowa
FRONTIERS IN VISION RESEARCH
"The Choroid in Macular Degeneration: Molecular Insights into Pathogenesis and Treatment"
October 4, 2024

Pradeep Sharma, MD, FAMS
Centre for Sight, New Delhi
GRAND ROUNDS
"Newer Surgical Procedures in Strabismus"
September 27, 2024

Bushra Usmani, MD
University of Pittsburgh
GRAND ROUNDS
"Harnessing Data for Patient Care in Ophthalmology"
October 11, 2024

Lisa Kelly, MD
University of Cincinnati
GRAND ROUNDS
"Strategic Approaches to Equitable Eye Care: Overcoming Barriers in Underserved Populations"
October 25, 2024

Jennifer Sun, MD, MPH
Harvard University
MATTHEW D. DAVIS, MD LECTURE ON CLINICAL RESEARCH
"Changing the Paradigm of Diabetic Retinal Disease Care Through Collaborative Clinical Research"
November 1, 2024

Will Ross, MD, MPH
Washington University in St. Louis
GRAND ROUNDS
"Resolving Health Disparities Using a Health Equity Lens"
November 15, 2024

Rajesh Rao, MD
University of Michigan
GRAND ROUNDS
"Ocular Liquid Biopsies for Vitreoretinal Lymphoma and Diabetic Retinopathy: Next Gen Diagnostics and Insights into Disease"
November 22, 2024

Harald Junge, PhD
University of Minnesota
FRONTIERS IN VISION RESERACH
"The Norrin/Frizzled4 Signaling Pathway Controls the Blood-Retina Barrier and Is a Target for Therapeutic Intervention"
March 21, 2025

Megan Collins, MD, MPH
Wilmer Eye Institute
GRAND ROUNDS
"Building Strong Systems for Pediatric Eye Care Delivery: The Role of Community and Schools"
April 4, 2025

Nadia Waheed, MD, MPH
New England Eye Center
GRAND ROUNDS
"Subretinal Gene Therapy and Imaging Changes in Gene Therapy"
May 16, 2025

Phoebe Lin, MD, PhD
Cole Eye Institute
GRAND ROUNDS
"The Importance of the Microbiome in Uveitis"
May 23, 2025

Luxme Hariharan, MD, MPH
UW Global Health Institute, New Jersey Eye and Ear LLC
GRAND ROUNDS
"University of Wisconsin Global Health Institute: One Health Approach for Wisconsin, the World and Ophthalmology"
May 30, 2025

Kia Washington, MD
University of Colorado
GEORGE KAMBARA, MD VISION SCIENCE SYMPOSIUM
"Whole Eye Transplantation Therapy for Vision Restoration: A Comprehensive Approach"
April 11, 2025

Tsutomu Kume, PhD
Northwestern University
GEORGE KAMBARA, MD VISION SCIENCE SYMPOSIUM
"New Roles of FOXC1 Transcription Factor in Endothelial Cell-Pericyte Interactions in Retinal Vascularization and Disease"
April 11, 2025

Arthur J. Sit, MD, MS
Mayo Clinic
GEORGE KAMBARA, MD VISION SCIENCE SYMPOSIUM
"Repetitive Strain and Glaucoma"
April 11, 2025

Frans Vinberg, PhD
University of Utah
GEORGE KAMBARA, MD VISION SCIENCE SYMPOSIUM
"Ischemic Injury in the Mouse and Human Retina"
April 11, 2025

RESIDENTS, FELLOWS, POSTDOCTORAL & GRADUATE STUDENTS

RESIDENTS

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

Samuel Whittier, MD
MEDICAL SCHOOL: University of Utah School of Medicine
Salt Lake City, UT

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

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
Madison, WI

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

CLASS OF 2028

Alana Bryant, MD
MEDICAL SCHOOL:
Meharry Medical College
Nashville, TN

Sabrina Fleege, MD
MEDICAL SCHOOL:
University of Wisconsin School of Medicine and Public Health
Madison, WI

Colin Froines, MD
MEDICAL SCHOOL:
University of Washington School of Medicine
Seattle, WA

Caroline Kim, MD
MEDICAL SCHOOL:
Virginia Tech Carilion School of Medicine
Roanoke, VA

PRE-RESIDENCY FELLOWSHIP PROGRAM

Cole Basig, DO
Ophthalmic Pathology / Imaging Fellow
MEDICAL SCHOOL: Des Moines University
West Des Moines, IA

Maria Schultz, MD
Ophthalmic Pathology / Imaging Fellow
MEDICAL SCHOOL: East Tennessee State University Quillen College of Medicine
Johnson City, TN

Sairi Zhang, MD
Imaging Fellow
MEDICAL SCHOOL: University of Arkansas for Medical Sciences
Little Rock, AR

CLINICAL FELLOWS

CURRENT CLINICAL FELLOWS

Tyler Etheridge, MD
Vitreoretinal Surgery, 1st year
MEDICAL SCHOOL: UW-Madison School of Medicine and Public Health
Madison, WI
PRE-RESIDENCY PATHOLOGY FELLOWSHIP: UW-Madison Wisconsin Reading Center
Madison, WI
RESIDENCY: University of Utah School of Medicine
Salt Lake City, UT

Elleny Gutierrez, MD
Glaucoma
MEDICAL SCHOOL: Louisiana State University School of Medicine-Shreveport
Shreveport, LA
RESIDENCY: Louisiana State University School of Medicine-Shreveport
Shreveport, LA

Sina Rashidi Kikanloo, MD
Cornea, External Disease, Refractive Surgery
MEDICAL SCHOOL: Albert Einstein College of Medicine
Bronx, NY
RESIDENCY: University of Louisville School of Medicine
Louisville, KY

Ryan Larochelle, MD
Oculofacial Plastic Surgery
RESIDENCY: University of Colorado Medicine
Aurora, CO
MEDICAL SCHOOL: NYU Grossman School of Medicine
New York, NY

Amr (Mohammad) Sabbagh, MD
Vitreoretinal Surgery, 2nd year
RESIDENCY: Illinois Eye and Ear Infirmary
Chicago, IL
MEDICAL SCHOOL: University of Michigan Medical School
Ann Arbor, MI

POSTDOCTORAL STUDENTS

Shahnawaz Alam
Advisor: Ismail Zaitoun, PhD

David Barnett
Advisor: Freya Mowat, PhD, BVSc

Celia Bisbach
Advisor: David Gamm, MD, PhD
T32 Vision Research Program Trainee

Ruixuan Gao
Advisor: Sarah Gong, PhD

Lei Gu
Advisor: Sarah Gong, PhD

Meghana Karri
Advisor: Amitha Domalpally, MD, PhD

Hongbing Liu
Advisor: Sarah Gong, PhD

Khadijeh Masumnia-Bisheh
Advisor: Jeremy Rogers, PhD

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

Piper Rawding
Advisor: Sarah Gong, PhD

Zeinab Shirbaghaei
Advisor: Nader Sheibani, PhD

Yong-Seok Song
Advisor: Nader Sheibani, PhD

Whitney Stevens-Sostre
Advisor: Mrinalini Hoon, PhD

Praveen Susai Manickam
Advisor: David Gamm, MD, PhD

Rousen (Alex) Xie
Advisor: Sarah Gong, PhD

GRADUATE STUDENTS

Shiguang Dai
PROGRAM: Molecular and Cellular Pharmacology Training Program
ADVISOR: Sarah Gong, PhD

Adam Darlington
PROGRAM: Neuroscience Training Program
ADVISOR: Mrinalini Hoon, PhD

Kim Edwards
PROGRAM: Cellular and Molecular Pathology
ADVISOR: David Gamm, MD, PhD

Srishti Goswami
PROGRAM: Cellular and Molecular Biology
ADVISOR: Mrinalini Hoon, PhD

Ya-Hsuan Han
PROGRAM: Neuroscience Training Program
ADVISOR: Bikash, Pattnaik, PhD, MPhil

Mahmuda Khatun
PROGRAM: Comparative Biomedical Sciences – School of Veterinary Medicine
ADVISOR: Ismail Zaitoun, PhD

Jacob Khoussine
PROGRAM: Cellular and Molecular Biology/ Medical Scientist Training Program
ADVISOR: Mrinalini Hoon, PhD

Lauren Kresser
PROGRAM: Neuroscience Training Program, T32 Vision Research Program Trainee
ADVISOR: Ari Rosenberg, PhD

Huan Li
PROGRAM: Epidemiology
ADVISOR: Natascha Merten, PhD

Yijun Liu
PROGRAM: Neuroscience Training Program
ADVISOR: Mrinalini Hoon, PhD

Kayley Manuel
PROGRAM: Microbiology Doctoral Training Program
ADVISOR: Donna Neumann, PhD

Virginia Mathu
PROGRAM: Comparative Biomedical Sciences – School of Veterinary Medicine, T32 Vision Research Program Trainee
ADVISOR: Gillian McLellan, BVMS, DACVO, DECVO, PhD

Jenna Nagy
PROGRAM: Cellular and Molecular Pathology, T32 Vision Research Training Program Trainee
ADVISOR: Raunak Sinha, PhD

Anjali Rai
PROGRAM: Comparative Biomedical Sciences – School of Veterinary Medicine
ADVISOR: Gillian McLellan, BVMS, DACVO, DECVO, PhD

Michele Salzmann
PROGRAM: Comparative Biomedical Sciences – School of Veterinary Medicine
ADVISOR: Freya Mowat, PhD, BVSc

Tanya Sharmin
PROGRAM: Comparative Biomedical Sciences – School of Veterinary Medicine
ADVISOR: Colleen McDowell, PhD

Mason Shipley
PROGRAM: Cellular and Molecular Pathology, T32 Vision Research Program Trainee
ADVISOR: Donna Neumann, PhD

Serena Wisner
PROGRAM: Neuroscience Training Program
ADVISOR: Mrinalini Hoon, PhD

Ziyun Ye
PROGRAM: Microbiology Doctoral Training Program
ADVISOR: Donna Neumann, PhD

DEPARTMENT LEADERSHIP

DEPARTMENT CHAIR AND VICE CHAIRS

Terri L. Young, MD, MBA
Chair

Curtis R. Brandt, PhD, FARVO
Vice Chair of Research

Karina Conlin, OD
Co-Vice Chair of Clinical Affairs
(as of July 1, 2025)

Daniel W. Knoch, MD
Vice Chair of Education and Faculty Development

Anna Momont, MD
Vice Chair of Resident Education

Kimberly E. Stepien, MD
Co-Vice Chair of Clinical Affairs

Amy L. Walker OD, MBA, FAAO
Co-Vice Chair of Clinical Affairs
(through June 30, 2025)

DEPARTMENT SERVICE CHIEFS

Michael Altaweel, MD
Retina

Yanjun (Judy) Chen, MD, PhD
Neuro-ophthalmology

Karina A. Conlin, OD, FAAO
Optometry (through June 30, 2025)

Janet Cushing, OD
Optometry (as of July 1, 2025)

Daniel W. Knoch, MD
Veteran's Affairs Hospital

Laura Kopplin, MD, PhD
Uveitis

Yao Liu, MD, MS
Glaucoma

Mark Lucarelli, MD, FACS
Oculoplastic and Reconstructive Surgery

Alexander R. Miranda, MD
Pediatric Ophthalmology and Adult Strabismus

Sanbrita Mondal, OD
Vision Rehabilitation Services

Heather Potter, MD
Ophthalmic Pathology, Comprehensive Ophthalmology
(as of July 1, 2025)

John E. Temprano, MD
Comprehensive Ophthalmology
(through June 30, 2025)

Evan Warner, MD
Cornea and Anterior Segment

DIRECTORSHIPS

Barbara A. Blodi, MD
Wisconsin Reading Center Medical Director

Yasmin Bradfield, MD
Co-Director of Global Ophthalmology Initiatives

Cat Burkat, MD, FACS
Co-Director of Global Ophthalmology Initiatives

Jonathan Chang, MD
Associate Residency Program Director

Gordon Crabtree, MD DOVS
Wellness Director (as of July 1, 2025)

Amitha Domalpally, MD, PhD
Wisconsin Reading Center Research Director

Abigail Jebaraj, MD
Director of DOVS Saturday Free Clinics (as of July 1, 2025)

Jennifer Larson, MD
Director of Ophthalmology Medical Student Education, Department of Corrections Medical Director

Mark J. Lucarelli, MD, FACS
UW Health University Station Eye Clinic Medical Director

Alexander R. Miranda, MD DOVS
Physician Informaticist

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

Anna C. Momont, MD
Residency Program Director, Director of DOVS Saturday Free Clinics (through June 30, 2025)

Sarah Nehls, MD
LASIK Center Medical Director

Heather Potter, MD
DOVS Wellness Director (through June 30, 2025)

Travis Rumery, DO
Surgical Skills Training Facility Medical Director

Melanie Schmitt, MD
Director of Patient Centered Care Committee

Douglas Snyder, MD DOVS
Medical Director of Quality and Safety

John Temprano, MD
Department of Corrections Clinic Medical Director

Evan Warner, MD
DOVS Medical Director of Quality and Safety (as of September 6, 2025), Lions Eye Bank of Wisconsin Medical Director

DEPARTMENT ADMINISTRATION

Angie Adler
Clinical Eye Research Unit Manager
(as of June 1, 2025)

Linda Callow
Chief Administrative Officer
(retired September 2025)

Jessica Karls-Ruplinger, JD
Chief Administrative Officer
(as of January 27, 2025)

Chris Hodges
Associate Department Administrator

Tanya Lamontagne
UW Health Ophthalmology Retail Optical and Operations Manager

Cecil Martin
Director of Development

Bradley Meyers
Financial Manager

Christy Murphy, COT
UW Health Ophthalmology Clinic Manager

Jennie Perry-Raymond
Clinical Eye Research Unit Manager
(through May 31, 2025)

Amy Pikalek
Director of DOVS Communications and Marketing

Tetyana Schneider, PhD
Director of Ophthalmology Education and Faculty Development

Christina Thomas-Virnig, PhD
Director of DOVS Translational Research

Becca Raven Uminowicz
Administrative Manager

Paul Zellmer, MHA
Director of UW Health Ambulatory Operations

ALUMNI ASSOCIATION BOARD

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President

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Alex Ringeisen, MD

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EMERITUS FACULTY

Daniel M. Albert, MD, MS
Richard E. Appen, MD
Neal P. Barney, MD
Suresh Chandra, MD
Nansi Jo Colley, PhD
Karen J. Cruickshanks, PhD
Ronald P. Danis, MD
Richard K. Dortzbach, MD
Ronald Engerman, PhD
Thomas D. France, MD
Gregg Heatley, MD, MMM
Paul L. Kaufman, MD
Barbara E. K. Klein, MD, MPH
Burton J. Kushner, MD
Leonard A. Levin, MD
Julie Mares, PhD, MSPH
Frank L. Myers, MD
Arthur S. Polans, PhD
Andrew Thliveris, MD, PhD
James Verhoeve, PhD
Ingolf Wallow, MD

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 peer-reviewed publications from July 1, 2024 through June 30, 2025.

Abramoff MD, Lavin PT, Jakubowski JR, Blodi BA, Keeys M, Joyce C, Folk JC. ***Mitigation of AI Adoption Bias Through an Improved Autonomous AI System for Diabetic Retinal Disease.*** NPJ Digital Medicine. December 2024.

Adegboro CO, Luo W, Kabra M, McAdams RM, York NW, Wijenayake RI, Suchla KM, Pillers DM, Pattnaik BR. ***Transplacental Transfer of Oxytocin and Its Impact on Neonatal Cord Blood and In Vitro Retinal Cell Activity.*** Cells. October 2024.

Ahmad NU, Staggers K, Lee K, Mehta N, Domalpally A, Frankfort BJ, Liu Y, Channa R. ***Total Retinal Thickness is an Important Factor in Evaluating Diabetic Retinal Neurodegeneration.*** BMJ Open Ophthalmology. November 2024.

Ahmed M, Dai T, Channa R, Abramoff MD, Lehmann HP, Wolf RM. ***Cost-effectiveness of AI For Pediatric Diabetic Eye Exams From a Health System Perspective.*** NPJ Digital Medicine. January 2025.

Aiello LP, Blodi B, Gao X, Sun JK, Gubitosi-Klug RA, White NH, Hainsworth D, Lorenzi GM, Bebu I; DCCT/EDIC Research Group. ***Ultra-Widefield and Early Treatment Diabetic Retinopathy Study 7-Field Grading of Diabetic Retinopathy.*** JAMA Ophthalmology. August 2024.

Aldred BN, Weinlander EJ. ***Oncocytoma***. Ophthalmology. January 2025.

Arcot Sadagopan K, Raghunandan N, Saswade NS, Kushner BJ. Lateral Rectus ***Disabling and Simultaneous Modified Nishida Procedure for Exotropic Duane Retraction Syndrome.*** Journal of Binocular Vision and Ocular Motility. July 2024.

Agrón E, Vance E, Domalpally A, Chew EY, Keenan TDL. ***Relationships Between Diet and Geographic Atrophy Progression in the Age-Related Eye Diseases Studies 1 and 2.*** Nutrients. February 2025.

Arepalli S, Kopplin L, Tsui E, Brill D, Sobrin L, Papaliodis G, Darwish D, Raiji V, Janardhana P, Emami-Naeini P, Nore L, Parker M, Thomas AS. ***The Heterogeneous Presentations of De Novo and Recurrent Ocular Inflammation following COVID-19 Vaccination: A Multi-Center Report and a Review of the Literature.*** Retina. January 2025.

Arzbecker M, Kopplin LJ. ***Manifestations and Management of Inflammatory Eye Disease in Patients with Inflammatory Bowel Disease.*** Ocular Immunology and Inflammation. December 2024.

Bahir D, Hartstein M, Zloto O, Burkat C, Uddin J, Hamed Azzam S. ***Thyroid Eye Disease and Artificial Intelligence: A Comparative Study of ChatGPT-3.5, ChatGPT-4o, and Gemini in Patient Information Delivery.*** Ophthalmic Plastic & Reconstructive Surgery. December 2024.

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