

Vision FOR THE FUTURE

UNIVERSITY OF ROCHESTER | FLAUM EYE INSTITUTE

2024, VOL. 1



WOMEN OF FLAUM

DIRECTOR'S MESSAGE

Dear Readers,

What a year! We wrapped up our academic year on June 30, and I am very excited to share some metrics of our growth over the last few years. Our visits have grown to more than 125,000 per year—that's a 42 percent increase from three years ago! That volume was only possible by opening six new satellite locations in Alden, Batavia,



Geneseo, Pittsford, Rochester (South Clinton), and Webster and recruiting 30 new faculty hires (20 MDs, 6 ODs, 4 scientists, 2 Genetics Counselors) and one Physician's Assistant. Our diverse recruits came from all over the world, including Argentina, Canada, Egypt, England, Ethiopia, India, Israel, Jordan, Spain, Turkey, and Uruguay. The recruits brought expertise to Upstate New York including 11 different ophthalmological subspecialties and three new services (ocular genetics, ocular oncology, uveitis) and included some high-profile positions such as two center directors at URMC, four chiefs of services for ophthalmology, three professors, and four associate professors.

With the current growth, there is more and more exciting news to share, covering topics from education (the training of our future leaders in the field), research (awards and ranking), general news (featuring promotions and awards), special features (including our one-of-a-kind Urgent Eye

Care Center in Upstate NY), and, finally, our gracious donors who are helping us to better serve our community through our education, outreach, and research.

The goal of this current development of the Flaum Eye Institute is to create a space where everyone feels comfortable to work and seek eye care, no matter background or means, and to provide care for all of Upstate New York and beyond, with experts in-house negating the need for distant travel or pursuit of options outside our University. This inclusive culture and commitment to our region is helping to reshape the delivery of eye care to our community in a way never thought possible 20 years ago. This model of growth will not only help to serve patients in an equitable manner, but also help to preserve vision and restore lost vision using our cutting-edge translational science in genetics, retinal cell biology, neuroscience, optics, and imaging.

Please enjoy this issue, and feel free to write to me if you have questions about any of our exciting stories.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'David DiLoreto, Jr.', written in a cursive, flowing style.

David DiLoreto, Jr., MD, PhD
Director, David and Ilene Flaum Eye Institute
Chair, Department of Ophthalmology
University of Rochester School of Medicine & Dentistry

On the cover:

Even though medical student classes are now comprised of 50% women, the field of ophthalmology has yet to catch up, being comprised of only 25% women. We believe in fairness and equal opportunity at our Eye Institute. Over the last 4 years we have grown our faculty from 43 to 65 and the percentage of women from 39% to 48%. The cover is a tribute to these women.



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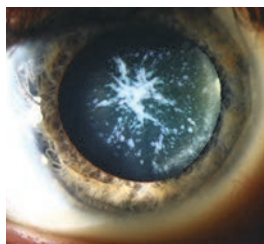
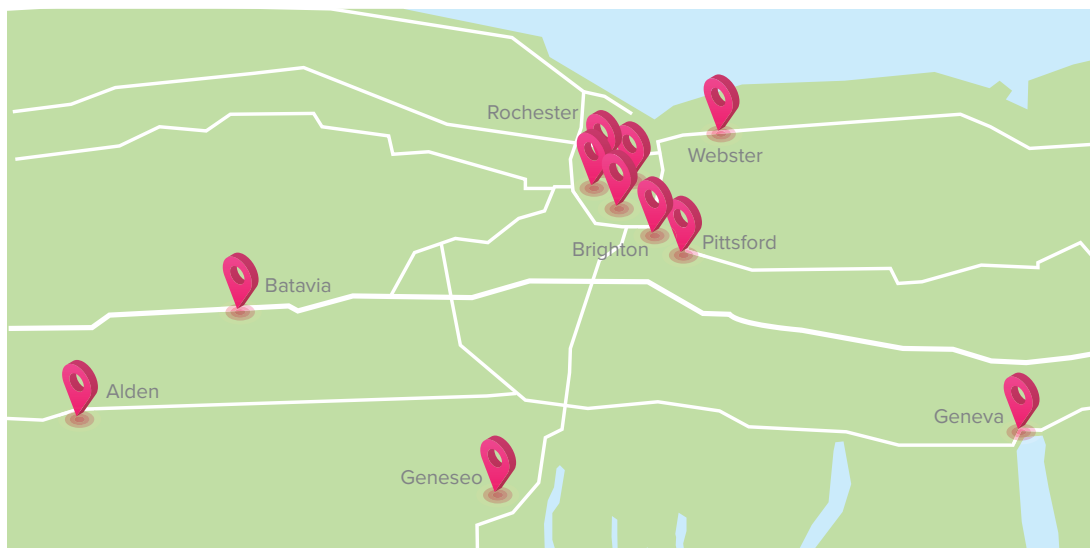
Building new infrastructure for regional eye care

When David DiLoreto, MD, PhD, became chair of the Flaum Eye Institute, it was with a bold five-year plan to expand access to eye care for people throughout the region, regardless of socioeconomic boundaries. This included adding specialties never before seen in Rochester and augmenting current specialties—fueled by the recruitment of more than two dozen faculty. Despite the many challenges posed by pandemic-related shutdowns, FEI became a magnet for talented clinicians. What might have taken a decade to accomplish occurred mostly during a 24-month span.

This included adding ocular oncology, ocular genetics, pediatric retina, low vision, urgent eye care, and the Finger Lakes' most comprehensive uveitis service. In addition, existing programs in cornea, glaucoma, pediatrics, neuro-ophthalmology, optometry, and oculofacial plastics were beefed up to handle increasing demand for services by patients and through referrals from UR Medicine and external health care providers.

FEI By the numbers:

- **20,000+** additional square feet of clinical space
- **32** new exam rooms
- **11** diagnostic rooms
- **3** additional surgical facilities



An undertaking as massive as this involved hiring dozens of staff to support recently recruited faculty. It also required re-imagining current clinical facilities and building or acquiring new space. A recently opened comprehensive eye care practice in Geneseo completes the first phase of this plan. It puts the Eye Institute on pace to complete more than 130,000 patient visits in the 2023 calendar year, making it one of the larger academic-based clinical programs in the country.

Supporting much of DiLoreto's vision during the expansion has been the job of FEI Administrator Joseph Gabriel. He is an adept project manager with a human touch when it comes to coordinating the activities of more than 300 FEI employees. Throughout the expansion, Gabriel directed a talented team responsible for everything from onboarding new associates to overseeing the design of optical shops.

"He's my right hand," DiLoreto said. "Joe has been instrumental to the growth of this organization. He has an uncanny ability to maintain calm during the most intense times. I can't imagine we would have made it this far without his steady hand."

The first project was the acquisition of Batavia Ophthalmology in June 2022. With it came staff, patients, and owner/cataract surgeon Eric Wu, MD. Incorporating a thriving solo practice with 10,000-plus annual patient visits was nothing new for FEI—it had previously acquired other practices. But this came with a wrinkle. Wu's offices were located in a building owned by a competing regional health provider; so was the ambulatory surgery center where Wu performed cataract procedures. Wu and his staff



Joseph Gabriel

would have to be physically moved and a new surgical space would need to be found that was convenient to patients in the region.

"We were lucky to find a piece of real estate that was already set up for medical care," Gabriel said. "It was formerly occupied by a UR Medicine primary care group that was moving to a new multi-specialty building. It fit the bill perfectly."

Gabriel was also able to relocate Wu's surgeries to Strong West ambulatory surgery center. Just 30 minutes away from Batavia, it maintained convenience for patients and upgraded operating equipment. What most impressed Gabriel about the project was Wu's attitude toward his staff.

"Normally we begin these transactions with a discreet practice evaluation and then we make an offer," Gabriel said. "Dr. Wu wouldn't even enter into this conversation until he knew that all his staff would be taken care of. I really admired this loyalty. I think it's what makes him such a good addition to the team."

Simultaneously, Gabriel and UR Medicine were working on FEI's most ambitious project since it added an entire new floor to what was formerly the Wilmot Cancer Center building at Strong Memorial Hospital: a newly designed and built facility in Webster, New York. The project combined two existing offices from previous practice acquisitions into a nearly 10,000 square-foot, state-of-the-art facility.



Webster facility.

Originally planned to open in 2021, the project faced numerous delays related to the pandemic, construction labor shortages, and supply chain issues. Opened in October 2022, the office allowed FEI hospital-based specialties to stretch their practices outside of the main campus. These include retina, oculofacial plastics, and pediatrics, located in a families' only suite that is named for FEI philanthropist Joanne Loboza (see page 16). In total, 14 providers see patients there.

"It is really an eye opener for efficiency," Gabriel said. "When you have an empty shell to work with, you can make the space fit workflows instead of conforming people to the space. It is our first Article 28 offsite location, which is New York State's highest certification standard for healthcare facilities."

Before the paint was dry in Webster, construction was already underway to open another suburban location. This time in the town of Pittsford. Located in an office park at a major crossroads, the office was a complete remodel of an existing space. With a mandate and budget that Gabriel described as "fast" and "affordable," the results are astonishing.

With nearly 6,000 square feet of patient care space, the new office mirrors many of the finishes and colors of the Webster build. It also includes advanced diagnostics, spacious exam rooms, and beautiful views of a wooded area through floor-to-ceiling windows. Like Webster, the location



enables general eye care practitioners and specialists to provide services to patients who formerly had to come to FEI's main campus. This includes cornea and pediatrics. Opened in November 2022, the facility has attracted new patients to the Eye Institute, serving nearly 1,000 local households to date.

With suburban expansion well in hand, Gabriel and DiLoreto turned their focus "downtown." Part of FEI's mission is to provide for those who lack access to equitable care. Much of this population resides in urban Rochester, which has some of the highest poverty rates in the nation.

Through his



Ruba Muhtaseb, MD

participation on the board of Goodwill Industries of the Finger Lakes, DiLoreto became aware that the organization had space available at its downtown campus. He and Gabriel toured an empty shell on the third floor of a building. It would require a complete buildout. As they discussed their needs, they discovered that everything they wanted was already in place on the ground floor of the same building. There, Goodwill had a large, but underutilized, office where they performed low-vision exams and vision rehabilitation services. It was the beginning of an incredible collaboration.

The Eye Institute and Goodwill came to an agreement in which FEI would rent the ground floor office and take over low-vision examinations. In addition, FEI would bring in well eye care for adults and children

with the idea of using the location to serve Rochester's urban core. The spot was ideal because it is on two of Rochester's main bus routes and less than a mile from Rochester Transportation Service's main terminal. FEI's Christine Coward, MD, was identified as medical director (see page 5).

"Sometimes it's good to be lucky," Gabriel said. "The University has limited resources to fund expansion, and we had used our share on some of the previous projects. We were able to come into an existing facility and figure out how to make it work as a full-service eye clinic. I really enjoyed the creativity of re-imagining the space. Anyone can blow out a wall and not give thought to what's already there. Goodwill are fantastic collaborators. They helped us come in under budget and meet our February 2023 opening target."

The clinic is already fulfilling many of its outreach missions and includes an optical shop that has high-quality eye wear that is affordably priced. A food pantry, supplied by Foodlink, is also on site for patients who may have food security issues.

From urban, FEI went rural, opening a Geneseo clinic in November 2023. It is in a temporary location shared with UR Medicine's Ear, Nose & Throat division until FEI moves into a multi-



specialty building currently under construction. The office is staffed by FEI's latest faculty recruit, Ruba Muhtaseb, MD, who provides medical eye care, cataract surgery, and eye exams. Soon to follow will be pediatric ophthalmology. Some of the related surgical care will occur locally at the UR Medicine-affiliated Noyes Surgery Center.

"This is our furthest expansion southward to date and represents another step in our plan to provide the highest standard of eye care to the region," Gabriel said. "The collaboration with ENT allows us to share some key office staff while we grow the practice and eventually move into the new building."

This 18-month expansion positions FEI to better serve patients closer to

where they live. It also gives a growing group of doctors more room to deliver expert care. All totaled, the projects added over 20,000 sq. ft. of clinical space, a net gain of 32 exam rooms, and three additional locations for surgery. And it's not over. DiLoreto and Gabriel have a green light to further expand the network. This will more closely align FEI with UR Medicine's growing primary care division to serve as a trusted source for future eye-related referrals.

"It has been busy but rewarding," Gabriel said. "I think our ability to be flexible has built trust with UR Medicine administration. I can't begin to thank everyone who helped, from project managers to contractors to the doctors and staff at FEI. It was an incredible and worthwhile lift."

Collaboration creates oasis for eye care

Improving access to care in underserved neighborhoods is a goal that many health organizations aspire to. When it comes to eyes, it is something that FEI and Goodwill Vision Enterprises take especially seriously.

The organizations are working to meet this goal via a joint effort. Through a recent alliance, they aim to expand low-vision services available throughout the region while establishing a new clinic dedicated to providing access to the city's most vulnerable, for whom getting high-quality vision care can be a struggle.

The enterprise is located at 500 South Clinton Avenue, in the heart of the city, providing an outlet for those who live in Rochester's "health care desert." Since the collaboration started in February 2023, more than 3,000 patients have been seen. The location has three ophthalmologists and four optometrists, augmenting Goodwill's former low-vision operation while adding new services sorely needed by city residents.

The 5,300 square-foot facility has the necessary space to ensure quality care to patients. This includes six exam rooms, multiple diagnostic lanes, and an optical shop. On August 28, the location participated in Goodwill's first annual block party, screening more than 50 adults and children for eye disease and providing eye health information.

As a result of the collaboration, Flaum Eye Institute doctors have reduced delays—from six down to four weeks—for patients seeking low-vision care. Future goals include adding more staff to lower these wait times even more. The new full-service eye care clinic also includes urgent eye care appointments for patients who need to be seen within 48 hours.



Christine Coward, MD

The addition of the location to the Flaum Eye network opens the doors to City of Rochester residents struggling to receive routine and specialized eye care closer to home. Situated on two major bus routes, most Rochester residents can get to appointments without relying on a car. For those who do drive, there is abundant free parking.

The goal for Flaum is to have quality eye care available to all community members, regardless of race or income. Data shows that conditions like glaucoma and cataracts are more likely to affect vulnerable populations. Without treatment, these conditions pose a serious threat to patients' eyesight and quality of life.

At the center, doctors are able to see patients for a number of issues, including regular eye exams, cataracts, pink eye, eye injuries, pediatrics, and other conditions. In addition to

Collaboration Creates Oasis, continued.

the medical services available, there is a full-service optical shop with affordably priced eye wear suitable for all ages.

Patients can also receive help to establish insurance, and the location participates in the University of Rochester's safety net program, which offers sliding-scale fees for the uninsured and under-insured. The collaboration extends the reach and social network of Flaum, according to Christine Coward, MD.

“It's great to have relationships with so many organizations to help reach city residents as we try to make South Clinton one of the first places that people think of for eye care in the area,” Coward said. “With the range of services available, it can be a one-stop access point for community members who need to receive care.”

In addition to being a hub for those who traditionally have not had access to comprehensive eye care, the effort between Flaum and Goodwill also focuses on providing services to those from throughout the region who have low vision.

Someone suffering from low vision has impaired vision that cannot be fixed through surgery, glasses, or medication. Low vision can be caused by a range of conditions and affects daily activities in things like reading, viewing a screen, or recognizing faces.

A patient is considered to have low vision if their best-seeing eye is 20/200 or worse. Diseases that cause low vision are often irreversible and commonly include age-related macular degeneration, glaucoma, and severe diabetic retinopathy.

To receive low-vision care at the center, a patient is first identified through Goodwill Vision Enterprises (formerly The Association for the Blind and Visually Impaired). A Flaum Eye Institute optometrist will then perform a specialized exam on the patient. Results are sent back to Goodwill to help their low-vision rehabilitation specialists identify solutions and strategies best suited to each patient.

Flaum Eye Institute optometrist Jennifer Krech, a low-vision specialist, who provided services at Goodwill prior to the collaboration, says the effort between the two organizations helps better serve low-vision patients. It accomplishes this through synergies related to each other's core strengths in medicine and vision rehabilitation.



Optician Kelly King measures a patient for glasses.



Low vision specialist Jennifer Krech (left).

Urgent eye care clinic opens

To ensure that the Rochester community has the most comprehensive access to quality eyecare—and that ophthalmology residents receive the best training—FEI has launched an urgent care clinic. It is located at the Eye Institute’s main campus at Strong Memorial Hospital. Open weekdays between 8 a.m. and 5 p.m., the operation is staffed by ophthalmology residents, working side-by-side with experienced ophthalmology faculty who take turns rotating through the clinic to oversee the residents.

The clinic was established for people who need to be seen for same-day emergencies but do not need to go to a hospital emergency department. Patients experiencing sudden vision problems, and/or their referring doctors, can call to schedule a visit. An expert triage team at FEI’s call center helps to decide if a same-day appointment is needed, if a future appointment is more appropriate, or if the patient should go to the emergency room.

When a patient arrives, they are given a comprehensive eye exam and treatment based on their diagnosis, and any necessary follow-up instructions. The clinic is well-prepared to address common concerns such as pink eye (conjunctivitis) as well as more serious conditions, such as retinal detachments, corneal injuries, uveitis, infections, or trauma.

In addition to keeping patients out of hospital emergency departments, where they might have to wait hours for an ophthalmology consult, the program has shown immediate benefits. This includes decompressing faculty and resident schedules by moving eye emergencies into a dedicated space. Ophthalmology training has also been improved by having residents and faculty work so closely together.

“When we surveyed the residents, they reported that because of the urgent care clinic they got to see a wider variety of cases earlier in their training,” said Residency Program Director Rachel Wozniak, MD, PhD.



“The experience and immediate faculty feedback really help prepare us for when we are on call.”

– FEI resident Eric Chen, MD

With faculty right there to help them in their diagnoses and decision making, residents learn more material and gain confidence more quickly. “It makes residents very good at triaging and seeing acute conditions,” said senior resident Eric Chen, MD. “The experience and immediate faculty feedback really help prepare us for when we are on call.”

Another benefit derived from the clinic is how it improves access for underserved patients. Because experienced ophthalmologists work side-by-side with the residents, many patients who traditionally lack access to care still get to see seasoned experts. Being located in the City of Rochester also means that there is good access to public transportation. In fact, nearly half the visitors to the clinic have never been seen by an FEI doctor.

FEI hopes to expand the clinic in the future, including hours and days open. Emergencies on weekends and outside of business hours are still managed. However, this involves calling FEI’s always available answering service. The service contacts the resident on call, who then contacts the referring doctor or patient directly. Together they decide on a course of action.

The urgent care clinic was piloted in 2022. Since its inception, it has seen more than 4,000 patients, keeping many of them out of busy emergency departments. Patients to the clinic are generally referrals by other doctors, but a growing number of visits are from patients calling directly.

FEI IN THE COMMUNITY

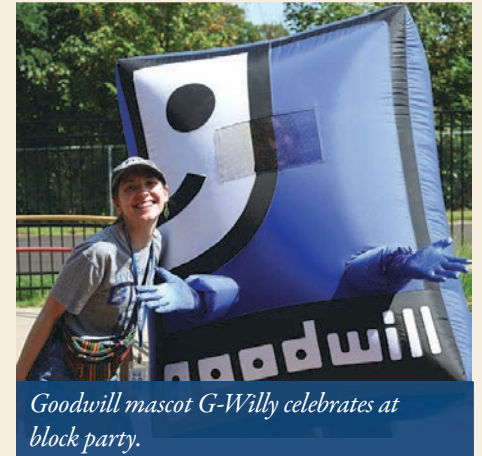
FEI continues to provide important information about eye care and deliver services to the community through live educational programs, support groups, and screenings. Future events can be found on our Friends of The Eye Institute Web page at www.foei.urmc.edu or by visiting our Facebook page.

FEI's population health and outreach teams approached 2023 with zeal. Anchored by the MobilEyes program, with its signature vision van, groups of faculty, staff, collaborators, and volunteers deployed in earnest across communities in need:

APRIL 2: All hands were on deck at Memorial AME Zion Church on Rochester's southwest side. MobilEyes led a coalition of doctors and volunteers that included FEI, UR Medicine Geriatric Health, Eastman Dental, UR nutritionists,

church members, and the Rochester Downtown Lions Club. Retina specialist and Population Health Director Rajeev Ramchandran, MD, and FEI glaucoma chief Karen Allison, MD, were there to direct health screenings provided to more than 40 community members.

STARTING LATE 2022, FEI began providing almost monthly screenings and information sessions at St. Michael's Church, located on Rochester's northeast side in one of its most economically challenged neighborhoods. The events were staffed by University of Rochester medical students, doctors, and ophthalmology residents, and coordinated by FEI's population eye health program manager, Talia Gearing, MPH. Participants are checked for glaucoma, diabetic retinopathy, vision, and macular degeneration.



Goodwill mascot G-Willy celebrates at block party.

AUGUST 28: Christine Coward, MD, spearheaded a team that included ophthalmologists, optometrists, staff, and medical students to provide adult and pediatric eye screenings at the first annual Goodwill Block Party. Screenings were done in FEI's new 500 South Clinton Avenue clinic, located on the Goodwill campus. The event helped celebrate Goodwill of the Finger Lakes' and FEI's historic collaboration (see page 5).

SINCE LAST OCTOBER, FEI has been part of 34 events serving nearly 800 families across Rochester communities—donating services, supplies, and information and logging in more than 1,000 hours of outreach.

If you are interested in inviting one of our faculty members to speak about eye health topics, starting a support group related to eye disease, or scheduling a screening, please contact Meghan King at 585-276-7311. We'll do our very best to accommodate your request.



Members of the FEI team at Goodwill block party.

Banking on the Eye Institute

Kyle Banks is an expert at economic development and an advocate for helping communities challenged by lack of inclusion. For more than 11 years, he fulfilled various roles at Rochester Gas and Electric (RG&E) before rising to the position of Senior Economic Development Specialist, where his mission was to identify and secure new business partners and relationships throughout New York State to foster sustainable and resilient growth. Here he managed an annual budget of more than \$8 million, creating thousands of jobs in neighborhoods traditionally on the outside of economic viability.

For Banks, strategic vision goes hand-in-hand with organic vision. This is because since grade school, he has experienced numerous issues with his eyes.

“It was in fifth or sixth grade that I developed a huge mass on my eyelid,” Banks said. “It was removed, and fortunately it was non-cancerous. But it wasn’t without consequences,” he continued. “Shortly thereafter, I developed inflammation in that eye. My dad took me to a local eye doctor who treated it, and then the inflammation just went away.”

And the inflammation stayed away.

Fast forward to 2013 when Banks developed recurrent swelling in the same eyelid that had affected him during grade school.

“After being stable for all those years, it just blew up,” Banks said. “I was referred to the Flaum Eye Institute to see Dr. Feldon.”

Steven Feldon, an oculoplastic surgeon, who at the time was department chair and FEI director, performed surgery to remove the growth on Banks’s eyelid. But the mass was persistent and the swelling continued coming back. Banks kept returning to FEI to—as he describes it—“have Dr. Feldon clean it out.” This happened another five times before the swelling completely stopped.

By this time Banks was well into his career at RG&E and was ascending the ranks, first as a technical support specialist and then moving into a marketing role. In this position, he was a company liaison to key customers and municipalities, especially during emergency events. It was during this period of his life, in 2016, when the inflammation inside his eyes returned.

“It hit hard and I have been battling it ever since,” Banks said. “I was referred to Dr. David DiLoreto. Since then, I have become acutely aware of how precious vision is.”

DiLoreto, current director of FEI and Chair of Ophthalmology, was then part of a busy and growing retina service. Banks’s diagnosis was pan uveitis. Uveitis is an inflammatory disease with symptoms that include headaches, blurred vision, redness, and pain. In the United States it is estimated that uveitis causes up to 20 percent of permanent blindness.



Kyle Banks

“Mr. Banks had a classic presentation of idiopathic uveitis,” Amde Selassie Shifera, MD, PhD, said. Shifera is currently chief of FEI’s Uveitis Service and an expert on the disease. “This goes all the way back to when it first presented during childhood.”

Shifera described Banks’s uveitis as likely being idiopathic because extensive medical workups throughout his course of treatment couldn’t conclusively identify a direct source of the immune response causing the inflammation. There are many known origins of the disease (see sidebar), but uveitis often occurs without a specific reason. In many cases, it is an autoimmune response in which the body turns on itself versus fighting a foreign agent. When there is no known source to battle, like an infection, treatment can be challenging. In these instances, aggressive medical therapy may be prescribed to suppress the inflammation and limit the body’s autoimmune response before irreversible damage occurs.



Amde Shifera, MD

DiLoreto went to work trying to control Banks’s eyes.

“Kyle is relatively young, so we started treatments targeted directly at the eyes,” DiLoreto said. “Some of these included drops and steroid injections into the eyes to quiet the inflammation. But in his case, there was a strong autoimmune response where his own immune cells were attacking the tissues in his eyes. We had to get more

aggressive to prevent him from losing vision.”

Turning up the response to the attack on Banks’s eyes meant adding systemic medications to the mix. This was an effort to down-regulate his immune system. It included using mycophenolate, which is a long-term anti-inflammatory agent taken orally, and the immunosuppressive drug Humira, which is injected into the body.

The treatments were frequent. Banks described almost monthly visits for nearly seven years from the time he first saw Feldon. These included at least six doctors. During many of his visits, he and DiLoreto would chat as they developed a friendly relationship.

“We talked about lots of things outside of medicine,” Banks said. “Whether it was my job, his kids, or life in general, I became very comfortable about my treatment and appreciative of my care team.”

DiLoreto remembers the same, remarking that whenever Banks visited during a snow storm, he would be getting paged non-stop by RG&E about power outages.

Although the visits were friendly and the treatments effective, they took a toll on Banks’s vision. The regimen of medicines that he was on—combined with the inflammatory process involved with uveitis—resulted in a common outcome: cataracts. Banks developed them in both eyes.

“This part of the journey really gave me a new perspective about vision and how important it is to all of us, no matter what our circumstances,” Banks said. “I experienced blindness firsthand. I lost vision completely in my left eye, and the right was at about fifty percent and decreasing fast. I was unable to work, drive, or do many of my normal activities.”

Fortunately, blindness caused by cataracts is reversible. Cataract surgery is one of the world’s most effective and widely practiced procedures. In Banks’s case, he would have to remain blind for some time. To be medically cleared for surgery, his uveitis needed to be well controlled for at least 90 days. If not, surgery could become risky to his vision. DiLoreto referred Banks to Shifera, who had recently arrived in Rochester to start FEI’s Uveitis Service.



FEI surgeons routinely manage uveitis complications.



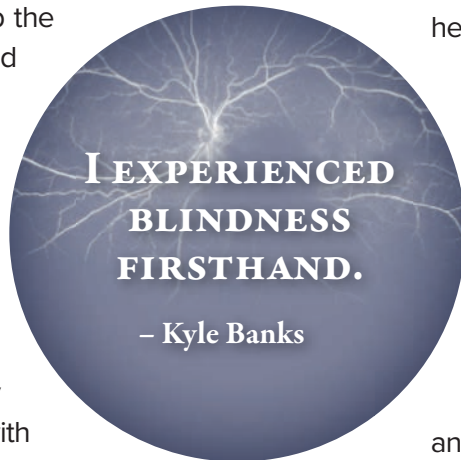
Kyle banks speaks during a dedication event.

Photo credit: City of Rochester Communications Bureau

“We see this often,” Shifera said. “We continued Kyle’s treatment and were able to keep the inflammation in check for the required amount of time. At this point I had my colleague, Ugur Celik, perform cataract surgery. His left eye was operated on in February 2022, and the right eye one month later.”

“It was a four- to five-month process,” Banks continued. “Drs. Shifera and Celik took a holistic approach to my eyes, treating my disease and working with me to address nearsightedness that I have had since childhood. They corrected me to 20/20. It was great to again experience clear vision and regain the ability to work.”

As a professional in the economic development field, Banks’s job often included networking with area leaders. One connection that he developed was with Loren Flaum, who is Chairman of FEI’s Advisory Board. Given Banks’s experience in business and neighborhood building, Flaum thought Banks would be an ideal candidate to join the board and provide advice to FEI for its growing outreach mission. Flaum set up a meeting with DiLoreto to introduce the two.



“It was funny,” said Banks of the introduction. “I don’t think it registered with Dr. DiLoreto when he saw our meeting on his schedule. When Loren and I walked in, he said, ‘Hey! He’s one of my patients.’ I think he was pleasantly surprised.”

Given Banks’s work expertise and his intimate knowledge of the Eye Institute as a patient, he was a shoo-in for the board. Using his connections within the community, he immediately helped in aligning FEI with organizations that work in underserved neighborhoods. This included connecting FEI with the Urban League, Action for a Better Community, and the YMCA.

“When I was blind, I felt like I didn’t belong, like the walls were closing in,” Banks said. “After going through all of this, I think about the world in a completely different way. To me there’s a difference between sight and vision,” he continued.

“Eyesight is something we all deserve to have, but not all of us are guaranteed it because some of us are marginalized by society. And having sight is great, because it lets you see what is in your view, to work, to play, to navigate life. But having vision is different. Vision is not only about being able to see what is in your view, but to also understand what’s ahead of you. I believe that the Eye Institute has a great vision and is a catalyst for getting care to those with limited access to it. It has been a pleasure to serve on the board and give something back.”

“I am really proud of the Eye Institute,” Banks continued. “Not only is it improving access to care for those who are excluded from fully participating in society, it is also doing amazing work in creating leaders in medicine and science. I am happy to have added something to this and can’t wait to see what the future holds.”

Banks recently left Rochester and resigned his position as an active participant on the FEI Advisory Board. He was married in June 2023, and he and his wife moved to Atlanta to share their vision for life together. True to his

Continued on page 12.

Banking on the eye institute, continued.

passion for sustainability and community engagement, he joined the Atlanta-based Center for Transportation and Environment. Here he provides guidance and policy review for organizations that are transforming public transportation infrastructures into environmentally responsible models.

Through the long reach of the Eye Institute, Banks was also connected with former FEI faculty member Yousuf Khalifa, MD, who is at Emory University in Atlanta. Khalifa was able to refer Banks to Emory's Uveitis Service, and he is receiving the important ongoing care that his condition requires.

About Uveitis

According to the National Eye Institute Website, uveitis is an inflammation of the eye. Inflammation usually happens when your immune system is fighting an infection. Sometimes uveitis means your immune system is fighting an eye infection—but it can also happen when your immune system attacks healthy tissue in your eyes. Uveitis can cause problems like pain, redness, and vision loss.

Uveitis damages the part of the eye called the uvea—but it often affects other parts of the eye, too. Sometimes uveitis goes away quickly, but it can come back. And sometimes, it's a chronic (long-term) condition. It can affect one eye or both.

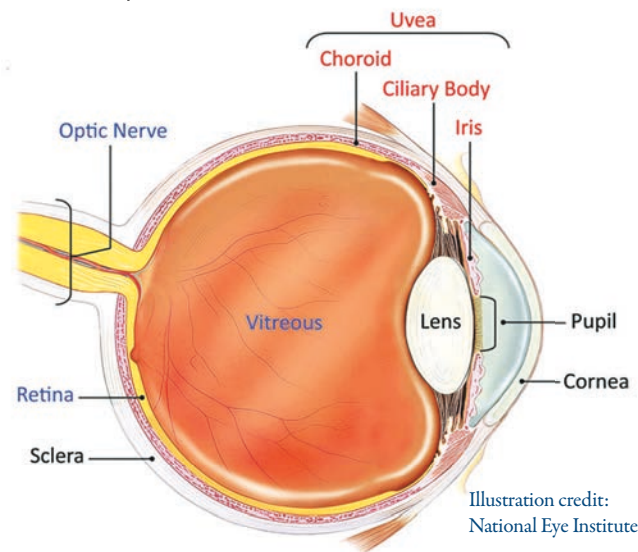
Uveitis can cause vision loss if it isn't treated; It is important to see your eye doctor right away if you have symptoms.

The uvea is the middle layer of the eye between the sclera (white part of the eye) and the retina (light-sensitive layer at the back of the eye). It has three parts:

- Iris (the colored part of the eye)
- Ciliary body (the part of the eye that helps the lens focus)
- Choroid (the part of the eye that connects the retina to the sclera)

Causes of uveitis can include:

- Autoimmune diseases, including AIDS, lupus, multiple sclerosis, rheumatoid arthritis, psoriasis, and sarcoidosis
- Infections such as shingles, reactive arthritis, toxoplasmosis, and syphilis



Generous couple's gift fuels the future of ophthalmic education

A passion for resident education, combined with a desire to encourage engaging debate about emerging standards in patient care, were the nexus for an endowment chartered by FEI Associate Professor of Clinical Ophthalmology Harold Ross and his wife, Janise.

The Harold R. Ross, MD, and Janise L. Ross Fund forever cements their legacy to the University of Rochester. The fund:

... specifically supports the training and educational development of residents, faculty, and fellows at the Flaum Eye Institute through information technology education, lectures, symposia, and other scholarly activities, such as competitive debate. The style of this debate is intended to ensure that pros and cons are accurately presented by speakers.



Harold R. Ross, MD

The gift was motivated by Ross's years of service as a preceptor in the FEI resident clinic. Here, the talented diagnostician often stayed late to help residents unravel their most challenging cases, all while providing care to some of the region's most vulnerable people. For his service, he won the hearts of patients and accolades from residents. Both Ross and his wife feel strongly that preceptors should go out of their way to spend their time supporting the education of the next generation of ophthalmologists.

The most visible outcome from the gift is the annual Ross Debates. These "Pro vs. Con"-style lectures are held during the Rochester Ophthalmology Conference. They have become favorites of attendees and often result in lively discussion about emerging technologies and treatment standards in the specialty. Prior to establishing the endowment, Ross frequently enjoyed sparking stimulating conversation as an attendee at the conferences.

"I participated on debate teams throughout high school and college," Ross said. "It was very important to my development as a person and as a physician. As clinicians, it is essential that we have legitimate reasons for doing things. The process of debate forces us to look at issues from all sides so that we are making clinical decisions in the best interest of our patients."

At the most recent Rochester Ophthalmology Conference, faculty squared off on a handful of relevant topics, including the use of remote imaging technology to diagnose and follow diabetic eye disease and the viability and safety of offering patients cataract surgery in an office setting as opposed to using a surgical facility.

"It is an honor to hold these debates in Hal and Janise's names," FEI Chair David DiLoreto said. "Their gift helps us raise the standard for education here at all levels."

The Rosses became part of the Eye Institute in 2013. They previously operated a successful private practice in Geneva, where Ross performed medical and surgical ophthalmology and Janise managed operations. The practice was acquired during a regional expansion of FEI.

Briceland Express



Daniel Briceland, MD

Flaum Eye Institute alumnus Daniel Briceland, MD, has dedicated his career to advocating for ophthalmology and to training the next generation of specialists. Now, as outgoing president of the American Academy of Ophthalmology, he's in a unique position to drive change. Vision for the Future recently caught up with Briceland to see how the year as Academy president went and to ask his thoughts about the direction of the specialty.

Engaging the Ophthalmology Community

Briceland began his term in January 2023 as the Academy's 127th president. His goal: to rally a community of passionate, engaged professionals to fight scope-of-practice battles, improve Medicare reimbursement, and provide the best eye care to patients.

His calls for engagement have roused the ophthalmology community after years of isolation during COVID-19. This year's Mid-Year Forum, when some 400 Academy members go to Washington, DC, to advocate for their patients and profession, included 273 in-person meetings with congressional offices and a record-breaking 205 advocacy ambassadors—residents and fellows who advocate alongside seasoned Academy leaders. And this year's international ophthalmology

society meetings, held in person after four years of staying home, assembled representatives from about 85 countries.

"It's been a whirlwind," Briceland says. "The Academy brand is incredibly respected both here and abroad. Everywhere I travel, ophthalmologists ask what's going on at the Academy and what the latest innovations are."

Long Live the Solo Practice

For most of his career, Briceland has enjoyed success in Sun City West, Arizona, as a solo practitioner—a pathway that fewer young ophthalmologists are choosing.

He credits much of this success to an emphasis on patient-centric care, instilled in him by his mentor, Gwen Sterns, MD, a longtime chief of ophthalmology at Rochester General Hospital who died during 2023. This approach has shaped the personality of his solo practice.

Despite what the ophthalmology community may think, solo practice is still strong and may even be expanding, he says. "It's true that there was some consolidation during the past 10 years, including private equity groups, but solo is surprisingly stable." About 26 percent of Academy members practice this way, according to a 2021 member survey.

A solo practice allows for flexible hours and a comfortable work-life balance. It also allows for other sources of income, such as real estate, optical, surgery centers, and other endeavors that are more easily achieved by a solo practitioner versus those in a group practice.

"Ophthalmologists, as a rule, are entrepreneurial, leader types. Sometimes these traits don't flourish in large groups," he says.

As the landscape of ophthalmology evolves, solo practice will continue to be a viable and attractive option, he notes.

Training Future Leaders

Ophthalmology faces myriad challenges in the years ahead, Briceland says. Physicians must meet the demands of an aging population and improve health care access for under-represented minorities, projected to outnumber the white population in years ahead.

"Our patients are getting more diverse and coming from the ranks of the

underrepresented,” he says. “We need to make sure that we are training people ready to take on new challenges.”

For the past 20 years, Briceland has been involved with the Academy’s Leadership Development Program, for which he is a senior instructor. He’s a strong supporter of new residency programs and Academy initiatives that address America’s changing demographics.

The Academy’s Minority Ophthalmology Mentoring Program, for example, pairs underrepresented minorities in their first year of medical school with practicing ophthalmologists. The students receive career counseling, interviewing skills training, and access to educational resources such as test preparation.

“The Academy Foundation raised a little over \$1 million to seed the program,” Briceland says. “Last year, 16 of 16 medical-school seniors who applied to ophthalmology programs were accepted through the match, and there are currently 250 enrolled. This year, we anticipate 35 seniors will apply to ophthalmology programs. It’s great!”

Ophthalmology is an attractive specialty for today’s generation of medical students because it welcomes innovation, with AI screening and office-based cataract surgery not far

off. The field also embraces team-based medicine—among other ophthalmologists, optometrists, technicians, and allied staff—and allows for a healthy work-life balance.

“The demand for the specialty is unquestionable. It’s a great profession,” he says. “Whether residents pursue fellowship, group practice, academic medicine, or solo practice ... for the most part, they get to work with happy patients. Whenever I meet residents, I tell them, ‘Congratulations! You’ve made a great choice.’”

Looking Forward

But even as the field is propelled forward by new technologies and enthusiastic trainees, ophthalmologists must rally against burdensome administrative demands, including prior authorization and step therapy. And the fight for fair compensation is at a critical juncture as Medicare reimbursements are down 26% over the past 22 years due to inflation.

During his 36 years as an Academy member, Briceland has been a vocal advocate for change on both fronts. “We advocate for change based on what’s best for the patient—and that often wins the day. But in the end, it comes down to convincing the budget-makers in DC. We need to work collaboratively with all of medicine to make something that’s

sustainable for physicians to practice.”

Briceland remains optimistic that the ophthalmology community will rise to meet these challenges. Ophthalmologists and the Academy are nimble and innovative, he says. When “ophthalmologists see a problem or need, we engage to find solutions.”

The field has gone through incredible changes since he graduated from residency in 1989. And the pace of change is only going to accelerate, he says. The future is bright for both mid-career ophthalmologists and those just starting out.

“There is incredible demand for eye care,” he says. “As we move forward, the opportunities will be fantastic.”

Daniel Briceland, MD, completed his residency in ophthalmology at the University of Rochester in 1989 along with co-residents Kenneth Lindahl, MD, and Steven Rose, MD. He has fond memories of his classmates as well as faculty members like Steve Ching, MD; Scott Searle, MD; Department Chair Henry Metz, MD; and Gwen Sterns, MD—an exceptional group of people, he says, who really cared about the residents.

A native of the region, he remembers Rochester as a special place and says the city’s personality is great for residency training. He is pleased to follow the overall growth at FEI and its ascendance to a regional eye care center, as well as its attaining a national profile in research.



Lobozzo pediatric suite brings expert eye care for kids to Webster five days a week

Part of FEI's Webster expansion included the construction, equipping, and dedication of the Lobozzo Pediatric Ophthalmology Suite. It is named for the family of long-time FEI supporter and former advisory board member Joanne Lobozzo, who helped to underwrite the project.

The new suite features four specially designed and equipped pediatric examination rooms, work spaces for technical staff and testing, and a spacious family waiting area. The children's exam rooms are 20 feet long—unlike normal exam rooms—to provide the most accurate assessments of vision. Each of the rooms are color-coded with whimsical, sea creature-based themes. In the waiting area, comfortable seating and play stations are anchored by a digital aquarium designed to mesmerize and capture the imaginations of young patients.

The suite is staffed five days a week by a rotating team of FEI pediatric ophthalmologists that includes Matthew Gearing, MD; Ben Hammond, MD; and Matthew Haynie, MD. Together they have seen more than 3,000 children since the location's opening in October 2022.

In addition to the pediatric suite, Lobozzo helped to underwrite a corneal cross-linking clinic. Cross-linking is used to treat a degenerative corneal disease called keratoconus. This disease often appears in the teenage years and, if it progresses, can result in blindness requiring a corneal transplant. Cross-linking effectively halts the progression of most keratoconus, allowing patients to maintain good vision with spectacle correction.

This was the second major gift to FEI from Lobozzo. The first resulted in the naming of the Julian Waiting Room at the Eye Institute's main campus. It is dedicated in honor of Lobozzo's grandchildren and to her parents, Anthony and Natalie Julian.

The David and Ilene Flaum Eye Institute is most grateful to its donors for their generous gifts and ongoing support.

We are especially appreciative of the friends, parents, alumni and faculty who contributed to our annual fund. The annual fund is an essential source of support that helps us to continue our groundbreaking work in vision care and research. This year, your donations had a direct impact on our mission, helping us recruit new faculty, and purchase new equipment for our clinic and research laboratories. The following donors have contributed to FEI in meaningful ways between July 1, 2022 and June 30, 2023.

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New paper points out the need for better vision care after stroke

With the global incidence of stroke on the rise and survival rates growing, there is an increase of survivors with neurological deficits related to their injuries. These can include impairments in movement, speech, and, in up to 60 percent, chronic visual defects.

Recently appointed Research Assistant Professor of Ophthalmology Matthew Cavanaugh, PhD, and his collaborator, Dr. Hanna Willis, at the University of Oxford, published a policy paper advocating for better screening and clinical care for patients who have suffered visual loss from a stroke.



Matthew Cavanaugh, PhD

Furthermore, they go on to propose ways to accelerate research efforts to help stroke victims recover or to prevent future vision loss. Highlights from the article published in *Policy Insights from the Behavioral and Brain Sciences* include recommendations to:

- Create more awareness among the clinical community and general public as to the importance of immediate vision assessment of patients after stroke. Recent research suggests that early intervention during the first hours, days, and weeks after a stroke may improve visual outcomes.
- Standardize care pathways for visual-stroke victims so that they are treated as effectively as possible. This includes deploying machine-learning-based visual-field testing using software specifically designed to detect brain-related vision loss—versus current testing that best measures vision loss related to ocular diseases (such as glaucoma).
- Improve the network of research related to therapeutic restoration of vision, as well as the prevention of long-term visual degradation. A number of laboratories have developed promising therapeutic vision-rehabilitation interventions to partially restore lost vision. However, none of these techniques have been deployed into medical practice.

Addressing these, and other, common gaps to care and research related to visual stroke are vital. They are likely to improve the standard of care for current patients and accelerate the development of therapies to lessen the burden of this problem. Researchers like Cavanaugh and the neuro-ophthalmology specialists at Flaum Eye Institute are ideally positioned to help develop better solutions for this often-neglected consequence of stroke.

Wozniak receives funding to battle eye infections

FEI clinician-scientist Rachel Wozniak, MD, PhD, was recently awarded nearly \$1.3 million by the National Eye Institute, R01EY033735, to advance the understanding of bacterial keratitis, a type of corneal infection that sometimes has devastating consequences. Often caused by the *Staphylococcus aureus* (*S. aureus*) pathogen, bacterial keratitis is a leading cause of blindness in the industrial and developing worlds.



Rachel Wozniak, MD, PhD

Although *S. aureus* is well studied as a source of infection in other parts of the body, much less is known about its virulence in the eye. The goal of Wozniak's research is to identify and characterize *S. aureus* strains and how their genetic determinants contribute to infections. Given the distinctive environment of the ocular surface from the rest of the body, she believes that there will be a unique set of virulence factors that drive keratitis.

To achieve her laboratory's goal, her team has developed innovative tools that will allow them, for the first time, to predictively identify and confirm a wide range of *S. aureus* virulence factors that play a role in causing bacterial keratitis development. Using genetics, bioinformatics, and whole gene sequencing, they hope to understand the potential threat of a whole library of *S. aureus* strains. This could be foundational in developing pharmacological strategies to best treat the disease in all its forms.



Michael Telias, PhD

Telias receives RPB Career Development Award

When vision scientist Michael Telias, PhD, arrived in Rochester as one of FEI's newest faculty members, he hit the ground running. In the blink of an eye, he organized and started a clinical trial to test how a common drug used to treat alcoholism might improve vision in people with diseases like retinitis pigmentosa and macular degeneration. He was also invited to Washington, DC, joining a handful of promising young scientists who were selected to present their research to members of Congress.

Hard work and dedication to his craft continue to pay off: In 2023 he was awarded a Career Development Award (CDA) from Research to Prevent Blindness. These competitive grants are for the express purpose of accelerating the trajectories of promising early-career scientists as they establish their laboratories. Like venture capital for vision researchers, CDAs allow their recipients to do out-of-the-box science that often results in innovations, leading to publications and additional funding from the National Institutes for Health. They are catalysts for careers and cures.

Telias will use his \$350,000 award—during the course of four years—to discover new pathways that may improve the quality of vision in persons suffering from the consequences of retinal ganglion cell (RGC) remodeling. RGCs are the nerve cells that are the starting point for the electro-chemical journey of visual signals to the brain, where they are decoded as vision.

Remodeling of RGCs occurs when the light-gathering cells in our eyes—called photoreceptors—die in chronic retinal diseases, like macular degeneration, or inherited retinal diseases, such as retinitis pigmentosa. When photoreceptors die, the RGCs are changed. They begin to function improperly by randomly and rapidly firing non-visual information. This excess “noise” can be likened to the ringing in the ears suffered in tinnitus. The unwanted noise competes with authentic visual signals coming from intact photoreceptors, thereby hastening vision loss. Telias' work centers on preventing RGC remodeling and even reversing its effects. It may also play a significant role in improving the success of cutting-edge vision-restoration therapies—such as photoreceptor transplantation—where long-term damage to RGCs exists.

Telias is the sixth FEI scientist to be honored with a Career Development Award. Since RPB established the program in 1990, 238 vision research scientists in university departments of ophthalmology have received one.

Ruchira Singh receives multiple grants to study eye diseases in patient-derived human models of retina

Some of the most common, and uncommon, causes of permanent blindness involve the retina and its underlying support structures. The retina is a thin layer at the back of the eye where light-gathering cells, called photoreceptors, turn light energy into chemical signals that the brain then decodes as vision. Macular degeneration and many hereditary eye diseases involve damage to the retina.

Scientists trying to discover the origin of many retinal diseases were for years limited to studying tissue samples of diseased eyes donated by deceased patients. In most instances, the level of advanced disease in these donor eyes made it impossible to look for those first changes from healthy to unhealthy. In recent years, researchers have solved some of these challenges through the use of human-induced pluripotent stem cells (hiPSC).

Introduced less than 20 years ago, hiPSC technology allows researchers to take an adult's skin cells and "re-program" them into pluripotent stem cells. These pluripotent cells can then be instructed to grow into many types of living tissue, in culture, outside of the body. Moreover, the skin cells used can be harvested from a patient who has a specific disease, or genetic disposition for a disease. These cells can then be directed to grow into the target tissue of that disease and express that illness. The resulting tissue can then be studied in a culture dish. The technique has revolutionized the modeling and study of human disease, even allowing scientists to test the effects of already approved drugs by introducing them into their models.

FEI's Ruchira Singh, PhD, is an expert at hiPSC-based disease modeling. The associate

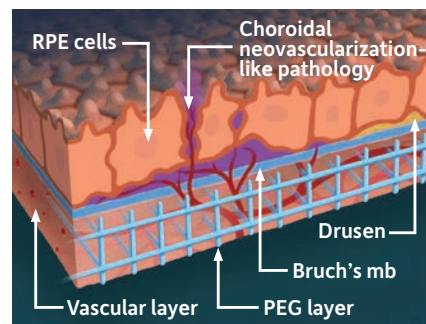
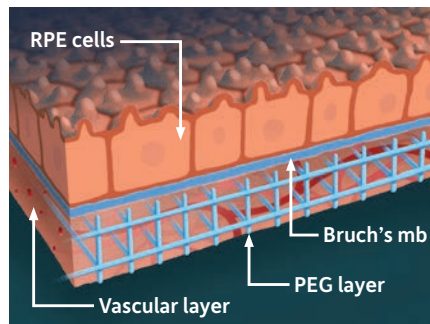
professor of ophthalmology and biomedical genetics was one of the first to build hiPSC models of retinal and neurodegenerative illness. Her work has been crucial in forwarding understanding of retinal disease and has been funded by the National Institutes for Health (NIH) and private foundations, resulting in numerous publications.

Recently, Singh received multiple rounds of new funding from the NIH's National Eye Institute (NEI), the National Science Foundation's Engineering and Biomedical Systems Program, and the ForeBatten Foundation. These awards, totaling nearly \$4 million, will help to improve knowledge of the underlying mechanisms of retinal degeneration and enhance the "retina-in-a-dish" model, making it more effective.

The ForeBatten Foundation recently awarded Singh more than \$240,000 over two years to study CLN3 Batten disease, a rare inherited genetic disorder that primarily affects the nervous system. When it appears in children before age 10, it is almost always fatal. Vision loss is often one of the first symptoms of CLN3 Batten and can precede other neurological symptoms by several years. However, the disease mechanism responsible for the death of neurons and vision loss in CLN3 Batten is not known.

Using her *in vitro* "retina-in-a-dish" model, Singh proposes to better understand the cellular process(es) affected in

the CLN3 Batten retina and its supporting structures. This includes looking at the relationship between photoreceptor cells—essential to vision—and the retinal pigment epithelium (RPE), which is responsible for nourishing the





Ruchira Singh, PhD

photoreceptor cells and removing the metabolic waste that they make. To do this, she will use hiPSC cells generated from patients diagnosed with CLN3 Batten. These will be grown into retinal tissue including photoreceptors, RPE cells, and supporting blood vessels. Singh hypothesizes that RPE dysfunction in CLN3 Batten disease contributes to photoreceptor cell death due to impaired interaction between the RPE and photoreceptors.

Simultaneously, the Singh team also proposes to take advantage of FEI's advanced retinal imaging capabilities to further quantify what happens to vision in CLN3 Batten. Through the team's use of specialized instruments that allow cellular imaging in the living human eye (*in vivo*), Batten patients who donate their skin cells to create the study models will have their retinas non-invasively imaged to track changes in structure and function.

Understanding the mechanisms of CLN3 Batten is important on multiple levels. First, it may provide keen insights into the pathogenesis of the disease and lead to a cure. Second, it may provide opportunities to test treatments that could restore vision or prevent vision loss and perhaps extend the lives of patients.

The National Eye Institute awarded Singh funding totaling more than \$3 million. One is a new grant for using hiPSCs to

build a more physiologically relevant model to study retinal disease, and the other is a renewal of ongoing research that aims to understand an underlying mechanism in age-related macular degeneration (AMD).

1RO1EYE033192, "Using hiPSCs to develop physiologically relevant outer retinal tissue mimetics," was awarded to Singh to create a model that mimics, *in vitro*, the outer blood retina barrier (oBRB). Here is where complex interactions between the photoreceptor-supporting retinal pigment epithelium (RPE) and the RPE's underlying blood vessels, called the choriocapillaris (CC), take place. These include supplying the retina with essential nutrients and removing waste. Dysfunction of the RPE-CC complex leads to retinal degeneration in many diseases, including AMD.

This new approach hopes to enhance a model recently developed in the Singh laboratory by making it more robust. It will incorporate a bio-engineered matrix on which the tissues to be studied will be grown from hiPSCs. This will better replicate biological and biophysical functions of the human oBRB and include vascular perfusion (blood flow). Having a more realistic model of the oBRB and RPE-CC complex should provide better opportunities for disease modelling, drug screening, and retinal transplantation studies.

Continued on page 32.



Huxlin, MacRae, and URM C colleagues discover a new approach to treat established corneal fibrosis

The cornea is the clear window at the front of the eye that focuses light onto the retina, enabling “vision” as we know and experience it. Infections, injury, and surgery to the cornea can induce a healing response that reduces its clarity. These are leading causes of vision loss worldwide. For the last two decades, Krystel Huxlin, PhD, the James V. Aquavella Professor of Ophthalmology at FEI, has explored how to prevent corneal scarring after injury. Now, she and her team have discovered a novel approach to treating already established opaque corneas.

“Simply stated, healing can cause transparent corneal cells to become opaque, blocking light from reaching the retina, where it should be detected,” Huxlin said. “This transformation is defined by a series of complex events that cause corneal cells to change into myofibroblasts. As our understanding of this process has grown, we have been able to isolate key areas where we can intervene to prevent transformation. However, patients often present to the clinic after opacity and scarring have already occurred. Our lab is one of the first to ask whether it is possible to treat established fibrosis without toxic side-effects.”

A recently published paper in *Investigative Ophthalmology & Visual Science*, explains this concept and offers a new solution. The team performing the research included Huxlin, FEI research assistant professor Kye-Im Jeon, PhD, FEI cornea specialist and refractive surgeon Scott MacRae, MD, and URM C Department of Medicine bioenergetics expert Keith Nehrke, PhD.

When an injury happens to the cornea, normally quiet cells called keratocytes become activated, changing into fibroblasts, and ultimately, myofibroblasts. The latter are responsible for stabilizing and repairing the wounded corneal tissue, but they are also key components of corneal scars. Many teams, including Huxlin’s, have explored ways to prevent fibrosis, which leads to scarring. This included

researching methods of blocking the action of small proteins, such as transforming growth factor-beta, which regulate how keratocytes transform into myofibroblasts. Although these treatments can be effective, they are limited by the fact that they have to be applied immediately after injury; they cannot reverse existing fibrosis, and they can have unwanted side-effects.

Huxlin and her colleagues’ new work demonstrates the feasibility of a completely novel approach to the problem: manipulating a key organelle inside existing myofibroblasts, causing them to revert back to more quiescent cells. To accomplish this, the team introduced a class of compounds, called thiazolidinediones (TZD) into *in vitro* and *in vivo* models of fibrosis. The living model involved exposing the cornea to TZDs weeks after an injury, after fibrosis had occurred. The team’s experiments showed that a particular TZD caused myofibroblasts to lose all of their defining molecular and morphological characteristics and take on the shape and behavior of more quiescent corneal cells.

The organelles inside myofibroblasts targeted by the TZDs were mitochondria, best known for generating most of a cell’s energy and the signals used to carry out its essential functions. Thanks to the discoveries of the team, mitochondria can now also be thought of as key to powering the ability of corneal myofibroblasts to remain myofibroblasts—knowledge that can be exploited to treat corneal fibrosis.

Although more needs to be understood about the effects of TZDs on myofibroblasts—such as the duration of the effect and the optimal time to apply the treatment—it represents a step in treating corneal injuries and potentially reversing existing damage. A clinically viable treatment would prove especially useful in regions of the world where months, even years, may pass before a patient can receive care.

NEW FACULTY

During 2023, FEI continued expanding its faculty by adding clinicians and researchers. This growth ranks the Eye Institute among the top academic ophthalmology programs in the country in patient visits, and service offerings now span the entirety of ophthalmology specialties. FEI's growing research program also consistently ranks among the top 20 in the US in funding from the National Eye Institute, as it contributes key insights and publications to better detecting, treating, and curing of eye disease. We welcome the following faculty:

Natalie Brossard Barbosa, MD, joined FEI's neuro-ophthalmology service as an assistant professor of ophthalmology after completing a fellowship here.

She earned a master's degree in cellular and molecular biology at Universidad de la Republica in Uruguay, where she went on to receive



Natalie Brossard Barbosa, MD

her medical degree and do her residency training in ophthalmology. She then traveled to Toronto, Canada, where she completed two clinical fellowships: the first was in glaucoma and anterior segment; the second was in neuro-ophthalmology

and strabismus. She has numerous publications in scientific and clinical journals and has presented lectures at the North American Society of Neuro-Ophthalmology. She treats conditions such as double vision, unexplained visual loss, optic neuropathies, idiopathic intracranial hypertension, and eye muscle conditions. She sees patients at FEI's main campus at the University of Rochester Medical Center. Brossard Barbosa is fluent in Spanish.

James Caruso, OD, joined the

optometric team as a senior clinical instructor of ophthalmology. He is a native of Upstate New York and received his bachelor of



James Caruso, OD

science in biomedical sciences from SUNY Buffalo. Caruso has more than 10 years of experience working in private practice and academia, including three years as an attending optometrist at the New England College of Optometry, where he received his optometry training. He also performed a residency in optometry at the VA Boston Healthcare System. He is a Fellow of the American Academy of Optometry and is NEBO board-certified. Caruso

sees patients at FEI's Pittsford and South Clinton satellite offices.

Matthew Cavanaugh, PhD, joined FEI as research assistant professor of ophthalmology.



Matthew Cavanaugh, PhD

He received his bachelor of science in biology from SUNY Geneseo in 2012. He went on to the University of Rochester to earn his master's in neuroscience in 2014 and doctorate in neuroscience in 2017. Cavanaugh's research focuses on the development of visual perceptual learning interventions to reverse vision loss associated with stroke-induced damage to the brain. This work centers around quantification of visual recovery through visual perimetry, identifying mechanisms and substrates that underlie the restored vision, and the use of attention to enhance training outcomes. His new lines of research seek to address vision problems in pediatric patients with cortical visual impairment. He has contributed to more than 40 peer-reviewed publications in scientific journals, presentations, and posters. He was previously a post-doctoral associate in the laboratory of Krystel Huxlin, PhD.

Christine Coward, MD, joined FEI as associate professor of ophthalmology and chief of the comprehensive ophthalmology team. In addition, she is medical director for the Eye Institute's downtown Rochester location—a specialized center for care and research related to health equity. Coward received her medical education at SUNY Downstate Medical Center. She completed an ophthalmology residency at New York Medical College before pursuing

a glaucoma fellowship at Southern California Glaucoma Consultants. She is board certified and a member of the American Academy of



Christine Coward, MD

Ophthalmology and the American Society of Cataract and Refractive Surgeons. Her research interests include population-based health care and health equity.

Min Kyung Kang, OD, joined FEI as a senior instructor of clinical ophthalmology. She is an experienced optometrist who provides comprehensive eye care including ocular disease, low vision, and co-management with ophthalmology subspecialists. She received her bachelor's degree in biology at the University of Maryland College Park. She then received her optometry training at the New England College of Optometry, after which she

completed an optometry residency in primary care and low vision therapy at Northport Veterans Affairs Medical Center. Prior to joining the faculty, she was in private practice in the Richmond, Virginia, area.



Min Kyung Kang, OD

She enjoys working with a wide range of patients, from school-aged children to seniors. She sees patients at the Eye Institute's College Town and South Clinton Avenue locations.

Ruba Muhtaseb, MD, joined the faculty as assistant professor of ophthalmology. She provides medical and surgical care to adults suffering from eye disease, as well as offering routine and preventive vision care. She earned her medical degree from the University of Jordan



Ruba Muhtaseb, MD

Medical School in Amman, Jordan, where she completed her ophthalmology training, serving as chief resident during her senior year. Upon graduation, she practiced comprehensive ophthalmology, working in hospital-based and private practices performing laser vision correction and cataract surgery. She then pursued further training in

the United States, completing two fellowships: the first in medical retina at the University of Miami's top-ranked Bascom Palmer Eye Institute; and the second in glaucoma at Lahey Hospital/Tufts University in Massachusetts. Muhtaseb enjoys working with primary care providers, optometrists, and other specialists to promote and maintain vision health and is fluent in Arabic. She practices at FEI's main campus at the University of Rochester Medical Center and its Batavia and Geneseo locations.

Karilyn Piwoni-Lippa, OD, joined the optometry service as a senior instructor of clinical ophthalmology. She provides routine and medical care including eye



Karilyn Piwoni-Lippa, OD

exams, contact lens prescribing and fitting, and co-management with ophthalmologists of patients who need advanced medical and surgical care. She especially enjoys working with seniors who are navigating age-related eye disease. Piwoni-Lippa has more than 20 years of experience working in private practice throughout the Rochester region. She received her undergraduate biology degree from the University of Wisconsin and completed her optometry degree at the Pennsylvania College of Optometry. She practices at FEI's Webster and Pittsford locations.

ON THE MOVE Appointments and promotions

We are pleased to announce the following appointments and promotions since our last issue of Vision for the Future.

Jesse Schallek, PhD, has been promoted to associate professor of ophthalmology with tenure. The award of tenure is recognition from the University that Schallek has compiled a notable record of scholarly achievement and is recognized as a leader in his field. It is also a statement that Schallek is a demonstrably accomplished teacher at the graduate and undergraduate levels, and it represents the strongest appointment the University can make.

Schallek completed his undergraduate degree in bioengineering and his doctorate in neuroscience at Syracuse University. Since his arrival at the University of Rochester, he has distinguished himself through numerous scientific publications and presentations as well as awards and grants from the Association for Research in Vision and Ophthalmology and the National Institutes for Health.

Schallek's lab investigates blood flow in the living eye by using a specialized camera called an Adaptive Optics Scanning Light Ophthalmoscope (AOSLO). It allows them to microscopically image tiny vessels ten times thinner than a human hair, in unprecedented detail, to study the movement of single blood cells and immune cells flowing within this network. Schallek's research aims to deliver better diagnoses of ocular and human health, understand the genesis of eye diseases, and observe the effects of potential interventions.

Naveen Mysore, PhD, MD, has been promoted to associate professor of ophthalmology. He was also recently named director of surgical operations, where he is charged with improving FEI's clinical efficiency and surgical enterprise. He looks forward to serving in the role, which includes being the voice of FEI surgeons at Strong Memorial Hospital, Sawgrass Surgical Center, Strong West Surgical Center in Brockport, Noyes Surgical Center in Geneseo, and Finger Lakes Surgery Center in Geneva.

Mysore is a member of the Cornea Service. His expertise includes the medical and surgical treatment of corneal disease, corneal transplantation, LASIK, and cataract

surgery. His research interests include the biomechanical properties of the cornea, and he collaborates with the University of Rochester's Department of Biomechanical Engineering to make eye surgery safer and more predictable. He is a back-to-back recipient of the Dr. Fred Dushay Clinical Surgical and Teaching Award. This honor is voted upon by ophthalmology residents and distinguishes outstanding resident educators.

Mysore received his PhD in engineering and his medical degree at McGill University. He also completed his ophthalmology residency at McGill before performing a fellowship in cornea and external disease and refractive surgery at the Cleveland Clinic's Cole Eye Institute.

Desiree Odorczyk was recently hired as clinical operations administrator. In this role, she serves as the clinical leader for the Eye Institute, translating the clinical vision and strategic objectives of the organization to the patient-care team. Odorczyk will interact with more than 50 faculty, fellows, and residents, as well as be responsible for the training and development of nearly 150 support personnel across 15 clinical and business locations.

Odorczyk received her bachelor of science in marketing from the University of Wyoming. She comes to FEI with nearly 15 years of experience in management, specializing in the health care industry, where she was responsible for operations, recruitment, marketing, training, and strategic planning.

Gary Gagarinas, MS, re-joined the Eye Institute as director of clinical trials and clinical research regulatory manager. He spent the last three years working for Lexitas Pharma Services, a clinical research company specializing in running contracted end-to-end clinical trials for ophthalmology companies.

Prior to this, Gagarinas was with FEI for more than six years as director of clinical trials. He is a graduate of Georgetown University's Ophthalmic Technology Program and completed his master's in medical management at the University of Rochester Simon School of Business.

Marcos “lands” top prize in optics

At the October 2023 Frontiers in Optics + Laser Science Conference, FEI professor of ophthalmology and the director of the University of Rochester Center for Visual Science, Susana Marcos, PhD, received the Edwin Land Medal. Presented by Optica (formerly OSA), the medal, according to the Optica Website, recognizes pioneering work empowered by scientific research to create inventions, technologies and products.

Jointly presented with the Society for Imaging and Technology, Marcos was chosen for “pioneering developments and translation of diagnostic and correction ophthalmic technologies impacting millions of patients worldwide.”

Founded in 1916, Optica is the leading organization for scientists, engineers, business professionals, and students interested in the science of light, with more than 24,000 members worldwide. Since its inception, 45 Optica members have won Nobel Prizes.

Journal of Cataract & Refractive Surgery reports about UR vision scientists developing 3D model to improve cataract surgery outcomes

Since its introduction more than 30 years ago, millions of people have had laser vision correction (LASIK & PRK) to successfully reduce spectacle dependence. Although LASIK doesn’t cause cataracts—the natural aging of the eye does—many patients who had LASIK in their 20s, 30s, and 40s now need cataract surgery. In cataract surgery, the eye’s cloudy natural lens is replaced with a clear prosthetic one, implanted inside the eye, called an intraocular lens (IOL). It is one of the most commonly performed procedures in the world.

For doctors performing cataract surgery, there are many new IOL options. Traditional IOLs focus light from only one distance, usually far away, and patients may have to use glasses to see up close or at middle distances, or correct for astigmatism. Many modern IOLs are now able to focus



Susana Marcos, PhD

light at more than one distance and correct astigmatism, reducing much of the need for glasses after surgery.

For doctors who treat patients who have had LASIK, the calculations that they perform to make sure they pick the correct IOL for cataract surgery can get tricky. This is especially true for patients who had their laser vision correction done before the advent of wavefront-guided LASIK. Difficulties may arise because the laser used in a previous treatment may have caused optical imperfections—called aberrations—to patient corneas, the clear front lens of the eye. The wrong lens selection can be a source of extreme patient dissatisfaction.

In its study, Marcos’s lab reported that it created a 3D computer simulation of post-LASIK eyes to test the performance of IOLs designed to correct vision at multiple distances. By incorporating patient-specific geometric and biometric data to create the 3D model, the team was able to determine which lenses produce the best post-operative images after cataract surgery.

Not only does this model help patients post-LASIK choose the best IOL, it can also help manufacturers design better lenses for any patient having cataract surgery. Computer models allow predictions of the optical quality of the eye with implants. Marcos’s lab has also developed visual simulators that factor patients’ perception. This technology was recently spun off to develop a wearable vision simulator that patients can use in a doctor’s office. It allows them to “try on” different lenses before they go to the operating room.

OPTOMETRY RESIDENCY PROGRAM ESTABLISHED

After more than five years of planning and preparation, FEI welcomed its inaugural class of optometry residents in ocular disease and primary care. The program is the brainchild of many FEI faculty, but the final push to realize the goal came from Residency Supervisors Brooke Donaher, OD, and Jessica daSilva, OD.

Optometry residents are recent graduates who elected to pursue additional specialized training.

This is achieved through running their own primary eye care clinics while under the supervision of optometric attendings. The optometric residency includes four areas of optometric care that each resident completes. They are: Refractive surgery co-management, low vision, medical contacts, and optometric pediatrics. Additionally, they rotate through ophthalmology subspecialties. These subspecialties include comprehensive eye care, uveitis, cornea, oculoplastics, glaucoma, retina, pediatrics, ocular oncology, and neuro-ophthalmology. They gain exposure to a vast amount of pathology and see patients from nearly every socioeconomic group, preparing them for careers in private practice, corporate optometry, or academic medicine.

The program also gives residents a unique opportunity to shadow other medical programs at the University of Rochester such as neurology, endocrinology, and rheumatology.

This helps foster understanding of systemic health as it relates to ocular conditions and encourages multi-disciplinary management of ocular disease.

In addition to improving clinical skills, the program gives residents opportunities to present and publish. Both optometry residents presented posters at the American Academy of Optometry in New Orleans and are expected to present a lecture in February at the Rochester Optometric Society.

Optometric residencies are similar to ophthalmology residencies because they use a match process. Recently degreed optometrists must apply through a national match in which residency programs and candidates rank each other.

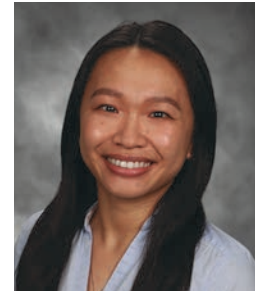
In a first year, matching a quality candidate may be challenging since optometrists in the applicant pool have less information about new programs. In a challenging application cycle, FEI stood out from other programs and was able to match two candidates of the highest quality into the inaugural class. The program is expected to complete the accreditation process in June of 2024.

Elaine Ho, OD

Elaine grew up in Stockton, California. She decided to pursue optometry through the influence of her own optometrist and the many positive experiences she encountered

throughout her internships.

Elaine received her undergraduate degree in biochemistry at the University of California, Los Angeles, and completed her Doctorate of Optometry at the University of California, Berkeley. Elaine was excited to relocate to the East Coast and discover all that Upstate New York has to offer.



Elaine Ho, OD

Lydie Tubene, OD

Lydie was raised in Glen Burnie, Maryland. She attended the University of Maryland College Park and earned her bachelor of science degree in physiology and neurobiology, with a minor in human development. She earned an

Optometry Doctorate from the Illinois College of Optometry. Lydie's interest in neuroscience led her to



Lydie Tubene, OD

choose optometry. This developed into a passion for making a lasting change on patients' lives by improving their vision and overall health. Lydie looks forward to impacting underserved communities in the future and has already participated in FEI outreach events.

Class of 2023 impresses.

FEI graduated its largest class ever as four residents and three fellows completed their training. FEI celebrated them and sent them onto the next chapters in their careers, expecting great things from them. The ceremony was made special as former residents Daniel Briceland, MD (res '89), Omar Hanuch, MD (res '00), and Matilda Chan, MD, PhD (res '06) were on hand to toast the graduates (Briceland via zoom). Earlier in the day, Chan delivered a visiting professor lecture as part of the department's research day.

Senior **Russell "RJ" Marchese, MD**, was named the recipient of the Humanitarianism in Ophthalmology Award. The award goes to the resident who exemplifies unwavering dedication to patient care, advocacy, and health equity. Marchese traveled to New Jersey, where he is practicing comprehensive ophthalmology. He said that he will miss the family atmosphere of the program and reminded the underclass to never let pride or embarrassment keep them from finding every opportunity to be a student.

Yiyun Zhou, MD, PhD, was recognized with the Surgeon's Knife Award, which goes to a senior resident who has shown excellence in ophthalmologic surgery. She accepted a position at a comprehensive ophthalmology practice in Maryland. Zhou said that she will miss the unbeatable OR team and wonderful faculty to whom she

will ever be indebted. She reminded the underclass to never forget to take care of themselves.

Randy Igbinoba, MD, is also practicing comprehensive ophthalmology. He headed to his home state of Texas, where he joined a multi-specialty ophthalmology practice. Randy said that his cataract surgery training really stood out as a highlight, and he reminded under-classmates to not compare themselves to peers but to focus on what can be gained from residency to be the best physician possible.

Senior **Kyle Green, MD**, decided to take another path. Green, who has an interest in research, traveled to the University of Iowa, where he will be pursuing a Vitreoretinal Surgery Fellowship. Green said that he will miss the people of FEI for their intelligence, kindness, and humility. His advice to the underclass: Challenge yourself and focus on your areas of weakness.

Retina fellow **Mona Camacci, MD**, moved to Hilton Head, South Carolina, where she joined a private retina practice.

Cornea Fellow **Lorena Montalvo-Toledo, MD**, returned to her native Puerto Rico and joined the ophthalmology practice of her father.

FEI is pleased that Neuro-Ophthalmology fellow **Natalie Brossard Barbosa, MD**, is remaining in Rochester, where she recently joined the faculty.

Class of 2026 begins.

All four ophthalmologists-in-training spent last year acclimating to Rochester while completing an internal medicine internship at the University of Rochester. Each received the American Academy of Ophthalmology's 13-volume Basic Clinical Science Course as a gift presented by the FEI Alumni Council. The series is foundational to resident education, and its cost is underwritten by the FEI Alumni Endowment Fund. We are pleased to present:

Stephanie Beldick, MD, MSc, is from Toronto and studied life sciences at McMaster University before earning a Master's in Neuroscience at the University of Toronto. She then went to Thomas Jefferson University to complete her medical degree at Sidney Kimmel Medical College.



Stephanie Beldick, MD, MSc

Manasi Joshi, MD, is from Houston and has undergraduate degrees in anthropology and policy studies from Rice University. She completed her medical degree at Baylor College of Medicine. Away from her studies, she enjoys plant and tree identification.



Manasi Joshi, MD

Kalah Ozimba, MD, hails from Phoenix City, Alabama. She graduated *magna cum laude* in chemical engineering



Kalah Ozimba, MD

from Howard University before attending medical school at the University of Alabama. Kalah is a certified lifeguard.

Greg Sanda, MD, is a native of Boston. He received his bachelor's degree in biology from Wake Forest University before receiving his medical degree from Emory University.



Greg Sanda, MD

Class of 2027 arrives.

We also welcomed four recent graduates of medical school, who arrived in July to begin a one-year internship in general medicine. Because so much of ocular disease relates to systems of the body, residents begin their four years by studying internal medicine before turning their focus to the eyes. Please meet:

Parker Cox, from Centennial Colorado, holds an undergraduate degree in Neuroscience from Brigham Young University. He then went on to receive his medical degree from the University

of Utah School of Medicine. During medical school, he completed several research projects in both neurosurgery and ophthalmology, co-authoring at least six manuscripts. He enjoys running and recently ran his first marathon. He also loves to cook and play golf.



Parker Cox

Diana Joseph, from Chicago, Illinois, attended Duke University, earning a bachelor's degree in computer science. She immediately landed a job as a software engineer, but a family member's glaucoma diagnosis inspired her to return to school with the goal of becoming an ophthalmologist. She completed her medical degree at the University of Rochester and has already been involved in several research projects with FEI faculty. Diana enjoys dance and was part of her college dance team.



Diana Joseph

Nahomy Ledesma Vicioso, grew up in San Juan, Puerto Rico, where she got her undergraduate degree in cellular and molecular biology. As she was going through the medical school application process, Puerto Rico was struck by Hurricane Maria, leaving the island shattered. Thanks

to perseverance and dedication to her goals, she didn't miss a beat. She matriculated to Cornell University Medical School, where she became engaged in several research projects and attended several national meetings related to ophthalmology. In the future, Nahomy is interested in pursuing a career in academic ophthalmology with a focus on clinical trials.



Nahomy Ledesma Vicioso

Brittany Wong is a native of Fairfield, California. She earned degrees in neuroscience and french, attending Duke University as Fulbright Research Fellow. She received her medical degree at UCLA, where she authored or co-authored 11 papers and 11 posters and was a gold humanism honor society recipient. She enjoys learning languages and most recently has been studying German.



Brittany Wong

In addition to completing rotations in internal medicine and in various departments throughout the school, all of these interns will be frequent participants in the ophthalmology department, where they will integrate their training as to how it relates to the eye.

Clinical fellows arrive.

This year, two clinical fellows joined the ranks of FEI in the subspecialties of retina and pediatric ophthalmology. Both will receive mentorship from experienced faculty while helping to train residents. Upon graduation, the fellows will be extensively prepared to medically and surgically treat specific eye diseases in their chosen fields. We welcome:

Orhan Altunkaya, MD, who joined FEI as its first pediatric ophthalmology fellow. He grew up in Turkey and went to Ege University



Orhan Altunkaya, MD

Medical School in Izmir, Turkey. During his last year of medical school, he did a surgery rotation at Mount Sinai Medical Center in New York and a pediatric rotation at Texas Children's hospital. Prior to coming to FEI, he was a resident at the Ministry of Health Ankara Training and Research Hospital and at the Necmettin Erbakan University Meram Faculty of Medicine. In his spare time, Altunkaya enjoys football, hiking, chess, and table tennis.

Snedha Konda, MD, is pursuing a two-year retina and vitreous fellowship. She comes to FEI after completing her residency at Virginia Commonwealth University. Prior to that, she attended

medical school at the Texas A&M School of Medicine. Having grown up in Minnesota, Konda is the daughter of a surgeon. She was introduced to eye care during her third year of medical school. She found that it was a great combination of her commitment to rural health service and affinity toward surgery. Outside of ophthalmology, Konda enjoys running, playing the violin, cooking, and traveling on mission trips.



Snedha Konda, MD

RUCHIRA SINGH RECEIVES MULTIPLE GRANTS, CONTINUED.

Recently renewed 5R01EYE028167, "Delineating the role of TIMP3 in macular degeneration," continues Singh's research using hiPSC models to delve into the process of macular degenerations. This specific project seeks to understand the role that the protein TIMP3 plays in AMD and in Sorsby's fundus dystrophy (SFD), a rare hereditary disease that causes blindness. Although an exceedingly uncommon condition, SFD pathology near duplicates AMD, a disease affecting millions.

In both SFD and AMD, TIMP3 accumulation under the RPE is a hallmark and is widely thought to be the source of unwanted changes to the retina. Singh's research involves growing an *in vitro* model of SFD. This is done by creating the RPE-CC complex using cells taken from patients diagnosed with SFD. Her team will study this affected tissue in comparison with non-affected tissue grown from cells of non-SFD patients to observe if there is a connection. Specifically, they will look to see if TIMP3 accumulation sets off a complex series of events that ultimately leads to the growth of drusen, which characterizes both SFD and AMD. If their hypothesis is correct, they will introduce pharmacologic agents into the model to try controlling the process.

Singh and Danielle Benoit, PhD, were among a group of study team members awarded a grant from the National Science Foundation. This is to develop and refine hiPSC models of the retinal support structure. Singh and Benoit are creating technology to promote tissue-specific blood flow into their RPE-CC complex by combining tissue engineering and hiPSC-derived cells. Using silicon membranes engineered by Benoit, they will build a two-chamber *in vitro* model of the oBRB that will permit blood flow between the vascular layer and the RPE layer. This work will have significant impact by resulting in a vascularized platform that more closely represents cellular interactions in the living eye.

Flaum Eye Institute Visiting Professor Series

The Flaum Eye Institute Visiting Professor is back for another year with an in-person/online hybrid format. Ophthalmologists, optometrists, and allied health care professionals are invited to join us in welcoming the most accomplished, nationally recognized eye care professionals to the University of Rochester for continuing medical education. In addition to the visiting professor lecture and resident case presentations, each session also features an FEI research spotlight and a short lecture by our own science faculty or collaborators from throughout the University. The visiting professor series is held on Friday afternoons.



Agenda

2:00 p.m. Introduction
2:05 p.m. Research Spotlight
2:30 p.m. Resident Case Presentations
3:40 p.m. Visiting Professor Lecture
4:30 p.m. Questions & Answer Session

For information on how to receive credit, call (585) 275-7666.

For questions about the series, call Residency Coordinator Wendy Winslow at (585) 273-3954.

FEBRUARY 16, 2024

Visiting Professor:
Raymond Cho, MD
Ohio State University
Topic: Oculoplastics
Research Spotlight: TBA

MARCH 15, 2024

Visiting Professor:
Edward Margolin, MD
University of Toronto
Topic: Neuro-Ophthalmology
Research Spotlight: TBA

APRIL 19, 2024

Visiting Professor:
Richard Hertle, MD
Northeast Ohio Medical College
Topic: Pediatrics
Research Spotlight: TBA

MAY 17, 2024

TBA

JUNE 14, 2024

Rochester Ophthalmology
Conference
Snell Memorial Lecture
Michael Chiang, MD
Director, National Eye Institute
Dushay Distinguished Visiting
Professor Lecture
Valerie Biousse, MD
Emory University

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FACULTY PRACTICE

Comprehensive Ophthalmology

Christine Coward, MD
 Janice Lee, MD
 Ruba Muhtaseb, MD
 Eric Wu, MD

Cornea and External Disease

James Aquavella, MD
 Ugur Celik, MD
 Naveen Mysore, MD, PhD
 Ronald Plotnik, MD
 Esteban Santiago, MD
 Rachel Wozniak, MD, PhD

Glaucoma/Anterior Segment

Karen Allison, MD
 Ruba Muhtaseb, MD
 Regina Smolyak, MD

Neuro-Ophthalmology

Natalie Brossard Barbosa, MD
 Bayan Al Othman, MD
 Zoe Williams, MD

Ocular Genetics

Jenina Capasso, MS, CGC
 Vikas Khetan, MBBS
 Alex Levin, MD, MHSc
 Celeste Wyman, ScM, CGC

Ocular Oncology

Vikas Khetan, MBBS

Oculofacial Plastics and Orbit

Mithra Gonzalez, MD
 Maria Costello, PA-C

Optometry and Contact Lens

James Caruso, OD
 Jessica daSilva, OD
 Anthony Dell'Anno, OD
 Michael DePaolis, OD
 Kenneth Dickerson, OD
 Brooke Donaher, OD
 Therese Farugia, OD
 Blair Germain, OD
 Jennifer Krech, OD
 Min Kuyng Kang, OD
 Karilyn Piwoni-Lippa, OD
 Robert Ryan, OD
 Melanie Shearer, OD

Pediatric Ophthalmology

Andrea Avila, MD
 Matthew Gearing, MD
 Benjamin Hammond, MD
 Matthew Haynie, MD
 Alex Levin, MD, MHSc

Refractive Surgery

Ugur Celik, MD
 Scott MacRae, MD
 Naveen Mysore, MD, PhD

Retina and Vitreous

David DiLoreto, MD, PhD
 Vamsi Gullapalli, MD, PhD
 Vikas Khetan, MBBS
 David Kleinman, MD
 Rajeev Ramchandran, MD

Uveitis

Wen Fan Hu, MD, PhD
 Amde Shifera, MD, PhD

RESEARCH FACULTY

Matthew Cavanaugh, PhD
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 Rick Libby, PhD
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 William Merigan, PhD
 Jesse Schallek, MD
 Michael Telias, PhD
 Duje Tadin, PhD
 David Williams, PhD
 Collynn Woeller, PhD
 Jim Zavislan, PhD