

A PUBLICATION OF EMORY EYE CENTER

EMORY | eye

2020

A close-up portrait of a middle-aged Black man wearing a white baseball cap and a light blue button-down shirt. He is smiling warmly at the camera. In the background, a blurred eye chart is visible, showing large letters like 'E', 'F', 'P', 'T', 'O', 'Z', 'L', 'P', 'E', 'D'.

CARING FOR OUR COMMUNITY

Treating those who need it most

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W

ELCOME TO THE LATEST ISSUE OF EMORY EYE MAGAZINE, WHERE you can look beyond the clinic to some of the ways our faculty are involved in caring for the community. They play active roles in ophthalmology organizations here in Georgia and beyond,

speak at multiple conferences worldwide, and offer vision screenings and eye care to people in need.

A prime example of that involvement is the Clarkston Community Health Clinic. You'll find Emory Eye Center optometrists and ophthalmologists there most Saturdays each month, giving eye exams to children and adults. Representatives from Lions Lighthouse of Georgia are on site every few weeks to provide eyeglasses to those who are unable to afford them.

You'll also meet a special patient of Emory Eye Center, Richard Bagley. Although he is legally blind due to macular degeneration, he doesn't let that keep him from being active. As he says, "When you have vision loss, you have two choices. You can either give in to it and sit in your recliner or you can find ways to still do as much as you're able."

It's our privilege to work with patients such as Mr. Bagley and those at the Clarkston Community Health Clinic to make their lives more manageable. Partnering with Lions Lighthouse of Georgia and other groups helps us reach further than we could by ourselves.

We also share an update on the work some of our retina specialists are doing with survivors of Ebola virus disease. August 2019 marked the fifth anniversary of the first Ebola patient being brought to Emory University Hospital for care. We've learned much about Ebola and other infectious diseases since that time, but the work isn't finished. Take a look at the latest work of Steven Yeh, MD, and Jessica Shantha, MD, as they traveled to the Democratic Republic of Congo to care for patients in the midst of the outbreak.

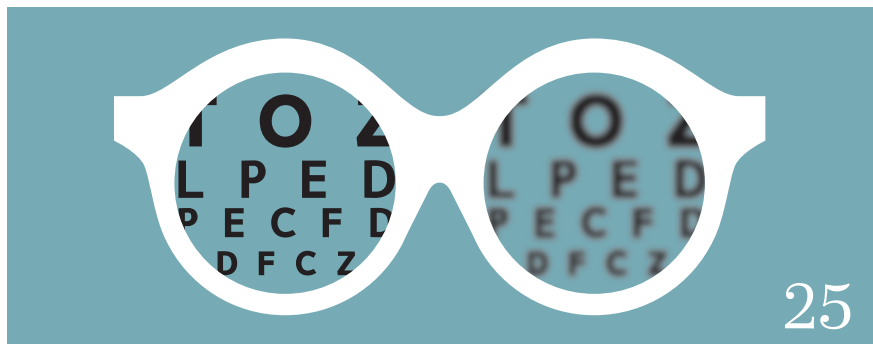
In this issue I am humbled to announce that I have been appointed Chair of Ophthalmology and Director of the Emory Eye Center. I served as interim chair and director for three years and am honored to take on the role permanently. Emory Eye Center has a bright future in patient care, education, and research. I look forward to seeing where we can go together.

Allen D. Beck, MD

Chair and Director, Emory Eye Center

William and Clara Redmond Professor of Ophthalmology

EMORY EYE CENTER



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EMORY EYE MAGAZINE

Director Allen D. Beck, MD **Director of Development** Karla Ruggiero **Writers/Editors** Leigh Delozier, Tiana Conner
Design Lisa Sparer, Trish McGinty-Boyles **Photographers** Donna Price, C. Brown Photo, Soroosh Behshad, Natalie Weil
Website www.eyecenter.emory.edu **Email** eyecenter@emory.edu

STRETCHING BEYOND EMORY'S WALLS

By Leigh DeLozier





Far Left: A patient at the Clarkston Community Health Center looks at her new eyeglasses in the mirror.
Left: Clarkston Community Health Center's vision clinic coordinator, Mwoddah Habib, checks in a patient at the registration desk.
Bottom: Emory Eye Center optometrists like Petra Jo, OD, volunteer at the clinic on Saturdays to provide vision care for patients.

THE FACULTY OF EMORY EYE CENTER share their expertise in ways far beyond their

day-to-day clinics. From serving on national leadership boards to volunteering their time treating patients in developing countries, they embody Emory's mission to care.

One prime example of their service is found just a few miles from Atlanta, at the Clarkston Community Health Center (CCHC). Emory Eye Center ophthalmologists and optometrists often can be found there on Saturdays, providing eye exams for local residents.

Emory Eye Center faculty became involved with the CCHC because of their work with the Emory School of Medicine's Ophthalmology Interest Group (OIG), a group of third-year medical students who conduct eye screenings around Atlanta.

"I started volunteering with the OIG five years ago," says optometrist Fulya Anderson, OD. "I did it once and was hooked."

Medical students would take the



patient's history and check vital signs, vision, and eye pressure. Attending physicians such as Anderson would then look at the students' findings and attempt to see into the back of the patients' eyes with a handheld instrument.

"We didn't have the option to dilate the patients' pupils, so seeing the back

of the eye was difficult due to many patients having small pupils or cataracts," Anderson says. "We did the best we could and would determine whether patients should be referred to Grady for a more thorough eye exam or to the Georgia Lions Lighthouse for an eyeglasses prescription or glasses."



Left: EEC optometrist Fulya Anderson, OD, examines a patient's vision. Center: Clarkston Community Health Center volunteer, Victoria Barnes, greets patients. Right: Clarkston Community Health Center volunteer, Aseeyah Islam, sits with a patient before his vision exam.



When Anderson heard that Emory Eye Center's Midtown clinic would be receiving new slit lamps, she asked whether the current ones could be donated to the CCHC. Once she gained approval, Mallard Benton, EEC's senior business manager, was instrumental in transferring the equipment to CCHC and getting it installed and functional.

"A slit lamp helps us look more thoroughly at all aspects of the eyes, assess an accurate eye pressure, and even look at the retina with a lens," Anderson explains. "This made such a difference in the level of care we're able to provide patients as well as the education we're able to offer the students."

FULFILLING PATIENT NEEDS

Adding the equipment also opened the door to offering more services. Clinic leaders soon asked if ophthalmologists were willing to get involved so the center could offer eye clinics

more consistently.

Soroosh Behshad, MD, MPH, and Natalie Weil, MD, made a site visit and completed a basic needs assessment. They concluded that the center had a backlog of diabetic patients who needed diabetic eye exams and adult patients in need of eyeglass exams.

Behshad began volunteering one Saturday a month to provide diabetic eye exams; Anderson saw patients for refraction for glasses on alternating months. Once they worked through the diabetic patients, they opened the clinic times to full eye exams.

The ophthalmology clinic was well received, but one patient group still was missing: children.

Once again, EEC faculty stepped up to help. Weil, who is a pediatric ophthalmologist, added a quarterly pediatric screening clinic.

"Now entire families—parents, grandparents, children—are getting their eye care through the Clarkston Clinic," Behshad says.

CONTINUING TO GROW

The health center's focus is on function rather than fancy. It's housed in a quiet office complex near I-285, tucked away amid small businesses and older homes. Waiting room chairs are mismatched and file cabinets are tucked in any available space. But the patients know they're in good hands with vision clinic coordinator Mwoddah Habib, her volunteer workers, and caregivers from Emory Eye Center.

Habib became involved with CCHC after graduating from college. "I started volunteering twice a week and noticed that we had many patients in dire need of vision services," she says. "We had vision clinic 'pop-ups' at the time, but they weren't consistent until Dr. Behshad met with us about having a monthly clinic."

In 2018, the Eye Center also began partnering with Georgia Lions

Continued



Luna Engle admires the many choices in eyeglasses frames during the Clarkston Community Health Center's vision clinic.

“ Now entire families—parents, grandparents, children—are getting their eye care through the Clarkston Clinic” - Soroosh Behshad, MD, MPH



Patients such as Getachew Shifaw appreciate the care they are able to receive at the Clarkston Community Health Center's vision clinic.

“

I volunteered here once and was hooked.”

- Fulya Anderson, OD

Lighthouse to bring even more services to the patients they see.

“I approached them about potentially partnering with us to have a presence at the CCHC to help with glasses for our patients,” Behshad says. “They were super interested in getting involved and have been a fantastic addition to the clinic.”

SERVING IN MULTIPLE WAYS

As important as the hands-on work at Clarkston Community Health Center is, EEC faculty find many other ways to give back through education and patient care at local, national, and international levels. Multiple faculty members give their time to committees across Emory's School of Medicine and the University. These range from mentoring and faculty development committees to those that review grant applications, develop policies for the university, and conduct searches for faculty or leadership.

While this list is far from complete, it shows the breadth of their involvement in areas beyond Emory:

- Numerous EEC faculty have served on committees and in leadership positions for the **Georgia Society of Ophthalmologists (GSO)** for many years. Currently, Jeremy Jones, MD, serves as president of GSO. Five faculty currently serve as

councilors for GSO: Anastasios Costarides, MD, PhD; Baker Hubbard, MD; Phoebe Lenhart, MD; Mary Lynch, MD; and Purnima Patel, MD.

- Susan Primo, OD, MPH, FAAO, director of optometry

services, is vice president of the **Visually Impaired Foundation Georgia**, a nonprofit dedicated to providing vision rehabilitation services to Georgians, especially those between ages 18 and 60 who can have gaps in their insurance coverage.

- Purnima Patel, MD, has been an integral part of the **American Academy of Ophthalmology's Young Ophthalmologists** program. This branch of AAO offers educational courses, professional development services, and career services and advice to those starting their

careers in ophthalmology, from residents through early-stage providers. She also has been instrumental in organizing education and support groups for female ophthalmologists through Emory, GSO, and AAO.

- Patel and Jacquelyn O'Banion, MD, have been two of the leading forces behind the Eye Center's involvement at Congressman David Scott's annual **Congressional District Health Fair**. EEC faculty, staff, and trainees provide vision screenings for hundreds of people each year through these types of events.



Optometrist Mary Carlton, OD, conducts a vision exam at the Clarkston Community Health Center.


On many Saturdays of optometry clinics, Lighthouse volunteers or staff come to CCHC ready to help patients get the glasses they need. They arrive with tabletop cases filled with rows and rows of eyeglasses. Once patients are examined and given a prescription, they can browse the glasses and get measured for a pair that works for them. Patients pay a small fee and Georgia Lions Lighthouse sends the glasses off to be manufactured.

“It takes three to four weeks to make the glasses and I pick them up to give to the patients,” Habib says. “It works out great for our patients, our doctors, and volunteers. We’ve been very grateful for their presence.”

“Many patients wait months for an

eye exam and now with the ability to provide eyeglasses on site, we all have benefitted,” says optometrist Mary Carlton, OD. “We’ve come a long way, but can always use more. It’s worth the challenge to provide essential eye care to a population that would not have received it otherwise.”

Habib and others recognize this challenge and hope to gain the needed support to expand clinic space and obtain more medical equipment—and volunteer providers.

“My dream is to have enough resources and providers like Dr. Behshad and Dr. Anderson who can volunteer with us consistently,” she says. “Together, we can do so much to fill the gaps.” 

- Maria Aaron, MD, completed her first term as secretary of the **AAO's Annual Meeting** in December 2019. She has been re-elected to a second three-year term, beginning in January. As secretary, Aaron is responsible for planning all aspects of the Annual Meeting as well as all AAO programs (ceremonial, educational, clinical, and non-clinical).

- Neuro-ophthalmologists Nancy J. Newman, MD, and Valérie Biousse, MD, each have served the **North American Neuro-Ophthalmology Society's (NANOS)** board of directors in

capacities including president-elect, president, chair of the board, and secretary. Currently, Biousse is president-elect of NANOS and Newman is senior vice president for education.

- Emily Graubart, MD, is secretary of the **American University of Professors of Ophthalmology (AUPO) Medical Student Education Council**. She also is co-chair of the Educational Resource Development and Research Committee for Medical Student Education with AUPO.

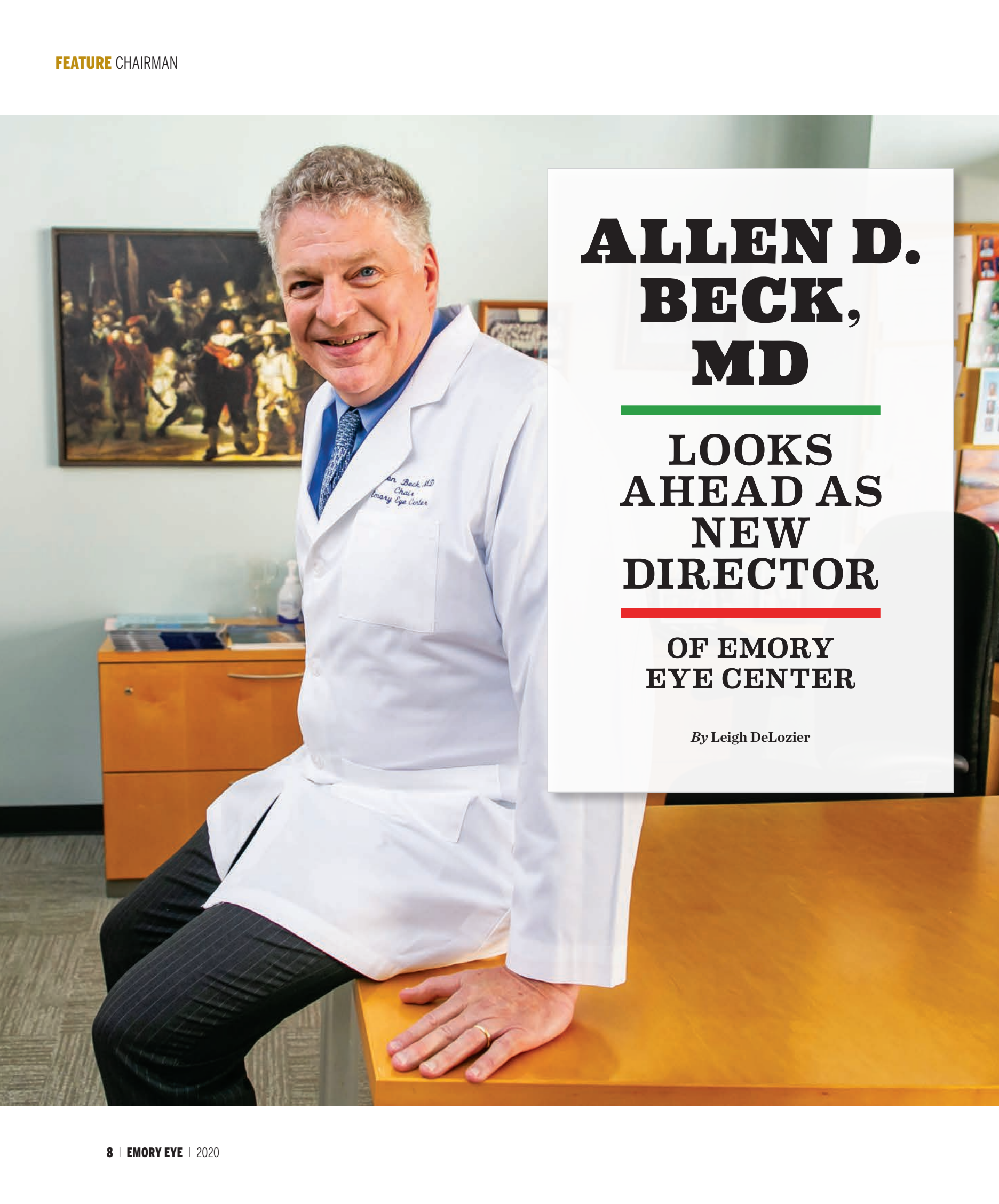
- EEC ophthalmologists, residents, and fellows have worked with the **Atlanta**

Falcons and Hawks for several years to ensure that they see their very best at every game. Groups led by Anastasios Costarides, MD, PhD, conduct pre-season vision screenings for all players and provide follow-up care as needed (such as comprehensive eye exams, filling contact lens prescriptions, or checking for vision issues if a player is struck in the eye during a game). Two ophthalmologists are courtside at every Hawks game in Atlanta to help members on either team, in accordance with NBA rules.

- Numerous EEC faculty have been honored by **AAO**

with Achievement or Senior Achievement Awards for their years of service to AAO. Some also have been honored with the AAO's Secretariat Award for career service or the Straatsma Award for excellence in resident education.

- Research faculty have been recognized by the **Association for Research in Vision and Ophthalmology (ARVO)** as distinguished Fellows for their service and have also served on multiple ARVO committees and the ARVO board of trustees.



ALLEN D. BECK, MD

LOOKS AHEAD AS NEW DIRECTOR

OF EMORY EYE CENTER

By Leigh DeLozier

W

HEN ALLEN D. BECK, MD, WAS APPOINTED INTERIM DIRECTOR of the Emory Eye Center and interim chair of ophthalmology in March 2016, he

expected to fulfill the role for about two years before handing the reins to someone else. He didn't anticipate being named the permanent chair and director himself, but the nationwide search led back to him.

"I obviously knew the faculty when I stepped in as interim, but had never worked directly with everyone," he says. "I've been involved with every nook and cranny of the department for the past three years. Now I really know who everyone is, why people are here, what they want to do. It's an exciting time for all of us."

Beck has been part of Emory since attending the Emory School of Medicine; he graduated cum laude in 1989. Following a one-year transitional internship at Georgia Baptist Medical Center (now Atlanta Medical Center), he returned to Emory for his ophthalmology residency (including time as Chief Resident) and fellowship in glaucoma.

"My dad was a doctor so I would sometimes shadow him," Beck says. "I liked medicine and wanted to go into a field that included surgery. I hadn't decided on a particular area when I went to medical school. Once I took an ophthalmology research elective I knew that was the specialty for me."

Part of Beck's training was under Mary Lynch, MD, and Reay Brown, MD, who were recruited to run Emory's glaucoma service in 1988. When Lynch became chief of ophthalmology at the Atlanta Veterans Medical Center in 1994, Beck joined the Emory Eye Center faculty.

"I fell in love with glaucoma partly because of Mary and Reay," Beck says today. "I was so fortunate to train under them. When I had the opportunity to take over Mary's practice and still be able to conduct clinical research, it was the perfect fit."

Since that time he has established a thriving medical practice focusing on diagnosis and treatment of glaucoma in adults and children. He became the Emory glaucoma section director in 1999 and the William and Clara Redmond Professor of Ophthalmology in 2006. Beck is



Left: Chair and Director Allen D. Beck, MD, is excited for the future of the Emory Eye Center. Above: Beck (second from left) completed his medical education, ophthalmology residency, and glaucoma fellowship at Emory.

well-known and respected among his peers at Emory and beyond, as seen by his inclusion in Atlanta magazine's Top Doctors issue every year since 2009. He was presented with the American Academy of Ophthalmology's (AAO) Achievement Award in 2002 and the AAO's Senior Achievement Award in 2017 for his contributions to the society and the ophthalmology profession. He joined the Emory Millipub Club in 2017 and received the Emory Healthcare Provider Excellence Award in 2017.

Beck finds clinical research fascinating and has been involved with projects related to the diagnosis and management of pediatric glaucoma, clinical studies of adult glaucoma therapies, pediatric cataract, and glaucoma compliance. He has published extensively on childhood glaucoma diagnosis and management and serves as the medical monitor for the NEI sponsored, Infant Aphakia Treatment Study (IATS), headed by Dr. Scott Lambert at Stanford University.

He also has served as a principal investigator in glaucoma clinical trials, including the NEI sponsored Advanced Glaucoma Intervention Study (AGIS) and the landmark Ocular Hypertension Treatment Study (OHTS) that is in its 20-year follow-up phase. Beck has a strong interest in glaucoma medication research, as well as factors that influence adherence, and participated as a co-investigator and principal investigator in the Emory based, NEI funded, Interactive Study to Increase Glaucoma adHerence to Treatment (I-SIGHT).

Research will continue to be an area of focus for Beck.

"Now that I'm in the position permanently, we can be more strategic in our long-range thinking. Research is at the core of those plans."

Existing lab space in the Clifton Road clinic will be renovated, and new research faculty will be recruited to build upon the groundbreaking work already happening in Emory Eye Center’s research department.

“We’ll be expanding both basic science research and clinical trials,” Beck says. “We want to become a primary center for clinical trials, not just a participant.”

Beck also intends to strengthen work in global ophthalmology, tele-ophthalmology, and medical education.

“Our global ophthalmology program is one of the largest global programs on the Emory campus,” he told well-wishers at a reception in honor of his new position. “It’s something that sets us apart from other programs and we want to keep it that way.”


“Tele-ophthalmology is the wave of the future and will help us take better care of people,” he adds. “We can’t be everywhere all the time, so technology can help us extend our reach.”

During his tenure as interim chair, Beck has directed the

expansion of the department with the addition of nine ophthalmologists and seven optometrists, a new clinic space at Emory Johns Creek Hospital, and doubled the department’s clinic space at Emory Saint Joseph’s Hospital. Several key research grants have also been acquired, including two new NIH grants in 2019 totaling \$4.5 million.

“We want to be in the forefront of clinical care, research and trials, and technology. We need to think creatively about how we provide patient care,” he says.

“Through Dr. Beck’s leadership, we are confident that the ophthalmology department and its faculty will continue to progress in their research growth, provide stellar training for residents and fellows, and offer patients the best care possible,” says Vikas P. Sukhatme, MD, ScD, dean of the Emory University School of Medicine.

“Welcoming him as chair of ophthalmology and director of Emory Eye Center is one of the greatest honors I’ve had,” says Thomas A. Aaberg, Sr., MD, former chair of ophthalmology. “There’s no limit to where he can take the department.” 

ALLEN D. BECK, MD

● **1981-1985** BA, magna cum laude, Vanderbilt University

● **1985-1989** MD, cum laude, Emory University School of Medicine

● **1989-1990** Transitional internship, Georgia Baptist Hospital

● **1990-1993** Ophthalmology residency, Emory University School of Medicine

● **1992-1993** Chief resident, Emory University School of Medicine

● **1993-1994** Glaucoma fellowship, Emory University School of Medicine

● **1994-2000** Assistant professor of ophthalmol-

ogy, Emory University School of Medicine

● **1994-2000** Assistant professor of ophthalmology, Emory University School of Medicine

● **1994-2001** Glaucoma fellowship director, Emory Eye Center

● **1999-2016** Director of glaucoma service, Emory Eye Center

● **2000-2008** Associate professor of ophthalmology, Emory University School of Medicine

● **2006-2019** William and Clara Redmond Professor of Ophthalmology

● **2008-Present** Professor of ophthalmology, Emory

University School of Medicine

● **2016-2019** Interim director, Emory Eye Center, and interim chair of ophthalmology, Emory University School of Medicine

● **2019** Director, Emory Eye Center, and chair of ophthalmology, Emory University School of Medicine

● **CERTIFICATIONS:** American Board of Ophthalmology

● **MEMBERSHIPS:** American Academy of Ophthalmology; American Medical Association; Medical Association of Georgia; Association for Research in Vision and Ophthalmology;

American Glaucoma Society; American Association of Pediatric Ophthalmology and Strabismus; Georgia Society of Ophthalmology; Emory Eye Alumni Association

● **PROFESSIONAL INVOLVEMENT:**

Executive Committee for the Childhood Glaucoma Research Network; chair, Pediatric Glaucoma Subcommittee of the American Glaucoma Society; American Academy of Ophthalmology Knowledge Base Panel

LOOKING BEYOND

THE

Jordan currently hosts an estimated 1.4 million Syrian people who have fled the war in their home country to find refuge elsewhere. Emory Eye Center has played an integral role in providing eye care to this population: physicians Soroosh Behshad, MD, MPH, and Natalie Weil, MD, have traveled to Jordan multiple times since January 2017 to help.

BARBED

WIRE



MASSIVE BARBED WIRE FENCES LINE THE BORDER OF THE CAMP



Their work has shown that over 60 percent of blindness in this population can be reversed with cataract surgery or eyeglasses. During their times in Jordan, Behshad, Weil, and their team have performed more than 3,642 eye exams and 718 surgeries and procedures, with more than half of these patients being children.

Behshad, a cataract and cornea surgeon, and Weil, a pediatric and adult strabismus surgeon, also have worked with local Jordanian medical students and ophthalmology residents to increase and improve their ophthalmologic training and exposure. Now they're sharing the same educational opportunity with their own trainees through a new program that allows Emory ophthalmology residents to participate in this important humanitarian work.


The program launched in July 2019 when John Paul Gorham, MD, the Eye Center's chief resident, spent a week in Za'atari refugee camp with Behshad and Weil. He worked alongside Behshad and Weil to screen and examine pediatric patients, identify children who needed glasses or surgical intervention, and help facilitate their care.

"Many of the kids in the camp have never had their vision checked, so we generated a lot of buzz around the camp by checking vision each day," Gorham says. "We screened over 100 children and identified children who would benefit from glasses and surgery. We hope to train others to implement our screening protocol, which would identify which children need more attention during the limited time that Drs. Weil and Behshad are in the country."

Gorham gained valuable medical and surgical knowledge during the trip, but says much of his on-the-ground education was outside the scope of ophthalmology.

"I learned that your relationships are an essential component of success," he says. "Watching Drs. Behshad and Weil seamlessly cultivate relationships with patients, providers, and NGO personnel was a lesson in diplomacy and graceful pragmatism that I did not anticipate."

"I also learned that the two-dimensional pictures you see from the camps do not capture the whole story," he adds. "It's true that as you enter the refugee camp the scene looks very bleak. Massive barbed wire fences line the border of the camp and army tanks are scattered throughout. In spite of these living conditions, the Syrian refugees we worked with welcomed us each day with warmth and hospitality. We worked with children who were bubbly and smiling. At the end of the clinic day, one of the volunteers would run across the street and buy huge platters of fresh falafel from a proud shop keeper."

"The severity of the Syrian crisis is undeniable. But it's not all tanks and barbed wire; the refugee community here is still creating meaning from the world around them." 



Top: Natalie Weil, MD, Soroosh Behshad, MD, MPH, EEC chief resident John Paul Gorham, MD, Arabic translator Amer Kassab and Operating Room Manager Saher Baker Al-Baba, worked together to check the vision of many Syrian refugees; (left): Programs like these enable EEC chief resident John Paul Gorham, MD, to gain hands-on training and experience in a unique environment; (right): Natalie Weil, MD, shares a smile with a young patient at the Za'atari camp.

THE PICTURE OF



PERSEVERANCE

By Leigh DeLozier

R

ICHARD BAGLEY IS ALMOST 90 YEARS OLD AND HAS BEEN LEGALLY blind in both eyes for nearly 30 years. But that doesn't keep him from still seeing – and sharing – the beauty around him.

“My right eye was the first to develop macular degeneration,” he says. “It began in my left eye about a year later.”

Bagley was familiar with the condition because his mother and several other relatives received the same diagnosis as they grew older. His diagnosis came earlier in life than theirs, but he's thankful for having access to services they didn't.

“In 1995 I was referred to the Center for the Visually Impaired for evaluation,” he says. “They confirmed my diagnosis and explained what kinds of services were available to help me adjust.”

Later he was able to participate in a blind rehabilitation services program sponsored by the VA. There, Bagley spent seven weeks taking multiple classes designed to help him with everything from daily living skills such as basic cooking and housecleaning to using the computer. “They covered the realm of teaching how to exist on your own,” he says. “It was excellent training.”

Even as Bagley's vision worsened, he found ways to help others through the Georgia Council for the Blind and other organizations.

“If I can still do things, they can too,” he reasons. “You just have to decide you want to keep on going.”

Bagley stretched beyond even his own expectations when he took up a paintbrush.

“I was looking for something to do to help me cope after my wife died,” he says. “I heard that someone was offering the residents of The Gardens of Gainesville, where I live, basic oil painting classes.”

Bagley decided to go hear what the instructor had to say. “Once I realized the extent of what they would be doing, I got up to leave,” he says. “But the instructor wouldn't let me. He told me to sit back down because you never know what you can do until you try. He was right.”

The instructor, Bill Eary, helps Bagley block off the canvas, drawing a grid to help with placement and perspective. Then they enlarge a photo to the size of the

canvas so Bagley can see how the picture would overlay the grid. From there, Bagley works on small squares of the picture at a time, a method that Eary says can make painting less overwhelming.

“It's almost like painting by numbers,” Bagley says. “He helps me mix colors but I do the rest.”

Macular degeneration (also known as age-related macular degeneration, or AMD) affects a person's central vision. The condition takes away depth perception and impacts the ability to do many everyday tasks such as reading or eating. That means his painting progress is slow, but Bagley isn't stopping.

“I don't watch TV very often anymore and you can only listen to books a certain amount of time. This gives me an avenue that's a lot of fun. It's turned out to be more successful than I expected.”

So far, Bagley has completed four paintings in class and is working on a fifth. The subjects include the Church of the Good Shepherd in New Zealand, an abbey in Ireland (from a vacation photo Bagley took years ago), the Tybee Island lighthouse, and the Cliffs of Moher in Ireland.

“Bill and I pick a subject that we think I can do a painting of,” Bagley says. “I get frustrated sometimes but Bill reminds me to stop being so technical. He always says that I'm painting a painting, not taking a photo. It's not supposed to be the same.”

Bagley's Emory Eye Center physician, retina specialist Purnima Patel, MD, has encouraged Bagley in his work

and was thrilled to receive one of his paintings.

“I see Dr. Patel about every six weeks for injections to help control the bleeding in my left eye,” Bagley says. “She's always asking about what I'm working on.”

“Mr. Bagley took up painting as a coping mechanism after his wife died,” Patel says. “He has embraced this hobby and has gained much skill despite his visual limitations. The first time I saw his artwork, I was blown away by how beautiful his paintings were, especially for a relative novice living with legal blindness.”

“When you have vision loss, you have two choices,” Bagley says. “You can either give in to it and sit in your recliner or you can find ways to still do as much as you're able. Painting is another way to keep your brain active. The challenge gives you strength and that's what you need to keep going.”

“I think it's going to help keep me around a few more years.” 

EVEN AS BAGLEY'S VISION WORSENERD, HE FOUND WAYS TO HELP OTHERS

HIDDEN FROM SIGHT

Emory Eye Center faculty continue to screen Ebola virus disease survivors for vision problems and eye disease

By Leigh DeLozier





Left: Steven Yeh, MD, with physician and EVD survivor Ian Crozier, MD, Jessica Shantha, MD, and Jean-Claude Mwanza, MD, MPH, PhD, during one of their trips to work with Ebola virus disease survivors. Right: Steven Yeh, MD, examines the eyes of Muhindo, a young EVD survivor.

“We obviously knew that Dr. Crozier was an Ebola survivor, but didn’t expect to find live virus when we tested his ocular fluid. It was a shock.” – Jessica Shantha, MD

MUHINDO IS YOUNG, SMALL AND AN ACCIDENTAL warrior. He is one of the growing number of children in the Democratic Republic of Congo (DRC) who have fought and prevailed against Ebola virus disease (EVD).

The odds of making it were stacked against Muhindo and others in the Congo, which is currently facing the second largest Ebola outbreak in history. The ability to combat the damage the disease typically wreaks individually and in communities, and has been complicated by regional conflict from armed militia, community mistrust and violence. Nearly a third of those who have contracted the disease are children, and two of every three infected have died.

For Muhindo and others who have survived EVD, a significant threat still remains: Uveitis, an ocular inflammatory disease that can lead to vision impairment – or even blindness if left untreated. To help avert this complication, two Emory ophthalmologists – Steven Yeh, MD and Jessica Shantha, MD – traveled to the strife-torn eastern DRC to provide much-needed vision care to survivors of Ebola.

“There are very real patient needs that can be challenged by security concerns,” Yeh says. “Obviously we are all cognizant of that and adhere to WHO security guidelines, but you can’t let fear prevent you from being involved at such an important time for both patients and our understanding of the disease.”

Yeh and Shantha traveled to the DRC with University of North Carolina ophthalmologist Jean-Claude Mwanza, MD, MPH, PhD, where they worked with physician and Ebola survivor, Ian Crozier, MD. The team partnered with the World Health Organization’s (WHO) Global Outbreak Alert and Response Network (GOARN) and the DRC Ministry of Health. They trained local ophthalmologists on new diagnosis and treatment protocols; screened and treated Ebola survivors for eye disease; and developed systems for vision care during the outbreak.

Although this is the tenth Ebola outbreak in the DRC, it is the first in the eastern region. Yeh and Shantha found that many who are ill are afraid to seek medical help. Some believe the disease is part of a foreign plot; others simply don’t trust the government. The current threat of militia violence, especially against health-care workers who treat Ebola patients, adds to the security concern.

Treating patients in the face of fear

The group’s trip marked the first WHO GOARN deployment for eye care in an acute outbreak setting and is the earliest that EVD survivors have received eye exams during an outbreak.

“Until now, vision studies or treatments have been reactive,” Shantha says. “Having this opportunity to be proactive and seeing people earlier in the outbreak enabled us to enact some of the guidelines we had recommended previously for screening and care.”

The team screened more than 250 EVD survivors during their visit (more than 80 percent of the EVD survivors at the time). Around a third of those screened reported ocular symptoms during or after their EVD experience, ranging from itchy eyes and tearing to light sensitivity and eye pain. Ebola-related uveitis has shown to be a complication that develops in survivors, with the risk increasing over time.

“Even after they survive Ebola and we treat their uveitis, we’ve found that many of these patients later develop significant cataracts that impair their vision,” Shantha says. “These aren’t the standard white cataracts; these uveitic cataracts are especially dense and thick, which makes removing



Partnering for success

The Emory Eye Center's work with Ebola virus disease survivors is performed in conjunction with many organizations, including the World Health Organization (WHO), Partners in Health (PIH), Central Global Vision Fund, Lowell and Ruth Gess Eye Hospital, and the Kissy United Methodist Church. Local connections in Liberia, Sierra Leone and the Democratic Republic of Congo also are key to their efforts' success.

To support this ongoing work, contact Karla Ruggiero, Emory Eye Center's director of development, at 404-778-4121.



Top: Ian Crozier, MD, sits with a patient during clinic. Left: Steven Yeh, MD, examines the eyes of a woman at a patient clinic. Right: Jessica Shantha, MD, checks a young patient's eyes.





“What we’re learning in West Africa and the DRC can translate to new discoveries and ultimately improve health for citizens of the U.S. as well.” – Steven Yeh, MD

them more complicated than usual. We don’t know why it happens or what causes it to be that way.”

Over the last few years, Shantha and Yeh have been at the forefront of developing international treatment protocols for eye care related to EVD. One involves taking a sample of ocular fluid and testing it for Ebola virus before scheduling cataract surgery. Their group’s unique facility design makes this study of eye fluid possible even in West African countries that were hardest hit by Ebola.

Lab results are back in a few days and can be life changing. Survivors already face multiple stigmata because of EVD. Developing blindness compounds their problems by stealing their ability to care for themselves or provide for their families.

“Negative test results have allowed many Ebola survivors to have cataract surgery and regain their vision,” Shantha says.

Regaining vision enables them to re-enter society and maintain their work productivity. Many use this second chance to help others however they can.

“It was amazing to see survivors assisting others,” Mwanza says. “They are going into communities to educate people and are serving at the bedside of those who are sick. Many have lost family members, but you still sense

their joy and gratefulness in serving.”

“We don’t know whether they have universal immunity to Ebola, but they are immune to their strain,” Yeh adds. “They are going back into the health-care units to care for individuals who have acute Ebola. It’s a special story, and truly inspiring to see.”

Setting the stage for post-Ebola vision care

Yeh and Shantha’s work with EVD survivors began in 2014, when Emory specialists successfully treated and released four patients with the deadly infection, including Crozier. No one expected Crozier to return to Emory months later with serious vision issues because the disease had survived in his ocular fluid.

The discovery – and its possible implications for survivors, their families and healthcare workers – sent shockwaves through the medical community worldwide.


“Finding live Ebola virus in ocular fluid was certainly concerning,” Yeh says. “One impact of this discovery was the growing concern that thousands of Ebola survivors could also be susceptible to sight-threatening uveitis because of viral persistence. We were also concerned from a public health standpoint. How do you protect health workers who are performing invasive procedures –

such as cataract surgery – on patients who might have live Ebola virus in their eye?”

Yeh, Shantha, and physicians from Emory’s Serious Communicable Diseases Unit treated Crozier’s uveitis with corticosteroids. He slowly regained his vision and, once again, won the battle against Ebola. He joined Yeh, Shantha and others in an effort to learn everything possible about EVD and how it affects people’s vision and daily lives.

“We’ve been able to take what we learned in West Africa to be more proactive in treating the patients of the DRC,” Yeh says. “We’re now able to offer a different level of care.”

Crozier plays a role in both sides of the story. He has traveled to areas affected by Ebola numerous times as a physician but doesn’t shy away from telling others that he also is a survivor. He had surgery at the Emory Eye Center to remove a uveitic cataract that formed after his treatment and continues to let Shantha or Yeh check his vision when they’re together.

“I have dual citizenship as both Ebola caregiver and care receiver,” he says. “Our job is to treat them, but to also help reduce the stigmatization of Ebola and of blindness. We’re still writing the textbook of how to treat this condition and move forward.” 



NIERAJ JAIN, MD,
 awarded a multi-year
 research grant
 from Foundation
 Fighting Blindness

VITREORETINAL SURGEON AND OPHTHALMIC GENETICIST NIERAJ JAIN, MD, received a career development award from Foundation Fighting Blindness (FFB) to support his research. The grant totals \$375,000 over five years.

Jain is studying pattern dystrophies and a new drug-related retinal disorder that his team recently identified. This unique pigmentary maculopathy was noted in patients who had chronic exposure to pentosan polysulfate sodium (PPS), a therapy for interstitial cystitis.

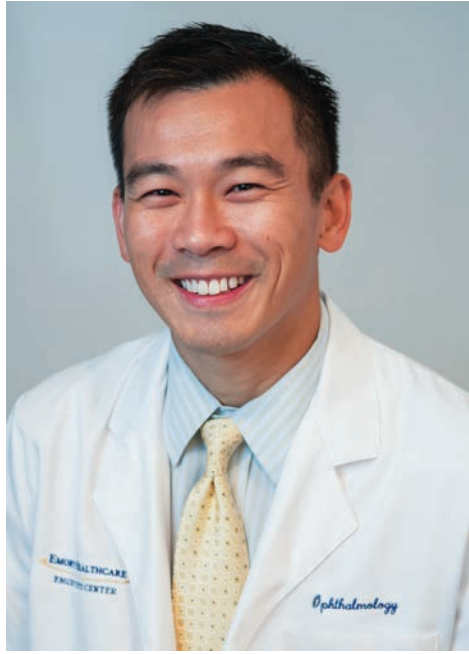
The pigment change (which resembled a pattern dystrophy) could possibly be caused by diseased retinal pigment epithelium (RPE) cells accumulating byproducts of the visual cycle in a pathway toward cellular death; epithelial cells might also be accumulating PPS or one of its metabolites.

“Although visual acuity is not impaired in most patients we evaluated, affected patients have prominent symptoms of difficulty reading and prolonged dark adaptation,” Jain says. “We and our patients have many unanswered questions about this condition, including what is the long term prognosis for affected individuals. Clinicians should be aware of this because it is likely a preventable condition that can be mistaken for other well-known macular disorders such as pattern dystrophy and age-related macular degeneration (AMD).”

With the support of the FFB, Jain hopes to further explore the link between this medication and vision loss. Further, Jain believes that this finding may provide an avenue to model retinal diseases such as macular degeneration and pattern dystrophy. Vision scientists are always searching for new disease models to help shed light on the underlying causes of retinal disease and also to test new therapies. The FFB grant will allow Jain to study this drug in animals in collaboration with Emory Eye Center research scientists John Nickerson, PhD, and Jeffrey Boatright, PhD.

FFB funds support researchers nationwide who are working to provide preventions, treatments, and cures for people affected by retinitis pigmentosa, AMD, Stargardt disease, and other retinal degenerative diseases.

“The Foundation Fighting Blindness has played a vital role in raising awareness of these diseases and supporting research discoveries that have led to promising studies on new treatments,” Jain says. “In our work, further investigation is warranted to confirm a causal relationship between PPS and this particular maculopathy, to explore pathophysiologic features, and to direct dosage and surveillance guidelines. I am thankful to have FFB’s funding support for this work. We are hopeful that we can provide additional answers to our patients who are struggling with this condition.”



STEVEN YEH, MD,
received a \$3.2 million
grant from National
Institutes of Health



AN EMORY EYE CENTER TEAM LED BY UVEITIS SPECIALIST STEVEN YEH, MD, was awarded a grant from the National Institutes of Health (NIH) to further study vision-related issues in Ebola virus disease (EVD) survivors. The \$3.2 million grant stems from prior work related to eye disease in Ebola survivors in the United States and Sierra Leone since the West African Ebola outbreak from 2014 to 2016.

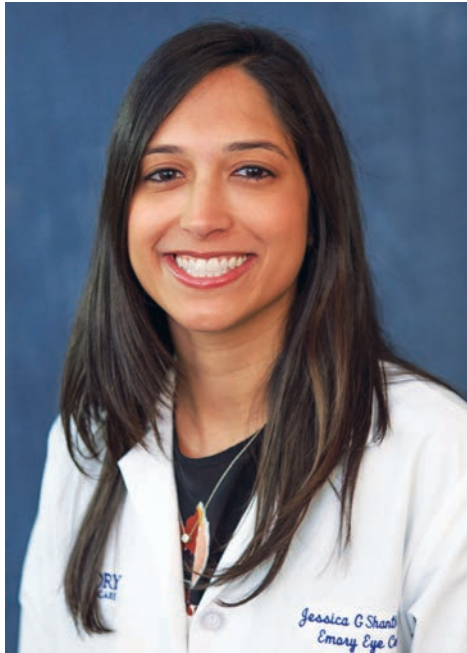
Their team's research focuses on the prevalence and treatment of uveitis in survivors. Uveitis is an ocular inflammatory disease that can lead to vision impairment or even blindness, if left untreated.

"This NIH investment will allow our investigative team to rigorously evaluate eye disease in Ebola survivors in West Africa, as well as the mechanisms that underlie the development of eye disease," Yeh says. "Specifically, we will evaluate patient risk factors, Ebola viral persistence in the eye, and the role of the patient's immune system in mediating uveitis."

Leading investigators from departments across Emory University – Emory Eye Center, Emory Vaccine Center (Rafi Ahmed, PhD), and Rollins School of Public Health – will collaborate on key aspects of the five-year project. Researchers from the U.S. Army Medical Reserve Institute of Infectious Diseases, Tulane University School of Public Health, and Kenema Government Hospital Lassa fever laboratory will work on key laboratory diagnostic investigation. Other key academic institution partners include the University of California San Francisco, Proctor Foundation and Flinders University in Adelaide, Australia.

Ophthalmologist Matthew Vandy, MD, of the Lowell and Ruth Gess Eye Hospital in Freetown, Sierra Leone, is another lead collaborator. Yeh and co-investigator, Jessica Shantha, MD, have worked with Vandy and others since first traveling to Sierra Leone in 2015.

"I want to congratulate Dr. Yeh for not only obtaining NEI funding for his research on survivors of Ebola virus, but also for obtaining the highest possible percentile (top 1%) for his grant application," says Allen D. Beck, MD, chair of the Department of Ophthalmology and director of Emory Eye Center. "We are fortunate to have Dr. Yeh and Dr. Shantha on the faculty of the ophthalmology department, and we look forward to future discoveries that will help care for these very special patients."



JESSICA SHANTHA, MD, received a \$1.2M K23 career development research grant

THE NATIONAL INSTITUTES OF HEALTH (NIH) AWARDED A K23 CAREER DEVELOPMENT research grant to uveitis and retina specialist Jessica Shantha, MD. The award will total \$1.2 million over a five-year period.

K23 awards are designed to provide individuals who have a clinical doctoral degree with an intensive, supervised, patient-oriented research experience. The grant helps support physicians as they move toward becoming independent patient-oriented researchers.

Shantha's work will focus on learning more about ophthalmic disease in a viral hemorrhagic fever zone.

"We have significant gaps in our understanding of ocular complications and the potential for vision loss associated with emerging infectious diseases such as Ebola virus disease and Lassa fever," Shantha explains. "My goal is to further define the ocular complications in Ebola virus disease survivors, explore eye disease in Lassa fever virus survivors, and validate that sampling the eye's ocular fluid can help detect infectious disease."

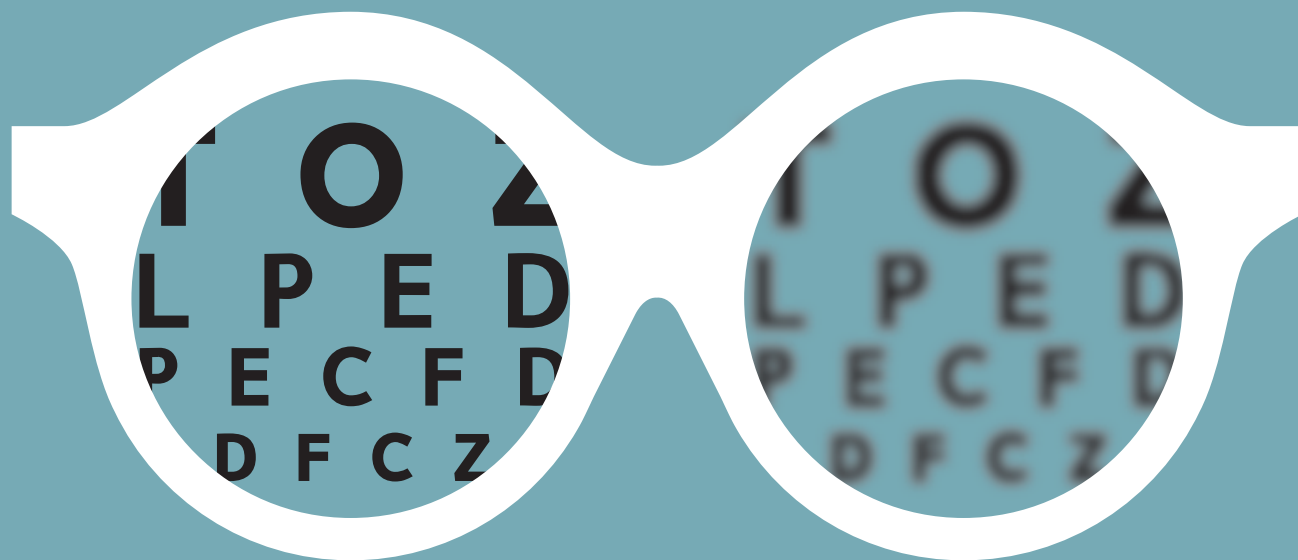
Shantha first became involved with research related to Ebola virus disease (EVD) survivors during her ophthalmology residency at Emory Eye Center (see "Hidden from Sight" on page 16). Since then, Shantha, Yeh, and others have partnered with organizations in West Africa to screen more than 1,200 Ebola survivors. Uveitis is the most common ocular complication in EVD survivors.

"Currently, we have insufficient knowledge about the disease course of EVD-associated uveitis, long-term visual acuity outcomes, and appropriate treatment for this sight-threatening disease," Shantha says. "Our studies have raised questions about the eye's potential to serve as a novel tissue site for infectious disease surveillance, especially in areas prone to hemorrhagic fevers such as EVD or Lassa fever. Whatever we learn about ways to prevent or treat these conditions has great public health significance."

The grant award allows Shantha to work with a team of mentors who offer their expertise and guidance in several areas: emerging infectious disease, surveillance systems, molecular diagnostics, uveitis, and epidemiology. Her mentors include experts from Emory Eye Center, the Emory Global Health Institute, Rollins School of Public Health, the F.I. Proctor Foundation, Tulane University, and Sierra Leone's Ministry of Health and Sanitation.

"Findings from this study will impact screening and long-term management, contribute to policy guidelines, and, most importantly, prevent blindness," Shantha says. "I am extremely grateful for this opportunity to make a difference in these survivors' lives."

FIGHTING RETINAL DEGENERATION WITH SUPPLEMENTS



THE RETINA IS A METABOLICALLY ACTIVE TISSUE WITH VERY HIGH energy requirements. But what happens if those energy requirements aren't met? Processes begin to fail, which can lead to significant issues over time.

One of the building blocks that helps make that energy is nicotinamide adenine dinucleotide, or NAD⁺, a coenzyme required for fundamental biological processes. NAD⁺ levels decrease naturally as humans and animals age.


"We don't know if the body possibly needs more NAD⁺ as it ages and isn't able to produce as much," says researcher Jeffrey Boatright, PhD. "We do know that lower levels of NAD⁺ are associated with aging and neurodegenerative diseases. People who have Parkinson's, Alzheim-

er's, or retinal diseases such as AMD or retinal pigmentosa have lower NAD⁺ levels than usual."

Something as simple as a dietary supplement might keep NAD⁺ levels higher and combat some retinal diseases, Boatright's research shows.

"When we give the supplements to mice, their retinal NAD⁺ levels increase significantly after only one or two days," he says. "We're seeing that protect against the loss of photoreceptor or RPE cells."

The researchers are testing over-the-counter nicotinamide and nicotinamide riboside. Both can increase NAD⁺ levels, so Boatright's team also is comparing efficacy and potency.

"Our hypothesis is that we can elevate NAD⁺ levels to slow down or possibly prevent degeneration," he says. "It's amazing to think that taking an over-the-counter supplement could be part of the answer." 

One step closer to viable optic nerve regeneration

Researcher Eldon Geisert, PhD, and his team have studied for years to identify the genes that cause glaucoma in humans. They're making progress on that front, but aren't stopping there. They also are working to find a cure for glaucoma through optic nerve regeneration.

The optic nerve transmits messages between the eye and brain, allowing us to see. Eye trauma or conditions such as glaucoma can damage the optic nerve and lead to vision loss or blindness.


"We've learned that at least three genome regulators help modulate nerve regeneration," Geisert says. "Now we're focusing on specific genes in those three regulators and how they affect the ability to regenerate."

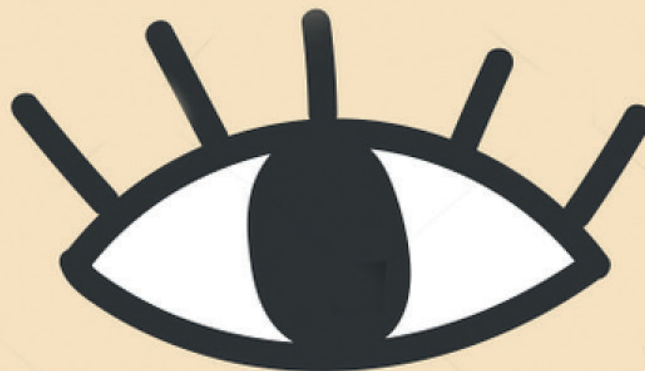
Geisert and others already know how to regrow the optic nerve in mice. Learning which genes are responsible for increased regeneration will allow them to discover how to speed the growth and someday restore function to a damaged optic nerve.

"The thought of regenerating the

optic nerve has carried a stigma for years," Geisert says. "Many have claimed they could make it happen, but they couldn't. Now we're discovering answers that can truly make a difference. It's amazing to know that we're finally getting there."

Geisert's work with optic nerve regeneration is partially funded by a Bright Focus Foundation grant.

"We're getting really close to some big answers and their support is making it possible." 



Emory Eye Center begins stem cell research trial

For the first time since beginning vision research more than fifty years ago, Emory Eye Center is offering a stem cell clinical research trial.

"This is the first clinical trial using human embryonic stem cell-derived retinal pigment epithelium (RPE) to treat advanced dry age-related macular degeneration – the leading cause of blindness," says Jiong Yan, MD, retina specialist and principal investigator for the EEC trial.

Macular degeneration affects the eye's macula, the area of the retina responsible for clear central vision. In

dry AMD, the macula thins and breaks down, which leads to progressively blurred or reduced vision. There currently is no approved treatment or cure for dry AMD.

During the trial, Yan and her team will surgically introduce stem cells beneath the participant's retina. The injected cells will regenerate some of the RPE cells that have died due to AMD. "We'll be looking for patients who have severe vision loss due to AMD (20/200 or worse vision), but who are otherwise healthy," Yan says.

The primary phase of this phase

1b/2a trial, designed to test dose response, will last six months. The secondary phase involving treated patients will last for five years.

Yan says the trial attempts to establish the safety and efficacy of the treatment. Up to 50 centers across the U.S., Canada, and Europe are participating.

"This truly is groundbreaking research," Yan says. "We are fortunate to participate. It's exciting to hope that we might be coming closer to a cure – or at least a viable treatment – for dry AMD." 

Manipulating light waves could affect ROP development

Tissues of the eye are not vascularized during early development; blood vessels develop in the eye's vitreous to help nourish all the developing tissues. In humans, the vitreous blood vessels – known as the hyaloid vasculature – regress and disappear late in development to clear the optical pathway to the retina.


If the vessels don't undergo normal programmed involution (a condition known as persistent fetal vasculature), they distort light passing through the eye and are frequently associated with poor visual outcomes. Research director Mike Iuvone, PhD, and his team are looking at ways to

correct this disorder.

“A novel, violet-sensitive photopigment – neuropsin – is expressed in subtypes of retinal ganglion cells and is required for the normal timing of hyaloid vessel regression,” Iuvone says. “In mice, removing neuropsin from their retinas causes the blood vessels to regress precociously during the first postnatal week. This effect is mediated by dopamine, a retinal neurotransmitter.”

The hyaloid vessel regression is necessary, but it also needs to happen at the right time. “Research has shown that neuropsin is required for normal biological timing in the

mouse eye,” Iuvone says. “We've also learned that normal hyaloid vessel regression timing requires both neuropsin and violet light.”

“If the eye is deprived of violet light during development, it mimics the effect of genetically removing neuropsin,” Iuvone continues. “From a clinical standpoint, that means that lights in a NICU could potentially be affecting the retinas of premature infants. We could potentially help prevent infants developing retinopathy of prematurity (ROP) by manipulating the amount of violet light in the NICU.” 

The optic nerve transmits messages between the eye and brain, allowing us to see. Eye trauma or conditions such as glaucoma can damage the optic nerve and lead to vision loss or blindness.

Microglial cells wait for chances to clean up retina damage

Hidden away in the thickness of the retina are the microglial cells, which lurk in the background in something akin to “surveillance mode” – until damage occurs.

“We've known about microglial cells for years,” says researcher John Nickerson, PhD. “What we didn't know until recently was that they play an active role in repairing or cleaning up damaged retina cells.”

“When the retina is damaged, finger-like projections arise from the microglial cells,” he explains. “They basically pull the damaged cells


deeper into the retina away from the surface. The epithelial cells then shift and become slightly bigger to fill the space left by the removed cells.”

Nickerson's lab has been studying microglial cells in earnest for about a year. They are able to use light to simulate the damage caused by macular and retinal degeneration in mice, then study the results.

“We had seen the microglial cells touching or ‘feeling’ other cells before now, but didn't realize how far they penetrated into the retina,” he says. “Now that we're focusing on the

microglial cells we can actually see what's happening with live imaging techniques.”

Within a month of the light-induced damage, the microglial cells have finished their work.

“Things look good one month after damage and probably for the foreseeable future,” Nickerson says. “Our next step is to confirm that the microglial cells aren't doing any damage as they work. If they aren't, then we want to increase their viability so they can do their jobs longer and help preserve vision.” 

MEDICAL MILESTONE:

Hans E. Grossniklaus, MD, MBA, and Nancy J. Newman, MD, mark 30 years at Emory Eye Center

By Tiana Conner



Nancy J. Newman, MD, is director of the neuro-ophthalmology program for Emory Eye Center. Hans E. Grossniklaus, MD, MBA, is vice chair of translational research and director of the L.F. Montgomery Laboratory. Both have greatly contributed to the advances in vision and eye care.

A

PHYSICIAN SEES A LOT IN 30 YEARS OF PRACTICE, ESPECIALLY when those years are spent in the same practice.

Ocular oncologist/pathologist Hans E. Grossniklaus, MD, MBA, and neuro-ophthalmologist Nancy J. Newman, MD, can attest to this, as they both celebrated their thirtieth anniversaries with Emory Eye Center in 2019.

Starting fresh from fellowship

In 1988, Newman hadn't even visited the city of Atlanta, let alone considered taking a position at Emory Eye Center as director of neuro-ophthalmology. But after being recommended by Simmons Lessell, MD, a friend and previous co-ophthalmology resident of EEC chairman Thomas M. Aaberg, Sr., MD, Newman decided to accept a position with Emory beginning in October 1989.

"Dr. Aaberg offered me a very senior level position right out of fellowship in a program that was already prestigious in the Southeast," she says. "It was daunting to take on such a position right out of fellowship, but it was an opportunity that was difficult to decline."

Today, Newman has multiple responsibilities at the Eye Center and Emory University. She is director of neuro-ophthalmology, a professor of ophthalmology and neurology, and an instructor in neurological surgery at Emory University School of Medicine. In 2002, she was named to the LeoDelle Jolley Chair in Ophthalmology.

Her primary research focuses on disorders of the optic nerve and mitochondrial diseases.

“My early collaboration with Doug Wallace, PhD, from Emory’s department of human genetics on the genetics of mitochondrial diseases gave me a research focus, which is still a priority today,” she says. “I am convinced that at least two of our ongoing research initiatives will result in major breakthroughs soon. The first is gene therapy for mitochondrial diseases, in particular, Leber hereditary optic neuropathy, a blinding disease with currently no real treatment. The second is the use of artificial intelligence on ocular fundus photography for the automated diagnosis and recognition of neuro-ophthalmologic disorders.”

Known for her innovative teaching and training style, Newman, along with long-time colleague Valérie Biousse, MD, teach and lecture worldwide on breakthroughs in neuro-ophthalmology.

She has served at Emory University and the School of Medicine in many capacities over the years, helping both the neurology and ophthalmology departments attain the professional stature they have today.

“However, the most important product of these past 30 years has been the development of Emory’s neuro-ophthalmology fellowship program which has trained over 65 neuro-ophthalmology fellows around the world,” she says.

Newman has been consistently named as a “Top Doctor” in Atlanta magazine and in the neurology and neuro-ophthalmology categories in U.S. News & World Report, where she ranks in the top 1% of doctors listed. She has served in essentially every leadership capacity within her specialty and subspecialty societies, and has received virtually every relevant honor, award, and lectureship offered at Emory and nationally.

“I get tremendous pleasure not just from the major honors I have received from my subspecialty societies and Emory,” she says, “but also from the kind words of individual patients, and from the residents and fellows who have graduated from our program.”

Expanding research capabilities

Not many faculty can say they were recruited by two of Emory Eye Center’s most important leaders, but Grossniklaus can stand by that statement.

He joined EEC in 1989 to direct the L.F. Montgomery Ophthalmic Pathology Lab under the leadership of Aaberg and lab founder F. Phinizy Calhoun, Jr., MD. Just a few years later, Grossniklaus started a research program under the guidance of Henry F. Edelhauser, PhD.

“Dr. Edelhauser was my research mentor and I established

a research laboratory with his encouragement,” Grossniklaus says. “Emory Eye Center was developing subretinal surgery in the early 1990s and I received a National Institutes of Health grant to study the surgically removed tissue. This was my first NIH grant and it encouraged me to pursue translational research along with the clinical practice of ocular oncology and pathology.”


His research areas now explore the treatment of primary ocular melanoma and retinoblastoma, molecular pathology of retinoblastoma, and control of metastatic melanoma from the eye to the liver. Grossniklaus has contributed greatly to these areas, making strides in how patients with ocular melanoma are treated, cared for, and cured of the disease.

“We are so close yet so far away from being able to cure patients with ocular melanoma,” he says. “We’re able to control the tumor in their eye, and with the research we’re doing we have developed several potential treatments to treat the melanoma if it spreads elsewhere. I believe that we are close to being able to control this metastatic disease.”

Grossniklaus is the Center’s vice chair of translational research; founding director of the ocular oncology and pathology service; director of the L.F. Montgomery Laboratory; and professor of ophthalmology and pathology. He has trained more than 25 fellows, including Emory Eye Center’s own Amy Hutchinson, MD, and Jill Wells, MD. He has received numerous awards such as the Lifetime Achievement Award, the Senior Achievement Award, and two Secretariat Awards from the American Academy of Ophthalmology (AAO).

He established the first ocular oncology and pathology subspecialty day at AAO and delivered the prestigious Jackson Memorial Lecture at the AAO conference in 2014. Grossniklaus is the founding co-editor of the journal, Ocular Oncology and Pathology, editor-in-chief of the World Health Organization (WHO) book, Tumours of the Eye, and editor of the Pocket Guide to Ocular Oncology and Pathology.

Through it all, his goal is to improve patients’ quality of life.

“The most important thing I want to do is to help people,” he says. “I am able to take care of ocular oncology patients, evaluate the pathology of their tumors, and perform innovative research that will hopefully lead to better treatments. It is exciting to be able to integrate all of these activities.” 

EMORY EYE CENTER PHYSICIANS NAMED AS

Seven Emory Eye Center ophthalmologists were selected from the Atlanta metropolitan region as “America’s Top Doctors®” and were listed in the “Top Docs” feature of the July 2019 issue of Atlanta magazine.

“AMERICA’S TOP DOCTORS”



EARNING RECOGNITION WERE:

- **MARIA AARON, MD**
Comprehensive Ophthalmology
- **ALLEN BECK, MD**
Glaucoma
- **VALÉRIE BIOUSSE, MD**
Neuro-Ophthalmology
- **HANS GROSSNIKLAS, MD**
Ocular Oncology and Pathology
- **BAKER HUBBARD, III, MD**
Retina
- **NANCY J. NEWMAN, MD**
Neuro-Ophthalmology
- **TED WOJNO, MD**
Oculoplastics

THE AMERICA'S TOP DOCTORS® LIST IS COMPILED BY THE NEW York-based healthcare researcher, Castle Connolly Medical, Ltd. Tens of thousands of physician leaders across the U.S. are surveyed, following a rigorous screening process, by Connolly's physician-led team to produce an annual roster of the nation's most respected doctors as chosen by their peers. Nominations are sought for physicians who not only excel in academic medicine and research but also exhibit excellence in patient care—those to whom nominating physicians would send their own families. Doctors cannot pay to be included on the list.

The 2019 list included 860 doctors across all specialties. More than half of the physicians on the list – 469, or 55 percent – are physicians within Emory Healthcare, Emory Healthcare Network, Emory medical staff or faculty of Emory University School of Medicine.

“I am so proud of the ‘Top Doctors’ at the Emory Eye Center,” said Allen Beck, MD, director of Emory Eye Center and chair of ophthalmology. “They are incredibly accomplished in our missions of academics, education, research and service yet still provide the very best care for their patients. I am very honored to be included on a list of such august company.”

Mary Lynch, MD, receives Innovator Award from the American Glaucoma Society



The American Glaucoma Society named Emory Eye Center ophthalmologist Mary G. Lynch, MD, as the 2019 recipient of the society's prestigious Innovator Award. The award is given to one physician each year in recognition of

his or her contributions to the field of glaucoma. She is the first woman to receive this award.

Lynch joined Emory and the Atlanta VA Medical Center in 1988 and served as chief of the ophthalmology section at the Atlanta Veterans Medical Center from 1994-2010.

“My husband [Reay Brown] and I were recruited to the Emory Eye Clinic in 1988 to run the glaucoma service,” Lynch says. “We were drawn to Emory's rich tradition of clinical and bench research, the teaching opportunities afforded by Grady and the VA, and the outstanding and collegial faculty.”

During her career, Lynch's research has centered on innovative ways to deal with difficult problems in glaucoma. She wrote the first paper describing central nervous system side effects from beta-blocker eye drops. Her observations led her to work on the development of dropper tips that could produce smaller eye drops; this work has been incorporated into current dropper tip designs. She also wrote the first paper describing the surgical treatment of pseudophakic malignant glaucoma: the creation of a unicameral eye that still is the basic principal of malignant glaucoma treatment.

Lynch also wrote the first paper describing the 360-degree suture trabeculotomy to treat primary congenital glaucoma. This option had a much higher success rate than other protocols and gave children a higher chance of achieving normal vision.

In 1999, Lynch and her husband developed the EyePass, the first trabecular bypass device for glaucoma. Its creation initiated a new category of surgery: minimally invasive glaucoma surgery (MIGS).

As a physician with the Atlanta VA Medical Center, Lynch has a strong interest in improving eye care delivery

“For over 30 years, Dr. Lynch has applied her innovative spirit and energy to improve the Veterans Affairs Healthcare System at the local, regional, and national levels.” – Steve Urken, MD

and enhancing other aspects of life for aging veterans who have poor vision.

“For over 30 years, Dr. Lynch has applied her innovative spirit and energy to improve the Veterans Affairs Healthcare System at the local, regional, and national levels,” says Steve Urken, MD, chief of ophthalmology at the Atlanta VA Medical Center. “She was responsible for the introduction and advancement of an ophthalmic-specific electronic health record into the VA. From the inception of the VA’s diabetic tele-retinal screening program through today’s more advanced tele-eye screening programs, Dr. Lynch has been at the forefront from the standpoint of creativity and implementation.”

One such program is TECS, or Technology-based Eye Care Services. TECS has been implemented through the VA system nationwide as a way to equalize healthcare opportunities for rural, medically underserved, and homeless veterans.

“The program gives veterans better access to eye care by screening them at their primary care clinics,” explains April Maa, MD, who has worked with Lynch on new models of eye care delivery since joining Emory and the Atlanta VA in 2008. “Older patients are at the greatest risk for developing potentially blinding eye conditions, but are also less likely to seek care if they have to travel. Providing the service closer to home can make it much easier for them to access the care they need.”

Lynch’s community involvement outside Emory and the VA has led to recognition from numerous groups. She received the Sight Saver Award from Prevent Blindness Georgia for establishing a community-based glaucoma initiative in Atlanta and received the Joseph D. Greene Community Service Award from the Healthcare Georgia Foundation for collaborating with the Georgia Lions Lighthouse Foundation to establish a network of outpatient eye clinics to care for uninsured and underserved patients throughout the state.

She also established a foundation in memory of her daughter Madeleine Jude Brown, who passed away in 2006. The MJB Foundation provides a four-year college scholarship to one or two high school students from Atlanta each year. As president of the foundation, Lynch has thus far mentored twelve students through their college journey.

Emory Saint Joseph’s clinic expands

Emory Eye Center significantly grew its footprint at Emory Saint Joseph’s Hospital in 2019, adding 5,000 square feet to the existing 10,000 square foot clinic space.

The renovations and expansion, completed in mid-September, added 16 new exam rooms including two new pediatric ophthalmology lanes, five diagnostic rooms, and a minor OR for oculo-plastics. The new area also includes two workstations for

providers and staff, additional office space, and a conference room. The existing waiting room was enlarged to add additional seating.

Patients can schedule appointments for annual eye exams, comprehensive ophthalmology care, and specialty care for glaucoma, cornea, pediatric ophthalmology, cataract, oculoplastics, retina and neuro-ophthalmology.

The Eye Center’s cornea specialists perform LASIK and PRK surgery at the Emory Saint Joseph’s clinic. An optical shop with certified opticians is also on site to help patients with eyeglasses or contact lenses.

The clinic is located in Suite 400 of Doctors Building 3 on the Emory Saint Joseph’s campus (5671 Peachtree Dunwoody Road, Atlanta). Appointments can be scheduled weekdays from 8 a.m. until 4 p.m. by calling 404-778-2020.

Emory Eye Center is ranked high for ophthalmology in the nation

Emory Eye Center of the Emory University/Healthcare system is again recognized as a national leader in ophthalmology, according to the prestigious 2019 *U.S. News & World Report’s* “American’s Best Hospitals.” The Center has earned a top spot on the list each year since ophthalmology rankings began in 1998.

The *U.S. News* rankings help guide patients to hospitals that deliver outstanding care in particular medical areas. Of the sixteen medical

specialties ranked, twelve are primarily judged by data. For the other four specialties – including ophthalmology – rankings are determined entirely by reputation, based on a survey of physician specialists from the past three years. The latest rankings were compiled from *U.S. News* surveys in 2017, 2018, and 2019.

Two of Emory Eye Center’s faculty members, Ghazala A. Datto O’Keefe, MD, and Yousuf M. Khalifa, MD, were selected to participate in two of Emory’s leadership training programs



O’Keefe was chosen to participate in the 2019 Emory Professional Leadership Enrichment and Development Program (EM-ProLEAD). The program is designed to enrich leadership skills, increase business knowledge, and develop strong



partnerships across Emory Medicine. Guest speakers from across Emory and from other organizations will teach participants about leadership development, conflict negotiation, finance, accounting, marketing, decision making, and operations.

EM-ProLEAD evolved from the

merging of two successful and popular physician development programs from the Department of Pediatrics and the Emory Clinic.

“While I have been at the Emory Eye Center, I have worked to expand my network and create connections with faculty outside of the Department of Ophthalmology, whether it is through improving care for patients at Grady using a multidisciplinary approach, or working to improve and enhance the careers of women via Women in Ophthalmology at Emory (WOE) and the Emory Alliance for Women in Medicine and Science (EAWiMS),” O’Keefe says.

“I participated in the 2019 cohort of the EM-ProLEAD Program in order to further these collaborative efforts and to grow my leadership skills and understanding of how the business component of Emory Healthcare works,” she adds. “I hope to develop my institutional knowledge and gain more practical tools to use in my current and future roles here at Emory.”

Khalifa was selected as part of the new class of faculty and staff participating in Emory University’s Woodruff Leadership Academy (WLA). Only 24 participants are chosen each year from across Emory’s Woodruff Health Sciences Center.

WLA combines a program of classroom sessions, off-site team projects, and weekend retreats to help participants develop, exercise,

and strengthen individual leadership potential. Topics focus on all aspects of being a leader within an academic health center, including understanding the principles and responsibilities of leadership, honing strategic thinking and negotiation skills, and learning about finance, marketing, and more. The program began in 2003.

“The WLA is an outstanding opportunity to improve one’s leadership skills and learn from some of the best mentors in the world,” Khalifa says. “The interactions with other leaders in the system are extremely valuable for continued growth and development. I am honored to participate in this program and look forward to improving my leadership skills and meeting leaders from across the WHSC.”

O’Keefe is a medical retina and uveitis specialist who joined the Emory Eye Center faculty in 2015. Her clinical work focuses on inflammatory and infectious diseases of the eyes, retinal degenerations, age-related macular degeneration (AMD), and diabetic retinopathy.

Khalifa came to the Emory Eye Center in 2014. He serves as chief of service of ophthalmology at Grady Memorial Hospital and is also part of the cornea and refractive surgery team at Emory Eye Center. His primary clinical interests include penetrating keratoplasty, endothelial keratoplasty, cataract surgery, and corneal infectious disease.

WLA combines a program of classroom sessions, off-site team projects, and weekend retreats to help participants develop, exercise, and strengthen individual leadership potential.

EIGHT NEW FACULTY MEMBERS EXPAND EMORY EYE CENTER'S SERVICES



KELSEY MOODY MILESKY, OD, FAAO, is an optometrist with additional training in neuro-ophthalmology. She joined the Emory Eye Center faculty in September 2018. She received her undergraduate degree in

biology at Florida State University and studied optometry at Pennsylvania College of Optometry. She then completed an advanced two-year residency in neuro-ophthalmic disease at The Eye Institute of the University of Pennsylvania College of Optometry/Salus University.

Moody has been active in her community, including offering free optometric services and vision screenings through the Special Olympics, National Urban League, and other organizations. She was named as one of the “Top 50 Young Innovators” as part of Primary Care Optometry News’s 2017 list of 300 innovators in optometry.

During her optometric career, she gravitated toward neuro-ophthalmic disease and ocular emergency while on her externship rotations. Her research interests include ocular manifestations of neuro-degenerative disease and nutrition and ocular disease. In addition to optometry, she works with the EEC’s neuro-ophthalmology and strabismus clinics for co-management of non-surgical diplopia with prism.



MICHAEL DATTILO, MD, PHD, primarily focuses on research, but also sees neuro-ophthalmology patients and provides consultations. He joined the Emory Eye Center faculty in September 2018.

Dattilo graduated summa cum laude from Fordham University with a Bachelor of Arts degree in Natural Science. He then completed the combined MD/PhD program and an ophthalmology residency at SUNY Downstate Medical Center.

Dattilo completed a two-year neuro-ophthalmology fellowship at Emory Eye Center. His research interests focus on the interaction between intraocular pressure and intracranial pressure in papilledema and glaucoma. Other areas of clinical and research interest include idiopathic intracranial hypertension (IIH), non-arteritic anterior ischemic optic neuropathy (NAION), space flight-associated neuro-ocular syndrome (SANS), and normal- and low-tension glaucoma.



ADAM DE LA GARZA, MD, joined Emory Eye Center’s oculoplastics, orbital, and cosmetic surgery division in March 2019. His clinical interests include eyelid malpositions, nasolacrimal abnormalities, skin cancer and reconstruction, blepharospasm and hemifacial spasm, and cosmetic injections and surgery.

De la Garza earned his MD from Wake Forest University and completed a one-year transitional program with Spartanburg Regional Medical Center in Spartanburg, SC. He returned to Wake Forest for his ophthalmology residency and completed his ASOPRS oculoplastics fellowship at the University of Iowa.

He earned his American Board of Ophthalmology certification in 2011. He has been an invited guest presenter at numerous meetings, including serving as co-instructor for the blepharoplasty course during American AAO’s annual meeting for eight years.



REBECA EMIAH, OD, joined the optometry section of Emory Eye Center in August 2017. She sees triage and post-operative patients, performs hospital consultations, and works with those who need specialty

contact lenses.

Emiah received her undergraduate education at Grand Valley State University, where she earned Bachelor of

Science degrees in both Biomedical Sciences and Cell and Molecular Biology. She then studied optometry at the Michigan College of Optometry and graduated in 2016 with her Doctor of Optometry (high honors).

Following optometry school, Emiah completed a one-year residency with Georgia Eye Partners in ocular disease and ocular and refractive surgery. She has treated patients with complex cornea, dry eye and glaucoma issues. She also has experience fitting and prescribing specialty contact lenses and co-managing post-operative patients following cataract, LASIK, PRK or other procedures.



DRAKE DEVOS, OD, joined the optometry section of Emory Eye Center in September 2018. He provides inpatient hospital consultations as well as comprehensive eye exams that include evaluations of ocular health and

prescriptions for eyeglasses and contact lenses.

DeVos studied optometry at the State University of New York College of Optometry and graduated in 2017 with his Doctor of Optometry. Following optometry school, he completed a one-year residency in ocular disease/comprehensive care with the U.S. Department of Veteran's Affairs in the Hudson Valley area of New York.

He has treated and managed patients with glaucoma, macular degeneration, and diabetic retinopathy. Working with these patients led Dr. DeVos to develop a particular interest in the non-surgical treatment and surgical co-management of patients with advanced glaucoma and/or other optic neuropathies. His other experience includes several optometric internships where he managed pre- and post-operative cataract and LASIK surgery patients.



PREETHY RAO, MD, MPH is a surgical retina specialist and part of the vitreoretinal surgery and diseases section. She joined Emory Eye Center in September 2018.

Rao graduated from the University of Wisconsin-Madison medical scholars program with a combined undergraduate and MD degree. She also earned a Master of Public Health with an emphasis on epidemiology, biostatistics, and program planning and evaluation. Her one-year transitional program and ophthalmology residency were with Beaumont Health System in Royal Oak, MI. She then completed a fellowship in vitreoretinal surgery at Associated Retinal Consultants, also in Royal Oak, with an emphasis on adult and pediatric retina.

Her primary research interests include “big data” analysis to better understand risk factors and clinical outcomes of several adult and pediatric vitreoretinal diseases to aid in widespread clinical practice patterns. She also has special clinical interests in pediatric vitreoretinal diseases and helping translate telemedicine screening and treatment of adult and pediatric retinal disease to areas of outreach.



RACHEL SHAH, MD, joined Emory Eye Center's faculty in October 2019. She is a medical retina specialist in the department's vitreoretinal surgery and diseases section.

Shah graduated from the University of Pennsylvania with a bachelor's degree in biology. She then earned her MD at the University of Michigan Medical School. Her one-year transitional internship was completed at Henry Ford Hospital before beginning her ophthalmology residency at Albert Einstein College of Medicine. After residency, Shah completed a medical retina fellowship at Emory.

During her fellowship, Dr. Shah was the lead author on research presented at the 2019 ARVO meeting. The work, “Association between a newly described pigmentary maculopathy and pentosan polysulfate sodium,” represented groundbreaking research by several Emory Eye Center faculty members and trainees.



BRAD WAINRIGHT, MD, joined Emory Eye Center's glaucoma section in March 2019.

Wainright graduated magna cum laude from Harvard University with a Bachelor of Arts degree in Biomedical Engineering. He then earned his MD from the Duke University School of Medicine in Durham, NC. After completing a preliminary internship in internal medicine with Cone Health in Greensboro, NC, he returned to Duke for his ophthalmology residency and glaucoma fellowship.

Wainright is particularly interested in the education of ophthalmology residents and clinical glaucoma fellows. Areas of clinical interest include the diagnosis and management of glaucoma, laser and surgical therapy for open-angle and angle-closure glaucoma, and surgical treatment of cataracts.

He is a board-certified diplomate of the American Academy of Ophthalmology. He is also a member of the American Glaucoma Society and the American Society of Cataract and Refractive Surgery.

FACULTY ARE RECOGNIZED FOR THEIR SERVICE AND EXPERTISE



NEURO-OPHTHALMOLOGIST VALÉRIE BIOUSSE, MD, is serving her second year as President-Elect of the North American Neuro-Ophthalmology Society (NANOS). She will be installed as President of NANOS in 2020.



ANASTASIOS COSTARIDES, MD, PHD, received the Distinguished Service Award from the Georgia Society of Ophthalmology in recognition of his impact on ophthalmology education in the state. He has served as chairman of GSO's Continuing Medical Education Committee for 11 years.



HANS E. GROSSNIKLAUS, MD, is editor-in-chief for Classification of Tumours of the Eye (4th edition), a book published by the World Health Organization and the International Agency for Research in Cancer. He also delivered the keynote address at the 72nd Congress of the Japanese Clinical Ophthalmology Society.



BAKER HUBBARD, III, MD, chief of the vitreoretinal surgery and disease section, was honored with the Person of Vision Award from Prevent Blindness Georgia. The award recognizes a person whose leadership and vision make Georgia a better place to live.



GLAUCOMA SPECIALIST JEREMY JONES, MD, was installed as president of the Georgia Society of Ophthalmology. The GSO's activities include legislative advocacy, continuing medical education for ophthalmologists, and public education about important eye health care concerns. Jones also serves as medical director for Emory Eye Center's residency training program.



APRIL Y. MAE, MD, was the recipient of the 2019 AAO Secretariat Award. This award recognizes AAO members/non-members for special contributions to the Academy. Maa received this award based on her work with the Technology-based Eye Care Services (TECS) Program.



NANCY J. NEWMAN, MD, received the North American Neuro-Ophthalmology Society (NANOS) Distinguished Service Award, the highest award given to a NANOS member for excellence in service to the society and neuro-ophthalmology. She also delivered the Daniel M. Jacobson Memorial Lecture during the conference.



KRISTEN THELEN, OD, FAAO, was installed as a board member for the American Board of Optometry. Dr. Thelen is an assistant professor of ophthalmology within the optometry section of Emory Eye Center.



RESIDENCY PROGRAM COORDINATOR TERRI TROTTER was appointed to the Program Director's Council in the Association of University Professors in Ophthalmology.



TED WOJNO, MD, co-authored Problems in Periorbital Surgery, a new textbook for plastic, facial plastic, and oculoplastic surgeons, with Emory surgeon Foad Nahai, MD. This is Wojno's third textbook.



Plan Big.

Here's to the dreamers, the visionaries, and the planners, like Charles Darnell.

When a serious condition threatened his vision, this lighting industry executive sought expert care at the Emory Eye Center.

To show his appreciation, he made a bequest to support research and patient care at the center, creating a brighter future for others.

People like Charles—who envision all the ways they can change the world by making a planned gift to Emory—are the ones who do.



To learn more about supporting the Emory Eye Center with an estate or legacy gift, call Emory's Office of Gift Planning at 404.727.8875 or email giftplanning@emory.edu



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Emory is dedicated to sustaining the environment. After you've read this publication, please share it with a friend or recycle. Thank you



Luna Engle chooses from an assortment of eyeglasses provided by the Georgia Lions Lighthouse Foundation. See page 2.