Ophthalmology and Visual Sciences



FISCAL YEAR 2019

LAB THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM



LETTER FROM THE CHAIR



Looking back on the past year, the UAB

Department of Ophthalmology and Visual

significant growth across all aspects of our

mission, including our key areas of focus on

innovative translational research, and

Sciences and Callahan Eye Hospital has seen

providing high-quality patient care, developing

developing the next generation of clinicians and

scientists. We wouldn't be where we are without

the hard work and dedication of our researchers,

educators, and clinicians. However, our faculty's

success was only possible through the support

of our collaborators and philanthropic partners.

Our ability to continue to grow into the future

remains critically dependent on our efforts to

create new connections and establish robust

Over half a century ago, Dr. Alston Callahan

established what would become UAB Callahan

Eye Hospital. His dream of building a world-

renowned eye care facility was catalyzed by

partnerships.



Above: Christopher A. Girkin, M.D., MSPH, FACS

philanthropic partners and the relationships he was able to establish. Dr. Callahan is credited with raising more than \$40 million in his lifetime toward providing eye care to Alabamians in need. We have been privileged to witness the remarkable arowth of our hospital and department over the past 55 years, and we will continue to invest in Dr. Callahan's legacy of creating lasting partnerships.

Partnerships enable us to leverage our strengths while embracing the talents of our trusted collaborators in order to deliver excellence across all our mission areas. On the following pages, you'll see examples of the power of partnerships—between clinicians and patients, researchers and collaborators, and our department and the philanthropic community. You'll also meet some of our essential partners who help us produce a diverse department full of knowledge, insight, and advancement.

Our ability to expand the areas we serve

Above, left to right: Brian Samuels, M.D., Ph.D., Don Thornburgh, and Rafael Grytz, Ph.D., discuss partnerships in action. Thornburgh supports both Samuels' and Grytz's research.

and discover treatments that could alleviate blinding eye diseases have been catalyzed by community support. Through our newly established 20/20 Initiative, we will take advancements in vision care to the next level and propel Dr. Callahan's vision for the hospital into the future. We thank you all for your role in helping us accomplish so much in 2019, and we cannot wait to see what 2020 holds for our department and hospital. Thanks to our dedicated team of researchers, clinicians, and staff, we are positioned for more great accomplishments in the year to come.

Sincerely, Christopher A Donha

Christopher A. Girkin, M.D., MSPH, FACS EueSight Foundation of Alabama Chair. UAB Department of Ophthalmology and Visual Sciences, UAB School of Medicine, University of Alabama at Birmingham

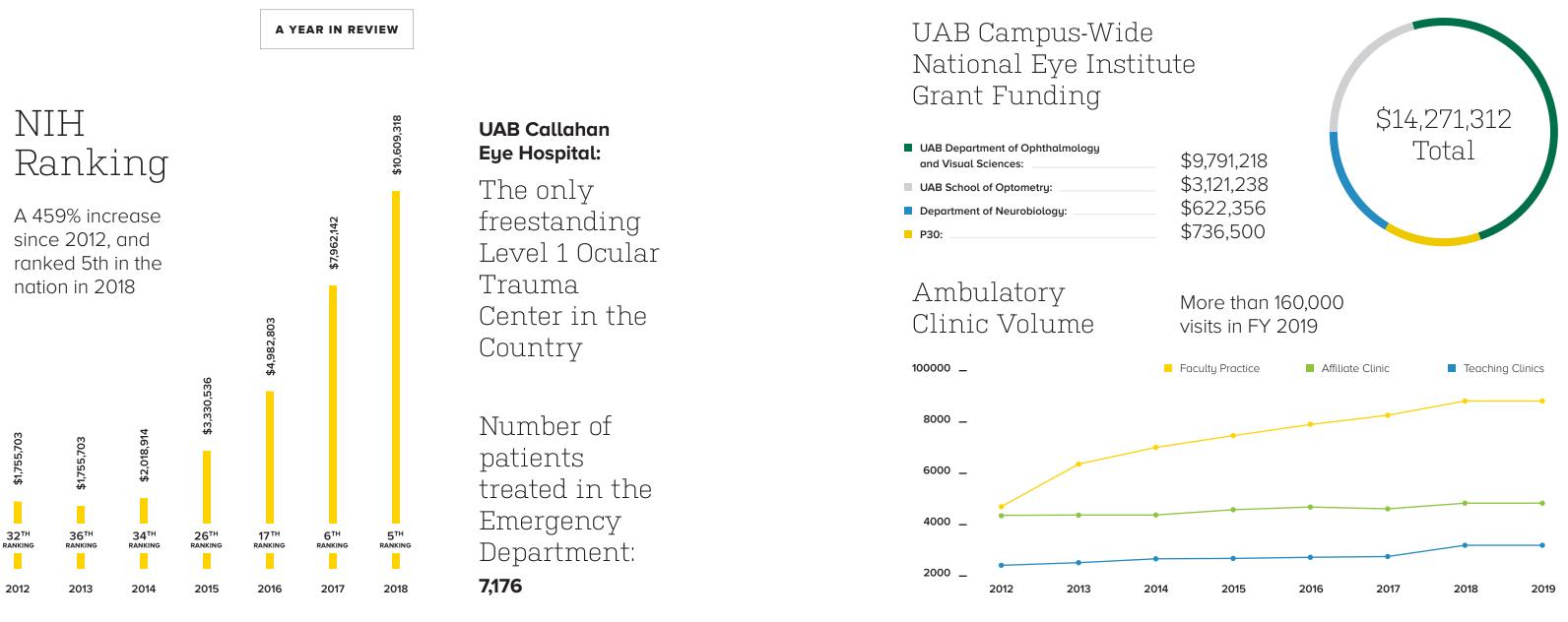
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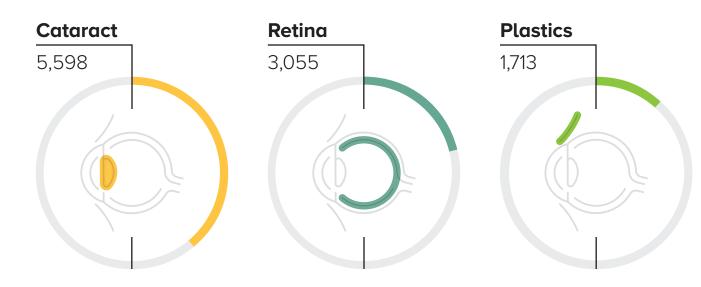


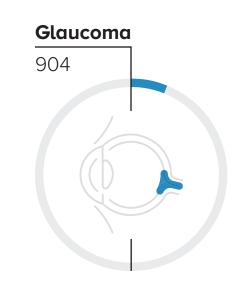
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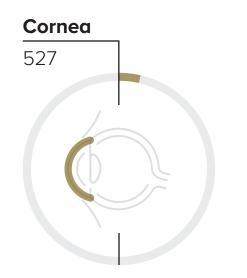
Surgeries by Type 14,304 Surgical Procedures

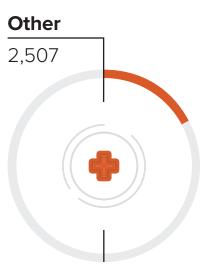




*Data range October 1, 2018 – September 30, 2019. This report was sent to publication prior to having final numbers for August and September, so these numbers are based on projected and annualized figures.

4 / UAB Department of Ophthalmology and Visual Sciences







Callahan's Team Approach Prevents Young Patient from Going Blind

BY CARY ESTER

While there is no "I" in team, you certainly can have a team for the eye. Cooper Jackson and his family discovered the benefits of such a partnership during recent visits to the UAB Callahan Eye Hospital.

Thanks to the collaborative care he received at UAB, the teenager from Panama City, Fla., went from near blindness to driving in an auto competition less than a year later.

with Cooper," says Samantha Jackson, Cooper's mother. "Every visit we had at UAB, they'd get together and offer different suggestions and options, then figure out a game plan. It was really amazing to watch."

This amazing journey began in a most ordinary way. In 2017, Cooper started experiencing eye irritation that initially was diagnosed by a local eye care specialist as recurrent conjunctivitis, more commonly known as pink eye.

The condition would dissipate with antibiotics, so even when he experienced flare-ups it still was dismissed as being nothing serious. After all, Cooper was a young kid who liked to be outdoors in the Florida Panhandle. Things like this are going to happen on occasion. Or. as Samantha recalls people saying, "Boys will be boys."

Eventually, however, the boy himself became worried that something was seriously wrong. His eyes hurt and his vision worsened. As he approached his 16th birthday, Cooper fretted that he might not be able to see well enough to pass his driver's license test. So he finally asked his mother about the possibility of getting glasses.

"He never, ever wanted glasses, so it took a lot for him to even admit that he needed them. That's when I realized how bad it must be," Samantha says. "We took him to get an eye exam, and they told me immediately that it was definitely far worse than just pink eye."

Cooper visited three eye specialists in the panhandle area, and the consensus was that he had severe uveitis, an inflammation on the inside of the eye that can lead to glaucoma or other eye problems. Because the condition had basically been smoldering for nearly a year, significant damage had already occurred to Cooper's vision and it was feared that without surgery he would go blind. The doctors recommended that Cooper be admitted to UAB Callahan Eye Hospital.

"One of the best partnerships we have is with community physicians both locally and regionally," says Brian Samuels, M.D., Ph.D., director of the Glaucoma Division and former chief of staff at the UAB Callahan Eye Hospital. "They trust us to be able to take care of their complex patients."

Cooper definitely qualified as a complex patient. The uveitis caused scarring in his eyes, which led to a blockage of fluid flow that resulted in elevated pressure. Bu the time Samuels did his initial evaluation, Cooper could not distinguish details, only the general shapes of objects held close to his face. He no longer was able to see well enough to read, and he certainly couldn't drive. "He really had resigned himself to going blind. He

told his mom he needed to start learning braille. He was prepared for it," Samuels recalls. "Obviously when you hear something like that, the goal is to put on the full-court press and see what you can do."

"I've never seen doctors work together the way they did

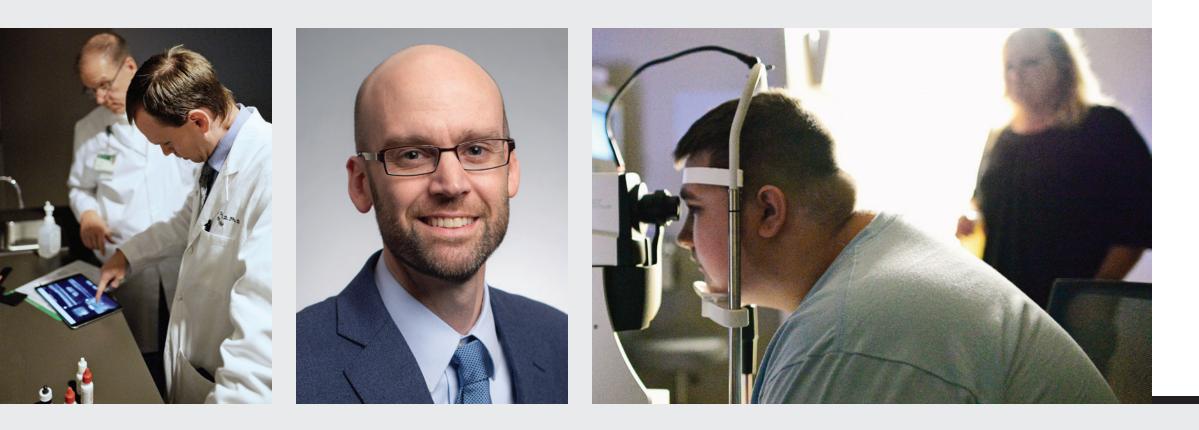
Left: Cooper Jackson Below: Cooper prepared his derby racing car in honor of the care he received with UAB Callahan Eue Hospital.



"He really had resigned himself to going blind. He told his mom he needed to start learning Braille. He was prepared for it," Samuels recalls. "Obviously when you hear something like that, the goal is to put on the full-court press and see what you can do."

The first step was to relieve the intense pressure in Cooper's right eue. Samuels and the team tried using a laser on the eye to open a small passageway in the iris. When that didn't work, they did surgery that successfully reduced the pressure and put a small hole in the iris so the pressure wouldn't return even if the uveitis flared back up.

"Once we got that stabilized, we still had the problem that both eues were very inflamed from the uveitis." Samuels says. "We needed to address three things: the inflammation from the uveitis, the glaucoma in the left eye, and the fact that his vision was significantly impacted."



TEAM APPROACH IN ACTION

This is when the team approach to Cooper's care truly kicked in. Samuels consulted with Russell Read, M.D., Ph.D. – professor with the UAB Department of Ophthalmology and Visual Sciences, who specializes in uveitis/ocular inflammatory disease – and Jason Crosson, M.D., a physician with Retina Consultants of Alabama. Since each doctor has a different area of expertise, they combined forces in order to tackle the multiple issues facing Cooper.

"What we were able to do here is bring together experts in a lot of different areas to treat one individual," Samuels says. "One of the critical things that makes for a great clinician is knowing what you don't know, and having the confidence to say, 'That is not my area of expertise, but I have a colleague who is an expert in that area, and we're going to get that doctor involved in your care also.' Being willing to say that you don't have all the answers is critical to good patient care.

"It says a lot when a physician admits there are other people who probably know more than they do in a certain area, and are still comfortable with that. That's what we have here. We have a full team of people throughout the hospital who are exceptional at the job they do, but who also know the limitations of their expertise and are willing to bring in additional experts when it's required. That really is what sets us apart and allows us to provide the highest quality of patient care."

Samuels turned to Read for assistance, but both doctors struggled to make a confident diagnosis because so much scar tissue had built up that they simply could not see to the back wall of Cooper's eye, where the retina is located. So they enlisted the help of Crosson, inquiring whether he could surgically clear up the inflammatory debris, enabling the team to better evaluate the retina both diagnostically and therapeutically. All this was done in a matter of hours. "That's the major advantage of a center like this," Read says. "Dr. Crosson is one floor away from Dr. Samuels, so I was able to just call him and say I needed his help with some fairly urgent surgery to clear a view so I can actually see what's going on in there. And since we all work in the same building, I was able to watch him do the surgery so I could get a view inside Cooper's eye immediately."

Crosson removed the vitreous humor from the eye and washed out the inflammation and scar tissue. The aperture of the eye was covered with white membranes, so Crosson peeled those out of the way, then went into the back of the eye and used a vacuum cutter to remove the inflammatory debris. Drs. Read and Crosson then conferred to determine what tests should be conducted on the debris in an effort to determine a cause for Cooper's condition, and to develop an overall treatment plan.

"We each have our skillset, and being able to use those skillsets together to operate synergistically results in better outcomes," Crosson says. "Dr. Read has his expertise and experience in treating all the different complex inflammatory diseases of the eye. But (Cooper's) eye was so chock-full of inflammation that Dr. Read couldn't see to the back of the eye to make a judgment. So he called me, and I have the training to clear out the back of the eye so he could see it and treat it better.

"Then by communicating with Dr. Samuels, I was able to do a procedure to prevent (Cooper) from having further pressure issues. It was an example of how we're fortunate to have a lot of great doctors with different areas of expertise, allowing us to take care of some really complex eye problems."

Cooper, who turned 16 in September, has gradually improved since those initial surgical procedures. The use of glaucoma drops is keeping the pressure on the eye low and stable, and Read's treatment has the uveitis under much better control. As of August, Cooper's eyesight had strengthened to around 20/70.

"He had one underlying baseline problem, inflammation, but that problem impacted almost every function in his eye," Read says. "The inflammation led to glaucoma, which led to cataracts. One problem expanded out to touch multiple different systems in the eye.

"It surprises people when they learn that this one tiny organ – the eye – is actually divided into a dozen different sub-specialties, and we all take care of different parts. Some people focus on the cornea, some on the retina, some on the optic nerve. I handle inflammatory disease. There are quite a few different areas, and no one person can be an expert at all those things."

That is why collaborations and partnerships can make all the difference when it comes to patient care. It is similar to football, where numerous players must work in synch in order to be successful. In Cooper's case, Samuels initially acted as the quarterback calling a play where an offensive lineman (Crosson) cleared a path for the running back (Read), with several other members of the team (nurses, residents, etc.) providing vital support roles along the way.

"What makes this place special is that all these multiple areas of ophthalmology are here under one roof, including the clinics, diagnostic center, imaging, and the ORs," Read says. "That allows us to do this sort of thing in a very efficient manner.

"And then we're right here on a major medical campus, so if there are things outside the eye that we need help with, then we can facilitate that fairly quickly, too. The collaborations within this building and across this campus are just phenomenal."

Left: Brian Samuels, M.D., Ph.D., and Russell Read, M.D., Ph.D., collaborate during one of Cooper's appointments. Center: Jason Crosson, M.D. **Right: Cooper's** mother watches as he undergoes further diagnostic testing.

"It says a lot when a physician admits there are other people who probably know more than they do in a certain area, and are still comfortable with that. That's what we have here. We have a full team of people throughout the hospital who are exceptional at the job they do, but who also know the limitations of their expertise and are willing to bring in additional experts when it's required. That really is what sets us apart and allows us to provide the highest quality of patient care."

Glaucoma is a disease that can be treated but not yet cured, so Cooper will need to continue regular visits with a glaucoma specialist probably for the rest of his life. In addition, the uveitis likely will flare up on occasion and will need a lifetime of management.

"He has gotten better, but we hope there is still more improvement to come," Samuels says. "We're happy with the vision he's gotten back, but we're not yet satisfied. So the goal is to keep pushing and trying to optimize his care to get back as much vision as possible, and then maintain everything."

No matter what happens moving forward, Cooper already has experienced several quality-of-life benefits from the treatment he received at UAB Callahan Eye Hospital. In particular, he was able to drive in an auto demo derby this past summer, something he desperately wanted to do but seemed unlikely just a few months earlier.

Cooper showed his appreciation by painting a thank you message to the hospital on the side of his demo derby car. The message included the names of Samuels, Read and Crosson, along with two watchful eyeballs.

"I'm still absolutely amazed at how all of them came together to form such a great team," Samantha says. "It wasn't like I had to make an appointment with each of them weeks apart. It was like, bam, they were right there. Everyone came together immediately. They didn't wait on anything. They were taking care of the issue right away.

"Every visit that we went to was very team-oriented. They were willing to go above and beyond, and our whole family is so thankful. It was very reassuring that Cooper was in the best hands he could be in."

Many hands, in fact. All working together as one.

CLINICAL PRACTICE

Top: Sarah Jacobs, M.D. Center and bottom: Image of Aaron Moncrief before and after treatment.

Teamwork Gives Injured Patient a New Start







BY GAIL SHORT

Aaron Moncrief, a pastor from Oak Park, Ga., was shooting fireworks at a summer youth camp in 2018 when he noticed an unexploded mortar on the ground. As he attempted to discard the tube, it erupted.

"The firework mortar misfired," says Moncrief, "and I took a direct hit to mu left eue."

The force of the blast shattered the bones in his face and ruptured his left eye. A rescue crew loaded him onto emergency air transport, which flew him to Birmingham. Once there, ENT surgeons at UAB Medical Center worked to repair his facial fractures. Then a suraical team at the UAB Callahan Eye Hospital made an effort to repair his eye. "It's always worth trying to repair a ruptured eye when possible," says Sarah Jacobs, MD., ophthalmic plastic and reconstructive surgeon at UAB., "even when the injuries seem devastating, because there are many traumas that the eye can potentially recover from "

Two weeks later, Moncrief visited Jacobs and he asked her if he would ever regain sight in his eye. Unfortunately, Moncrief's eye had become phthisical, saus Jacobs, meaning the internal physiology of the eye had shut down so that it could not maintain pressure or regain vision. But, to improve his comfort level and appearance, Jacobs and Moncrief decided on a plan for a series of three complex reconstructive surgeries over the course of several months.

In the first operation, she removed remnants of his left eye, a procedure called evisceration. She also repaired the large fracture along his floor of his eye socket. "That turned out to be unusually challenging because of the amount of bone that he had lost in the explosion," says Jacobs, "but we managed to place a 3D titanium and porous polymer implant into his socket to reconstruct his fractures." In addition, she also revised the large

scar across his lower lid and cheek, which had remained chronicallu swollen since his iniuru.

The second operation involved reconstructing Moncrief's lower eye lid, and the middle corner of his eyelid to improve lid retraction, in order to enable the fitting of his ocular prosthesis – a plastic shell which is custom-made to give the appearance of a normal eue.

The goal of Moncrief's third surgery was reconstruction of his tear drainage system, which had been irreparably injured. Jacobs says she and her team formed a new tract through the bone and inserted a small Pyrex glass tube to create a bypass system restoring tear drainge into his nose.

For each surgery, Moncrief and his wife, Misty, drove more than five hours from their home in Oak Park to Birmingham. When the time came to have Moncrief fitted for an ocular prosthesis, Jacobs reached out to a colleague in Seattle who recommended an ocularist in Georgia whose office was closer to the Moncrief's home.

Today, Moncrief says he is happy with the results. "It looks good," he says. "I've been pleased with the healing process, and I've raved about Dr. Jacobs and her team."

Jacobs says that for patients like Moncrief with complex traumas, the value of collaborations between a broad range of specialists from ophthalmologists and ENT surgeons to ocularists "is incalculable."

"Because we have a team and everubodu brings their own unique skill set--their own superpower to bear on the situation--we can aet better outcomes."



Work at Work

BY CARY ESTES

ven in the best relationships, couples don't always see eye to eye. That's why L many actually value the time apart that comes from working in their profession. But the UAB Callahan Eye Hospital has two couples who mix business with marriage. Carson Bee, M.D., and Jou Chuana, O.D., share a home life and occasional office space at the new clinic in Gardendale. Meanwhile, Christopher Lee, O.D., and Sarah Lee, O.D, MSPH, are doing the same at the Cahaba River clinic.

a lot of eyes being talked about in our household."

The professional relationship between Bee and Chuang began after Chuang, an optometrist, took time off in 2018 following the birth of the couple's first child. She returned to work at the beginning of 2019, accepting a position as a primary eye care provider at the brand-new Gardendale clinic. That also happens to be where Bee performs some of his work as a glaucoma and cataract specialist.

"We were a little anxious about how it was going to work out, but things have aone reallu well. Quite a bit better than we anticipated." Bee saus. "As a newer ophthalmologist to the community, you're always trying to develop and build relationships with other providers in the area, which takes time. Developing this one was a little bit easier than most."

Chuang admits that most people would be "apprehensive" about spending so much time with their spouse, but she says there have been several benefits to the couple working together, both professionally and personally

"We've been able to share things with each other at home about our professional life Bee says the relationship also helps the couple in terms of dealing with their

that kind of brings our relationship to another level," Chuang says. "And working together actually has been nice, because we get to have meals together without worrying about our little one. So it's like a built-in lunch date for us. That's worked out really well." patients. Having physicians who are married to each other humanizes them a bit, creating an environment that makes some patients more comfortable.

"The community looks at us as being both eye-care providers and a husbandand-wife team as well," Bee says. "It's been a very rewarding experience."

Clinic Physicians are Making Their Marriage

Having spouses who work not only in the same profession but also in the same building can lead to some interesting dinner conversations. As Bee says, "There are



Left to right: Joy Chuang, O.D., and Carson Bee, M.D.

Gardendale Clinic Expands Access to Care

To better serve residents of Gardendale and northern Jefferson County, Callahan Eye Hospital recently opened its newest, full-service clinic location in Gardendale. Housed within UAB Medicine's state-of-the-art medical office building, the complex sits on 6.2 acres in the Gardendale city center. The Callahan Eye Hospital Clinic of Gardendale offers comprehensive adult and pediatric ophthalmology and optometry services, an in-house optical store, cataract evaluations, glaucoma screenings, and advanced diagnostic imaging. "Providing care for residents in north Jefferson County is one way our hospital can make sure those in need of specialty eye care services get convenient access," says Rett Grover, MSHA, MBA, chief executive officer of Callahan Eye Hospital. "This new clinic location will provide timely access to the highest-quality ophthalmic and optometric care, that our patients have come to expect from UAB Callahan Eye Hospital & Clinics."

Communication Helped UAB's Dr. Vaphiades Uncover Rare Disease in Patient

BY CARY ESTES

Lolley Named First Female Chief of Staff

Virginia Lolley, M.D., assistant professor in the UAB Department of Ophthalmology and Visual Sciences, has been named the first female chief of staff for Callahan Eye Hospital. In this role, Lolley will provide leadership, guidance and a voice for the medical staff while promoting effective communication between medical staff and hospital administration.

"Dr. Lolley is an exceptional surgeon and highly-regarded leader within our medical staff," says Rett Grover, MSH, MBA, CEO of Callahan Eye Hospital. "With more than two decades of high-quality clinical service in central Alabama, she is an asset to the Birmingham community and Callahan Eye Hospital. We are thrilled to welcome Dr. Lolley to our leadership team."

Lolley has worked as a comprehensive ophthalmologist at Callahan Eye Hospital for more than 20 years, and she is a Top 5 surgeon based on Callahan Eye Hospital volume. She served as Callahan Eye Hospital president from 2013 to 2015 and is the former director of Undergraduate Medical Education for the department. She is board-certified by the American Board of Ophthalmology, and she is a member of the American Academy of Ophthalmology, the American Society of Cataract and Refractive Surgery, the Alabama Academy of Ophthalmology, and the American College of Surgeons.

Lolley has been selected as one of the "Best Doctors in America" yearly since 2007 and was one of Birmingham Magazine's "Best of Birmingham" in 2016.

"As Callahan Eye Hospital evolves, it is important that we maintain our traditions and identity as an eye hospital while integrating our new specialties," Lolley says. "I want to make sure that the medical staff feel their voices are heard, and I am enthusiastically prepared to work with my ophthalmology colleagues to welcome new partners and collaborators to Callahan Eye Hospital."

Lolley is a native of Shreveport, Louisiana. She received her undergraduate degree from the University of North Carolina and graduated from the Tulane University School of Medicine. After an internship at Carraway Methodist Medical Center, Lolley completed her ophthalmology residency at the UAB Callahan Eye Hospital and served as chief resident. Below: An image of the UAB Gardendale clinic and Virginia Lolley, M.D.





"Dr. Lolley is an exceptional surgeon and highly-regarded leader within our medical staff." Below: Kassidy Anderson and Michael Vaphiades, D.O.





I t began with piercing headaches accompanied by glimpses of flashing light. Then came the memory issues. Parked cars couldn't be found. The names of old friends couldn't be remembered. It became difficult to swallow, then, to even speak. A cloud of depression began to form, and the sweet teenager from Hattiesburg, Miss., became irritable, confused, and agitated.

This was Kassidy Anderson's deteriorating world during the first half of 2018. Her life became a series of medical tests and shrugs. Doctors attempted to explain the symptoms as being caused by migraines, but in reality, nobody was quite sure what was going on. The situation steadily worsened, to the point that Anderson finally looked at her mother and sternly declared, "If I don't get some help, I'm going to die."

It turns out Anderson didn't need another test as much as she simply needed somebody to truly listen to her. She found that person in Michael Vaphiades, D.O., chief of Neuro-Ophthalmology and Electrophysiology Services at UAB Callahan Eye Hospital. What Dr. Vaphiades heard when he met Anderson in June of 2018 eventually led him to diagnose her as having anti-NMDA receptor encephalitis, a rare autoimmune disease that attacks the brain. The condition was depicted in the 2016 movie *Brain on Fire.*

"The way she described her symptoms fit with an encephalitis even though the initial testing was negative," Dr. Vaphiades says. "Kassidy said she was experiencing unusual episodes of cognitive dissociation and dystonia, and the way she described them didn't sound epileptic nor psychiatric. She had headaches that couldn't be accounted for by using the usual testing modalities like EEG, neuroimaging or cerebrospinal fluid testing.

"I knew Kassidy had a life-threatening disorder and my instincts and limited knowledge anti-NMDA receptor encephalitis led to the diagnosis, despite the negative laboratory testing. I can't fully explain why I felt so certain it was NMDAR, because these patients typically present to a psychiatrist at this stage of the illness and I had no real patient experience with the disorder."

Kassidy had never heard of anti-NMDA receptor encephalitis, but once she researched the condition she quickly agreed that it sounded exactly like what she was experiencing. Dr. Vaphiades began treating her with Intravenous Immune Globulin (IVIG), then started searching for the etiology, because 50% of cases are associated with an ovarian tumor called a teratoma.

It took several months and dozens of pelvic ultrasounds and other imaging until the tumor was finally detected. "I kept in close contact with Kassidy and her mother, monitoring her symptoms," said Vaphiades. After several months, the ovarian teratoma was finally detected. Once the tumor was surgically removed, Kassidy's symptoms rapidly improved.

"Dr. V really listened to what I had to say and never doubted what I was saying," says Kassidy, who is now aspiring to be an ophthalmologist and has shadowed Dr. Vaphiades in his clinic a few times. "That communication was vital. It was really important to me and made me trust him. When I told him (after the surgery) that I was doing better, he teared up. He had that much of a relationship with me. He really cared, and that mattered to me." Without that level of commitment, Dr. Vaphiades wonders whether Kassidy's condition ever would have been correctly diagnosed.

"You can't let a negative test dissuade you from the diagnosis. You have to talk and really listen to your patients," Dr. Vaphiades says. "And if what a patient describes makes you believe they have a certain disorder, you just have to be persistent until the real problem is revealed."

Callahan Eye Hospital & Clinics Locations

- CALLAHAN EYE HOSPITAL 1720 University Blvd. Birmingham, AL 35233
- CHILDREN'S SOUTH 1940 Elmer J. Bissell Rd., Ste. B Birmingham, AL 35243
- MEDICAL WEST 985 9th Ave. SW Ste. 310 Bessemer. AL 35022
- PELL CITY 7067 Veterans Pkwy., Ste. 240 Pell City, AL 35125

1009 Montgomeru

Vestavia Hills, AL

VESTAVIA

35216

Hwy., Ste. 201

• COMING SOON **DECEMBER 2019** 501 Emeru Dr. West Ste. 1101A. Hoover, AL 35244

SYLACAUGA

CAHABA RIVER

2801 Old 280 Ct.

Vestavia Hills. AL

GARDENDALE

Gardendale, AL

Ste. 302

35243

Ste. 120

35071



Shown: Birminaham Metro Area



Above: Rendering of new Hoover location

Caring for Our Communities

Our country faces an array of health care challenges as the Baby Boomer population ages. These challenges may be uniquely profound, but Callahan Eye Hospital and UAB Ophthalmology are vastly qualified and committed to meet them. Simply stated, we aim to impact those who are in need of vision care, at any age, in any community.

Callahan Eye Hospital and UAB Ophthalmology play a pivotal role in protecting the vision health of our community, state, and region. Our physicians take pride in the communities they serve and develop meaningful relationships with patients. By offering care in other areas, outside of our main location in downtown Birmingham, we are offering access to convenient, timely care when patients need it. Callahan Eye Hospital has eight, soon to be nine, convenient locations throughout Alabama.

Advancements, Accolades, and Awards

UAB HOSTS 2ND ANNUAL SOUTHEASTERN VISION RESEARCH CONFERENCE

The UAB Department of Ophthalmology and Visual Sciences hosted the second annual Southeastern Vision Research Conference (SEVRC) to celebrate and share excellence in vision science in December 2018. The two-day seminar held at the Hilton Birminaham at UAB brought together vision scientists from Vanderbilt University Medical Center, The University of Alabama at Birmingham, and Emory University to foster collaboration among the groups, each with its own unique strengths.

→ SYMPOSIUM WEEKEND/GRADUATION CELEBRATION

Z For the first time, UAB Ophthalmology has successfully combined their annual symposium with the department's graduation banquet that made for a weekend of learning, insight, and celebration.

Bob Phillips, M.D., Class of 1976, was honored during the UAB Ophthalmology Graduation Celebration with the Distinguished Alumnus Award on May 31, 2019.

CYNTHIA OWSLEY, PH.D., PROFESSOR, NATHAN E. MILES CHAIR IN OPHTHALMOLOGY

Owsley was named the Oberdorfer Award recipient in Low Vision Research for 2019.

The Oberdorfer Award in Low Vision Research was created in 2012 by the Association for Research in Vision and Ophthalmology (ARVO) Foundation for Eye Research with support from Lighthouse Guild. The award recognizes an individual for his or her role in furthering low-vision research and rehabilitation.

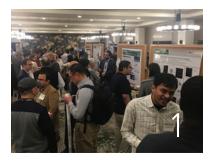
In addition, the organization prevent Blindness, the nation's oldest volunteer eye health and safety organization, announced Owsley as the recipient of the 2019 Jenny Pomeroy Award for Excellence in Vision and Public Health.

MIYOUNG KWON, PH.D., ASSISTANT PROFESSOR 4 **MIYOUNG KWON, Ph.D., Associate** Research to Prevent Blindness and Lions Clubs International Foundation have granted UAB Ophthalmology's MiYoung Kwon a \$300,000 RPB/LCIF Low Vision Research Award to support her eye research.

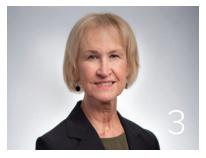
JASON SWANNER, M.D., PROFESSOR ${\sf C}$ Swanner was appointed vice chair of Clinical Affairs for the UAB Department of Ophthalmology and Visual Sciences. In this role, he will work closely with the leadership in the department, School of Medicine, and Callahan Eye Hospital to organize and integrate clinical development in cohesion with the School of Medicine's academic mission.

CHRISTINE A. CURCIO, PH.D., THE WHITE-MCKEE 6 CHRISTINE A. CURCIO, FILLE, THE BUILDING CHRISTINE A. CURCIO, FILLE, FILLE, FILLE, FILLE, FILLE, FILLE, FILLE, FILLE,

Curcio received the 2019 Research to Prevent Blindness David F. Weeks Award for Outstanding AMD Research. The award carries the name of David F. Weeks, former president and chairman of Research to Prevent Blindness, in honor of his contributions to the field of vision research, and celebrates the excellence of current AMD researchers.













Researchers Discover New Biomarker for Age-Related Macular Degeneration

BY ADAM POPE

 $R^{esearchers from UAB Ophthalmology, along with collaborators from the University of Iowa, have discovered a genetic biomarker that is associated with age-related macular degeneration and delayed rod-mediated dark adaptation — the first visual function for incident AMD in older adults with normal macular health and early AMD.$

According to the Centers for Disease Control and Prevention, Age-Related Macular Degeneration (AMD) is a major cause of blindness worldwide and is the leading cause of vision loss and blindness for Americans age 65 and older.

Professors Cynthia Owsley, Ph.D., and Christine A. Curcio, Ph.D., say there are no current proven strategies for preventing AMD or stopping its progression early in the disease when sight could be saved. Two of the strongest genetic associations for age-related macular degeneration are common polymorphisms — variants in DNA sequence — at chromosome 1 (CFH) and chromosome 10 (ARMS2).

"We have previously shown that delayed rod-mediated dark adaptation is the first functional risk factor for early AMD," says Owsley, the Nathan E. Miles Chair of Ophthalmology. "Delayed dark adaptation means it takes these individuals much longer to adapt to a dark environment — for example, after entering a darkened movie theater — than other individuals. This was important, because vision in bright light was known to be relatively preserved late into the disease. Night vision is affected much earlier." In other words, older adults with delayed dark adaptation have a heightened risk for developing AMD within the next few years.

In the recently-published study, Owsley and Curcio, with collaborators Robert F. Mullins and Edwin M. Stone of the University of Iowa, established that older adults with delayed dark adaptation are also more likely to have these high-risk genetic polymorphisms at chromosome 1 and chromosome 10.

"This finding was the first genotype-functional phenotype association found in AMD research," Owsley says. "What we find particularly exciting is that the ARMS2 genotype-phenotype association emerges even at pre-clinical stages of AMD — that is, in older adults who do not yet have AMD. Being able to assess risk at such an early stage could lead to new preventive measures."

Owsley says the ARMS2 gene is poorly understood from a biological standpoint and is also challenging to study because it is not expressed in adults.

"However, our study suggests that making ARMS2 a research priority will lead to new ways of tackling AMD and developing treatments to prevent this disabling disease," she says.

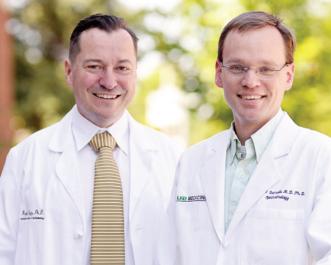
Funding for this research was provided by National Institutes of Health grants, the Dorsett Davis Discovery Fund, the National Center for Advanced Translational Sciences of NIH, the Alfreda J. Schueler Trust, the EyeSight Foundation of Alabama, Research to Prevent Blindness, and the Macula Foundation.

A Catalyst for Faculty Support

Faculty retention and recruitment is one of the most impactful ways a donor can support a department. Christine A. Curcio, Ph.D., was named as the inaugural holder of the of the White-McKee Endowed Professorship in Ophthalmology and Cynthia Owsley, Ph.D., the Nathan E. Miles Chair of Ophthalmology, through philanthropic support. Our faculty are our greatest resource and support the department's mission of alleviating blinding eye diseases. Every day, they invest their time and talent into the department. When donors choose to partner with this type of talent, they are actively supporting our long-standing culture of excellence.

Below, left to right: Christine A. Curcio, Ph.D., and Cynthia Owsley, Ph.D.







Left: Patient Don Thornburgh Above, left to right: Rafael Grytz, Ph.D., and Brian Samuels, M.D., Ph.D.

Donors Make the Difference

Several years ago, Samuels and Grytz were conducting a study using optical coherence tomography when they made a surprising observation.

"We realized that if we just moved the position of the camera less than a centimeter," says Samuels, "the shape of the eye appeared to change dramatically."

They wanted to investigate further, but their NIH grant would not cover an additional investigation. That is when one of Samuels' glaucoma patients came to the rescue. Don Thornburgh, a retired engineer from Vestavia, says that during one of his eye appointments, he asked Samuels how doctors measure eye pressure.

"Then he told me about his research," says Thornburgh. "I was impressed with what he was doing and wanted to support him."

Thornburgh says he and his wife made two monetary gifts to Samuels' research.

Samuels says donors like the Thornburghs are as much a part of his research team as the investigators in the laboratory. "They're truly a part of what drives the innovations, discoveries and cures."

Researchers Join Forces to Find Answers, New Treatments

BY GAIL SHORT

In addition to their independent research, Rafael Grytz, Ph.D., and Brian Samuels, M.D., Ph.D., are co-principal investigators on a study that aims to uncover the mechanisms underlying and potentially linking two blinding diseases: myopia and glaucoma. Grytz is a biomedical engineer whose areas of interest include the growth and remodeling mechanisms that occur in eye diseases like myopia. His research partner, Samuels, is an eye surgeon as well as a neuroscientist specializing in the diagnosis and treatment of glaucoma.

The researchers decided to pair up and use their individual expertise to determine why myopia might be a risk factor for glaucoma, Samuels says. Their study involves examining the pathological remodeling that happens near the optic nerve at back of the eye. Remodeling during myopia development can produce changes in the eye's collagen structure which could increase the risk for pathologic remodeling and glaucoma. Samuels' expertise as a surgeon and glaucoma specialist benefits these investigations.

"He has the surgical and scientific skills to perform the translational research experiments proposed," says Grytz. "We want to understand basic mechanisms, but we also want to develop new treatments. As an interdisciplinary team, we are better equipped to reach this goal."

Conversely, Samuels said of Grytz, "He brings a unique combination of biomedical engineering and computational mechanics skills to our team that allows him to identify treatment targets and disease mechanisms that clinicians and other scientists would miss." Besides the advantages that interdisciplinary collaborations bring to laboratory research, Samuels says teaming up also makes them more competitive for grants. "Other glaucoma or myopia researchers submit independent grants limited to their area of expertise." he says. "Combining our talents opens up research areas where other researchers simply cannot go alone. Additionally, it gives us a better chance of finding a cure." Combined, Grytz and Samuels currently have more than \$7million in National Institutes of Health (NIH) funding support to study myopia and glaucoma.





Top: Map showing locations of doctors who collaborated on this project. Above: Maria Grant, M.D.

Collaboration Leads to Innovation

BY LISA C. BAILEY

"It's the divide-and-conquer idea," Maria Grant, M.D., Eivor and Alston Callahan, M.D., endowed chair in Ophthalmology, says of her collaborative research in diabetic retinopathy. "You can't do everything yourself. We're a small- to medium-size lab, and my collaborators across the country are in the same situation. So you split up the workload to make it manageable. It's a much more efficient way to have people doing what they do well to contribute to a project."

The focus of Grant's most recent research is primarily on understanding basic mechanisms responsible for the pathogens in the development of diabetic retinopathy. "We are particularly interested in trying to understand how the bone marrow and the cells that produce that bone marrow, a process called hematopoietesis, is influenced in diabetes and how that affects the retina," she says. Her collaborators on this particular research include Julia Busik, Ph.D., professor in the Department of Physiology at Michigan State University; Moshe Levi, M.D., professor in the Department of Biochemistry and Molecular & Cellular Biology at Georgetown University; and Qiuhong Li, Ph.D., associate professor in the Department of Ophthalmology Research at the University of Florida. In her lab at UAB, Grant works with six graduate students, four post-docs, and three senior scientists.

"Most recently we've not only focused on the bone marrow interactions with the eye," Grant says, "but also how the gut and the gut microbiome regulate metabolism and immune function in neuroendocrine pathways and how they influence development of diabetic eye disease." According to Grant, the gut microbiome is deregulated in diabetes. "We studied the intestinal microbiome in the context of both Type 1 and Type 2 diabetes," she says, "and we've found that it has an essential role. We've also used the idea of intermittent fasting to influence it, and we were able to show that we could prevent diabetic retinopathy. We found that intermittent fasting generated high levels of a particular neuroprotective bioacid called TUDCA, and we showed that in a paper we published in *Diabetes* last year. We're continuing our research along those lines."

Grant and her team are now applying some of the things they learned in diabetic retinopathy to atherosclerosis. "Atherosclerosis regression doesn't occur in diabetic patients," she says. "We're trying to understand the mechanism for that, and we believe that it's gut related and related to swings in blood sugars. Having a leaky gut occasionally or getting bacteria in the blood isn't necessarily a bad thing. The body usually does an amazing job of cleaning things up and getting rid of the bacteria. But in diabetes this keeps happening many times during one day, and we were able to show that intermittent fasting could reduce that."

The relationships among her collaborators have been very important in the progress of the research. "It's important to have a really good collaborative team that is supportive," she says. "It helps to have someone to talk to and someone to help you deal with the highs and the lows. There are a lot of discouraging times and rejection, and we keep each other encouraged." She adds, "It also makes the science much more fun—a most important factor in keeping it going."



Inspired Cooperation

BY LISA C. BAILEY

M assimo A. Fazio, Ph.D., associate professor of ophthalmology, and Christopher A. Girkin M.D., EyeSight Foundation of Alabama Chair of the Department of Ophthalmology and Visual Sciences, understand the value of collaboration. Fazio leads the African Descent and Glaucoma Evaluation Study (ADAGES) together with Girkin at UAB, Linda M. Zangwill, Ph.D., co-director of Clinical Research at the Shiley Eye Institute at The University of California San Diego, and Jeffrey M. Liebmann, M.D., vice chair of the Department of Ophthalmology and director of Glaucoma Service at Columbia University.

Supported by grants from the National Eye Institute, the study explores the role of differences in the optic nerve that may explain why individuals of African descent are at greatest risk of developing glaucoma. ADAGES is the most comprehensive clinical study that includes mixed racial groups. It has previously focused on nerve structure and function, progression, and genetics. Now in its fourth iteration, the focus is currently on biomechanics.

Fazio has a doctorate in mechanical engineering with a multidisciplinary background in experiemental mechanics, soft tissue biomechanics, and medical image analysis. He holds a primary joint appointment in the Department of Biomedical Engineering. In the ADAGES study, he uses a laser-based technique called optical coherence tomography, or OCT, that allows researchers to capture 3-D images of the optic nerve head using both clinically available and experimental devices.

"Glaucoma affects the optic nerve pad," Fazio says. "The area where the optic nerve that connects the brain to the eye inserts into the eyeball. So we focus our attention on how this area is affected. Once we arrive at the morphology, we observe how it changes over time. Then we have an understanding of the biomechanics, the response of the tissue under pressure, and how all of this responds to disease progression."

There is continued emerging evidence that the biomechanical behavior of the nerve may differ as people age across racial groups, Girkin says. "Once we understand how these changes occur, we can take steps to alter the biomechanical environment within the eye, either surgically or with pharmacological or genetic interventions, to change the response in the eye to pressure."

Girkin adds, "Our investigators are experts in glaucoma, technology, imaging, visual function, and now biomechanics, so they're great to collaborate with in that regard. They also provide access to more patients, and, most importantly, a great diversity of patients across the country."

Fazio states that working with Girkin has been quite synergistic. "Girkin's an M.D. with important knowledge and experience in how glaucoma develops differentially across race, while I use my expertise to develop and tune up medical instruments and communication software to extract information. His approach of sharing our resources rather than promoting competition, within and outside the department, has been incredible."



Generous Investment, Significant Outcomes

In 2003. Girkin partnered with the EyeSight Foundation of Alabama to fundraise for what then was known as the African-American Glaucoma Study, now known as ADAGES. In 2004, the ESFA gave \$200,000 to support Girkin's vision of groundbreaking clinical research aimed at developing improved diagnostic methods to detect glaucoma. The ESFA went on to fundraise through a 2003-2006 capital campaign, raising another nearly \$200,000 from 30 donors across Alabama. This \$400,000 total was the baseline support system to expand this research through the ADAGES study. Since that time in the early 2000s, the impact of this gift has been immeasurable

Above, left to right: Massimo A. Fazio, Ph.D., and Christopher A. Girkin, M.D.

UAB Ophthalmology Residents Get Hands-On Experience Caring for Vets

BY GAIL SHORT

UAB ophthalmology residents are getting wide-ranging clinical experiences and surgical training through the Birmingham Veterans Affairs Medical Center. Every academic year, 10 residents rotate through the UAB Callahan Eye Hospital's affiliate Veterans Affairs Eye Clinic in the UAB Medical Center and the Birmingham VA

Medical Center's surgical unit. Cataract surgeon Jeffrey Crain, M.D., is the full-time director of the Birmingham VA Medical Center's

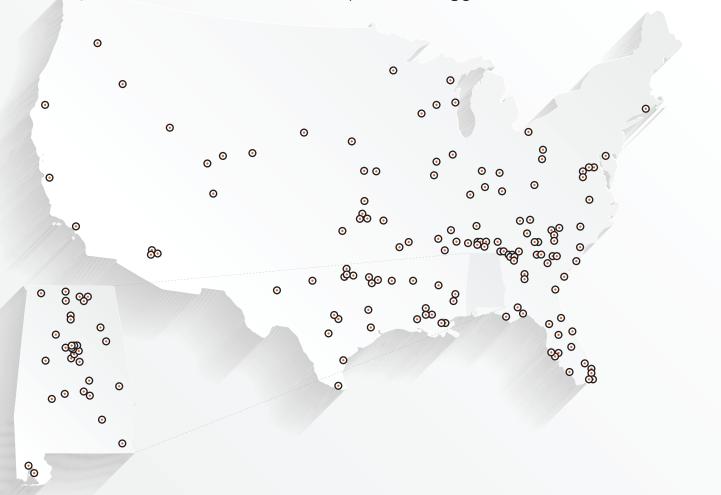
Ophthalmology Service. He also is an associate professor in the UAB Department of Ophthalmology and Visual Sciences and works alonaside UAB Assistant Professor Andrew Everett, M.D., a full-time eye surgeon at the VA and participant in the residency training program.

Crain says that from the VA's perspective, its partnership with the UAB Department of Ophthalmology and Visual Sciences is a "win-win" because the residents provide a valuable workforce.

At the VA Eye Clinic, for example, where nearly 11,500 patients come for treatment for a wide variety of eue-related ailments everu uear. residents perform procedures ranging from eyelid biopsies and injections to laser therapies. Meanwhile, at the Birmingham VA Medical Center, second-year residents get hands-on training experience in the operating room, Crain says. By their third year, they are able, under supervision, to perform surgeries on their own.

Where Are They Now?

Our alumni are practicing all over the country. These are the cities you will find UAB Ophthalmology Alumni.





Roy Hager, M.D. A Partner in Time

BY LISA C. BAILEY

Roy Hager, M.D., has participated in the Alumni Challenge Fund more than once. "The Department of Ophthalmology and Visual Sciences deserves support," he says. "It has gone from a relatively small program to an internationally-known program, and it takes people who support it for this to happen."

Left: Roy Hager, M.D., and his wife, Shirley.

Roy Hager, M.D., a two-term past president of the Alabama Academy of Ophthalmology, received his medical degree from UAB in 1967. He then did a general rotating internship at Lloyd Noland Hospital before serving as a General Medical Officer in the U.S. Army. "I was sent to Vietnam," he says. "Spent a year there, and a year back at Fort Benning." A battalion surgeon for the first seven months, Hager rotated back to Saigon in a neurosurgical/maxillofacial hospital. "All these head and eye injuries came from throughout Vietnam to that hospital. That's where I changed my specialty and decided to go into ophthalmology."

After returning to civilian life, Hager graduated among the first aroup of residents in the newlu combined program of the UA Department of Ophthalmology and the Callahan Eye Foundation. "I started out as a resident with the UA Department of Ophthalmology, and the Callahan Eye Foundation program was separate with a separate group of residents. When I was a senior resident, there was a move to combine the two, and it has turned out to be a great program, better than it was as two separate ones."

Upon completing his residency in 1973, Hager began a private practice in Montgomery. "I was basically a general ophthalmologist and saw any and everything. We referred some cases back to Birmingham, but most of what came through the door I handled here in Montgomery." As the Department of Ophthalmology grew, so did Hager's practice, and in 1987, he and two other physicians formed the Institute for Total Eye Care. Although he retired in 2018, Hager maintains his license, staying updated through UAB Ophthalmology and the Callahan Eye Foundation.

"The program has been very receptive to the people who finish there," he says. "All the ophthalmologists here help each other, and the UAB Department of Ophthalmology and Visual Sciences is the backup we all need."

When Hager first began his practice in 1973, there was no such thing as intraocular lenses for cataract surgery. He adds, "Back then it was a week in the hospital. As things progressed, it was five days, then three days, and now it's outpatient. There has been such an explosion in ophthalmology since I finished, and I've seen the whole spectrum of things. That's why I think it's important that research is being done at the UAB Ophthalmology and elsewhere, and that's why I support it."

Hager and his wife, Shirley, have four children, six grandchildren, and two great-grandchildren. "The Department of Ophthalmology and Visual Sciences gave me a livelihood that has been good and very rewarding," he says. "There are some really good people at UAB, and we need to keep them as up-to-date as we can. I would encourage everyone to support the program."

On a Mission to Serve

BY LISA C. BAILEY

rom Birmingham to Nicaragua and back, David Neely, M.D., has blazed a trail of education and service. He graduated from medical school at UAB in 2012 and from the Department of Ophthalmology and Visual Sciences in 2016. In 2018, he completed a combined fellowship with UAB and Retina Consultants of Alabama, during which he taught residents.

Neely has also spent extensive time serving in medical missions in foreign countries, an interest that began at UAB. "Ophthalmology can make such a big difference in people's lives from a health, a social, and an economic standpoint," he says.

One of his first trips was to the Dominican Republic with the Christian Medical Ministry of Alabama. Through his connections there, Neely met his wife, Jill Aragón, M.D., who was born and raised in Nicaragua and is now a U.S. citizen.

Aragón did her internal medicine residency at UAB, where she is currently an internal medicine physician. She is also a fellowship director of the UAB HSF Global Health Fellowship and the UAB HSF Hospital Medicine Fellowship. "She's been taking mission teams every year to Nicaragua," Neely says.

In 2018, Neely joined Florida Retina Specialists in Merritt Island, which was started by a former UAB retina consultant from Alabama, Frank Venzara, M.D. "He taught me how to do my first retina surgery on a mission trip in Nicaragua," Neely says. Another mentor, Richard Feist, M.D., attending surgeon at Retina Consultants of Alabama, has been going to Nicaragua for many years, and Neely worked with him there during his fellowship.

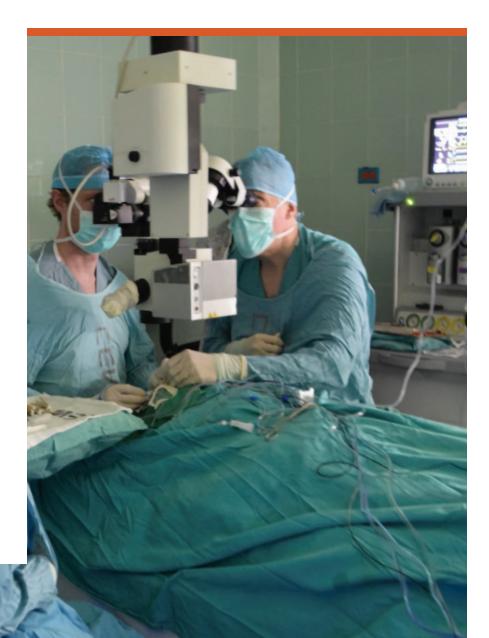
"The Centro Nacional de Oftalmología (CENAO), or the National Center of Ophthalmology in Managua, has a residency program with an attending retinal surgeon," Neely says. "We work with the surgeons and fellows there, sharing and learning from them. Retinal detachment, trauma, and diabetic retinopathy are the three main types of work we do, but there are also tropical pathologies." He adds, "I've been there as a resident and later as a fellow, so I've been both the one being taught and the one teaching."

Partnering with his wife on the service trips was a foundational element of their relationship, Neely says. The couple has formed many other partnerships along the way as well. "Francisca Rivas, M.D., the director of CENAO, has been a big supporter. She is our Nicaraguan liaison," he says. Other partners include Rudy Vargas, M.D., an endocrinologist who started the organization FOR Nicaraguan Health, which sends a mission team every year, and Frank Page, M.D., a retired Birmingham OB/GYN.

As Neely was getting ready to graduate his fellowship, Nicaragua was hit with some political instability, temporarily halting the mission trips. "That is slowly being resolved," he says, "but it's still a difficult situation. We're interested in spending a significant amount of time in Nicaragua in the near future—myself operating at CENAO, and my wife working in the medical school. We hope to reestablish the surgical camps, continue to teach the Nicaraguan residents and collaborate with the attending surgeons, and create a pipeline of equipment and supplies. We're excited to help the people of Nicaragua. It's a resource-poor country, but it's such a beautiful country, with beautiful people. We're very optimistic."



Above: David Neely, M.D., and Jill Aragón, M.D., Below: Neely preforms surgery in Nicaragua with a colleague.



Residents

THIRD-YEAR RESIDENTS

- Crystal Daigle, M.D.
- Setu Patel, M.D.
- Amol Sura, M.D.
- Jeffrey Tapley, Jr., M.D. Chief Resident
- Robert "Connor" Wann, M.D. Chief Resident

SECOND-YEAR RESIDENTS

- Jonathan Fuerst, M.D.
- Catherine "Cate" Gasper, M.D.
- Cole Gross, M.D.
- Allison McAlpine, M.D.
- Phillip "Barrett" Paulk, M.D.

FIRST-YEAR RESIDENTS

- Emilee Dailey, M.D.
- Samuel Feldman, M.D.
- Robert Foster, M.D.
- John Luckett, M.D.
- Johnny McKenzie, M.D.

Fellows

- David Kilpatrick, M.D. Retina
- Robert "Hogan" Knox, M.D. Glaucoma
- Richard Martindale, M.D. Retina
- Katherine Orman, M.D. *Oculoplastics*

Not Pictured

- Bernard Dib, M.D. Retina
- Richard "Reese" Feist, Jr., M.D. Retina
- Hershel Patel, M.D. Retina
- Matthew West, M.D. Retina

































pARTnerships

BY JESSICA MARTINDALE AND SHANNON THOMPSON

Callahan Eye Hospital Features Student Art in a Series of Exhibitions



created by UAB students in a series of rotating exhibitions. The first exhibition will feature the works of two students, Caroline Myers and Emily Cox-Oldham, in the College of Arts and Sciences' Department of Art and Art History. The work will be on view through summer and fall and can be seen on the third floor of the hospital.

Art is a universal medium of expression, bridging gaps across language, time and culture, says Jessica Martindale, Callahan Eye Hospital communications manager. The value of art goes beyond paint, color, canvas, or clay and is instead found in the connection between the individual and the piece, no matter their physical ability. Art is about more than you can see, and this is an important concept for the patients at Callahan Eye Hospital & Clinics, she says.

The founder of the hospital, Alston Callahan, M.D., appreciated art, and was the primary driving force behind acquiring "Complex Vision," a large-scale installation by artist Yaacov Agam, known as the father of kinetic art. "Complex Vision" has been the visual landmark of UAB Callahan Eye Hospital since November 1976 and adorns the front of the building.

"It is important that we continue to build upon Dr. Alston Callahan's values, which is why UAB Callahan Eye Hospital & Clinics has partnered with the UAB Department of Art and Art History to build a relationship and keep original artwork alive in our facility," Martindale said.

In the spirit of "Complex Vision," works on view by UAB photography students Caroline Myers and Emily Cox-Oldham display sophisticated points of view that thoughtfully consider how light and line, color and texture can be captured by the camera and translated to meaningful, curious works of art.

Cox-Oldham's "The Slide Project" utilizes large-scale images to explore the texture and form of children's playground slides. Across the playful, lighthearted series of photographs, bright color fills the field of view as the artist's close-up point of view abstracts the familiar and transforms scuffs and scrapes into painterly, gestural marks. The pictures provide a lively yet thoughtful record of the passage of time and the many children who have made their mark on the slides.

Myers' "Chasing Light" explores the magical way in which light can transform the simplest forms into dramatic, ethereal moments of beauty. By capturing warm, dappled light and deep, enveloping shadows across commonplace objects and domestic spaces, her photographs draw viewers into a series of contemplative yet fleeting moments.



Leaving a Footprint in our Community

In 2018, Callahan Eye Hospital & Clinics committed to serving

a larger role in community engagement, sponsorships, and events. By taking another step into the communities they care for, Callahan Eye Hospital & Clinics is better able to align their objectives with community priorities and educate those that might need specialty eye care services. This also serves as an opportunity to bring staff together in a different light—where they can create stronger bonds outside of the workplace environment. Callahan Eye Hospital & Clinics participated in over 30 community events and sponsorships in FY 2019. Some of these are highlighted here.



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Above: Callahan

Eye Hospital

features art in

both the lobby

of the building

that serves as

medium of

a reminder that

expression, no

physical ability.

Below: The Sight

Savers America

Tribute Wall.

matter one's

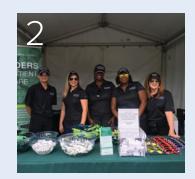
art is a universal

and 3rd floor

Hall W. Thompson Hero For Sight Award

This photography is a new addition to the

original art already housed in Callahan Eye Hospital. One of Callahan Eye Hospital's partners, Sight Savers America, commissioned a visually impaired-artist to produce a piece of art dedicated to the annual recipient of the Hall W. Thompson Hero For Sight Award. Both the award and the commissioned piece of artwork are on permanent display along the 25-foot Sight Savers America tribute wall in Callahan Eye Hospital's first-floor lobby.





Callahan Eye Hospital & Clinics served as the title sponsor for Vulcan's 115th Birthday Bash.

2 Callahan Eye Hospital & Clinics served as a major sponsor for the Regions Tradition Golf Tournament in May 2019 by sponsoring the "UAB Callahan Eye Hospital & Clinics Fan Zone."

> The hospital placed within the Top 50 for recipes used during the Exceptional Foundation's Annual Chili Cook-Off with their 90s-themed booth.

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The hospital participated in the Moss Rock Festival in Hoover, Alabama.

5 In 2019, Callahan Eye Hospital & Clinics served as the presenting sponsor for the Exceptional Foundation's 9th Annual Cornhole Classic.







Sight Savers Focuses on Providing Quality Eye Care for Children

BY CARY ESTES

he non-profit organization Sight Savers America has paved the way for the creation of a two-way street that runs through the UAB Department of Ophthalmology and Visual Sciences. And the destination is the same in either direction: Quality eye care for children from lower-income households.

"Our goal is to improve children's vision, and UAB has been a great partner in achieving that goal," says Sight Savers founder and President/ CEO Jeff Haddox, who began his career in the vision sciences conducting research at Callahan Eye Hospital. "Since the late 1990's, we have collaborated on several programs designed to help children."

Sight Savers has created programs to provide comprehensive eyecare opportunities, from basic exams and glasses to surgeries and home delivery of high-tech vision aids, all at no cost to a patient's family. The organization works closely with UAB - led by Dawn DeCarlo, O.D., M.S., MSPH - to identify patients who need the assistance.

"What's very distressing for any doctor is knowing that life-changing treatment exists for a child with severe visual impairment, but the family can't afford it," Haddox says. "So, we refer patients to UAB for evaluation and treatments to improve their vision, and they refer patients to us to purchase treatments and provide education on the use of equipment. It's a two-way street."

Sight Savers also works with UAB Pediatric Ophthalmologist Martin Cogen, M.D., and other eye-care providers to conduct one-day clinics in rural Alabama, particularly in the Black Belt region. The collaborative team travels to a public health department, school or church, sets up four fully functional exam rooms, and sees approximately 100 children throughout the day.

"Some rural counties don't have an eye doctor, so it's a big deal for them to have this opportunity," Haddox says. "It also gives the pediatric ophthalmologists a chance to teach, and the residents a chance to learn how to function in a very rural area with low income patients who they wouldn't normallu see.

"So, it is a win for the ophthalmology department, for Sight Savers America and for the children. Everybody gains from this partnership."

Since 2014, the partnership between Sight Savers and UAB has been officially recognized through a 25-foot long tribute wall in the lobby of Callahan Eye Hospital. The wall honors Sight Savers America and late Birmingham businessman Hall Thompson (who helped secure state funding for Sight Savers), and includes a plaque recognizing that year's Hero for Sight award recipient, as well as a commissioned painting created by a visually-impaired artist.

Below: Anne-Marie Arciniegas Bernal, M.D., performs an exam on a child through Sight Savers. Bottom: Jeff Haddox and Rett Grover unveil the 2019 Hero for Sight award recipient.





Below: Countries that Dr. Feist and Dr. Callahan volunteered eue care services.

Thailand

Kenua

Morocco

Jamaico



BY CARY ESTES

T nternational trips provide an opportunity for a world-class university to L take its classes out into the world. Members of the UAB Department of Ophthalmology and Visual Sciences have been making such medical excursions for decades, providing much-needed eye care to underserved areas, and receiving valuable lessons in return.

"We've had residents and fellows and medical students go with us on Feist is a part of the Friends of Rudy (FOR) Nicaragua Health mission

these trips. That's important for an institution like UAB to have contact with the wider world," says Richard Feist, M.D., an associate professor with the Department of Ophthalmology and Visual Sciences who has taken regular trips to Nicaragua since 2000. "It's a valuable education that most people don't get, and it's one that's available because of the contacts that we have." team—started by endocrinologist Rudy Varaas who worked at the UAB Callahan Eye Hospital—and travels annually to the country to perform surgeries and provide training to Nicaraguan ophthalmologists. While this is primarily a humanitarian mission, Feist says these trips also offer numerous educational opportunities, even for a veteran physician. "We don't always have the same resources there that we have here. So

This wanderlust began with UAB Callahan Eye Hospital founder Alston

I've learned a lot as a surgeon and gotten more confidence just knowing that I can make do with fewer resources and less technology," Feist says. "It makes any problem we have here in the States seem minor by comparison." Callahan, M.D., who visited 93 countries during his career. It continues today with his son, Michael Callahan, M.D., a professor of Ophthalmology at UAB. In addition to working with the organization FOR Nicargaua Health. Callahan has made medical trips to countries such as Thailand, Kenya, Morocco, and Jamaica since 1983.

"A lot of these areas are way behind in the delivery of health care and surgical information. So it's important for them to have doctors come in and demonstrate the new techniques and instruments," Callahan says. "And the patients are always extremely grateful that someone will see them and try to help them."

heartfelt thank-you notes.

"Even if you treat only one patient, you are making a difference in that one person that will help them and their family for the rest of their life. And it's help they might not have been able to get any other way," Callahan says. "That's the impact of this type of service."



Medical Trips Create Partnerships that Extend Far Beyond the UAB Campus

Callahan says it is not unusual for the group to perform 20 to 30 surgeries each day during a week-long stay in a country. He says patients show their gratitude in the simplest ways, bringing baskets of fruit or writing



Above: Michael Callahan, M.D., and Richard Feist, M.D.

PHILANTHROPY





20/20Initiative

Bringing Clarity To Your Vision

BY JESSICA MARTINDALE

he UAB Department of Ophthalmology and Visual Sciences has made L enormous strides in the past 7 years, thanks in large part to generous gifts from philanthropic partners. The faculty has grown to 51, the clinical practice has doubled, and the research program has more than guintupled in size. Its NIH-funded research portfolio now ranks No. 5 in the country, with more than \$10.6 million in federal funding. With this excellence in hand, the department looks to the future of vision research and clinical care as we plan for the next generation of advancements and insight through the creation of the 20/20 Initiative.

WORKING TOGETHER TO INTENSIFY IMPACT

The 20/20 Initiative is a philanthropic campaian with a goal of raising \$25 million from individual donors, foundations, and community members to support five key areas: faculty support, research and innovation, enhancing facilities, resident education, and programmatic support.

Already \$15 million of the campaign has been raised through a commitment between the EyeSight Foundation of Alabama, the International Retinal Research Foundation, and the University of Alabama at Birmingham. This significant commitment serves as a springboard, catapulting us to the next phase of our 20/20 Initiative: Raising \$10 million from the community and individual donors.



top left: "Complex Vision" adorns the front of UAB Callahan Eue Hospital & Clinics: Russell Read. M.D., Ph.D., and a resident discuss a case; Rafael Grutz. Ph.D., takes a closer

look into the next

major scientific

breakthrough.

Clockwise from far

In 2018, UAB Ophthalmology ranked No. 5 in the country for the amount of funding it received from the National Institutes of Health (NIH), with over \$10.6 million in NIH grant support during fiscal year 2018. This represents a nearly fivefold increase in research funding since 2012. This sort of momentum wouldn't be possible without community partners, but to sustain this kind of potential, we need to not only build upon the partnerships we already have, but form new ones. "This type of NIH funding can bolster gamechanging medical discoveries," says Christopher A. Girkin M.D., EyeSight Foundation of Alabama Chair of the Department of Ophthalmology and Visual Sciences. "But what most people don't realize is for every dollar spent of NIH funds, the department spends over a dollar and a half to cover administrative and programmatic costs. NIH funds cover only the science, but there are so many behind-the-scenes costs that are required to keep a nationally recognized program running." UAB Callahan Eye Hospital & Clinics continues to see more and more patients each day as the demand for vision care services increases. With the need for services comes the need for more space, equipment, and renovation of facilities. The stakes are at an all-time high, and the time to make a difference is now. Community partners have the opportunity to support any of our five key areas and make an impact on their community, loved ones, and the world.

A LEGACY OF GIVING

In 1963, Alston Callahan, M.D., founded the Eue eye. The hospital wasn't built with a standard loan, but through the support of philanthropic aiving. Callahan was able to raise all of the funds needed to build the hospital through UAB Ophthalmology is a top 5 nationally ranked department, and Callahan Eye Hospital is the only freestanding Level One Trauma Center in the countru and aligned to serving the community with several satellite clinic locations. Together, this team is committed to making a difference. This is the only facility in Alabama that's three-pronged mission focuses on groundbreaking discoveries, high-quality patient care, and a comprehensive education. We will continue this journey together, and we invite

Foundation Hospital, now known as Callahan Eye Hospital, the first facility in Alabama dedicated to the care and the treatment of the grateful patients and charitable giving. you to join us on the road ahead through the 20/20 Initiative.

CREATING LASTING CHANGE

Right Place, The Right Time

At UAB Ophthalmology and Callahan Eye Hospital, we are excited about the 20/20 Initiative and the possibilities that lie ahead. Your generosity can support our \$10 million goal and help to transform the lives of those living with blinding diseases in Birmingham, and beyond.

20/20 Initiative Priorities

FACULTY SUPPORT

- Funds to assist with recruiting and retaining outstanding faculty
- · Endowed chairs and professorships for facultu – a critical component for both recruitment and retention
- Elexible funds to be used at the discretion of the chair of the department

RESEARCH AND INNOVATION

- Support medical discoveries, interdisciplinary research, and technological advances
- Fund laboratory equipment
- Research funding, such as pilot grants for junior faculty and bridge funding for faculty investigators

3 ENHANCE FACILITIES

- Improving and updating our building and clinical space, as well as satellite clinics
- Transformational naming opportunities within the building space

4 RESIDENT EDUCATION

- Funds for residents to attend professional and scientific conferences
- Endowments to support resident scholarship opportunities
- Flexible funds to be used at the discretion of the residency program director to support emerging priorities

PROGRAMMATIC SUPPORT

• Strengthening service opportunities for our faculty and patients through the Low Vision Clinic and the Connections Support groups.



Thank you all for reading our 2019 Annual Report. Philanthropy is the true key to our progress, and we would love for you to partner with our team of clinicians and scientists. Your gift could be the answer to unlocking the next great scientific breakthrough. As we launch our newly developed 20/20 Initiative, I wanted to recap ways you can give back and support UAB Ophthalmology and Callahan Eye Hospital.

Above: Morgan Quarles, Development Officer

• OUTRIGHT GIFTS

Outright gifts put your contribution to work immediately—funding existing programs or creating a reliable source of future income for an existing endowment. It can be made through debit/credit card transactions, legal tender, personal checks, cashier's checks, and/or money orders.

• PLEDGES

UAB Ophthalmology and Callahan Eye Hospital welcome your gift through a pledge—a formal statement of intention to make a gift over a period of time.

• ENDOWMENTS

An endowment establishes a fund managed by the department, which provides perpetual, annual support for its initiatives. Endowments provide long-term security by expanding our permanent financial base and creating a predictable source of future income.

• PLANNED GIFTS

Shape the future of our department and hospital. Leave your legacy by choosing to make us part of your estate plans.

• ANONYMOUS GIVING

Donors who wish to remain anonumous are no less appreciated. A gift without a name attached to it can be as impactful as any other gift and use the funds to positively transform lives and research.

• TRIBUTES

A tribute gift is a thoughtful way to honor or memorialize a loved one while making a difference in the world. Your memorial gift can establish an endowment or help fund other projects.

We invite you to partner with our organization as we set out on the path to treat blinding eye diseases and care for those in need of specialized vision services. Thank you all for your partnership, and I hope you enjoyed the 2019 Annual Report.

Sincerely,

Magan Quarles

Moraan Quarles. Development Officer

Above: Alie B. Gorrie and a friend during a recent Sonas for Sight event. Below: Dawn DeCarlo, O.D.

BY LISA C. BAILEY

DeCarlo, O.D.

Alison and Jim Gorrie have continued their daughter's support, establishing the Alie B. Gorrie Low Vision Support Fund a few years ago. Alie B. was diagnosed as an infant with optic nerve huppplasia. She first visited the center when she was in junior high. "In Dr. DeCarlo's first assessment," Alison says, "she said she thought Alie B. would be able to drive, and Alie B. was so inspired. She wanted to give back to a place that gave her some hope she had not anticipated."

According to DeCarlo, the signature product of the Gorries' philanthropy is the center's support group. "It provides a tremendous amount of information and lets families connect from across the state." DeCarlo saus.

Last fall Alie B. spoke at the support group's event. "What was most impactful to me was seeing the kids who had formed lifelong friendships," she says. "They come from different parts of the state, and they may be the only kid with low vision in their school. It's provided a community for them, and I think it's invaluable."

resources available to them."

Alie B. treasures her relationship with DeCarlo. "I've never met a better advocate," Alie B. says of her mentor. "She focuses on possibilities rather than limitations. That's what I think makes her special. It's why so many families and kids love her." A Songs for Sight 10-year thank-you concert was October 5th, 2019. "The event took place at the Red Mountain Theatre Company Cabaret Theatre," Jim Gorrie says. "We had a good turnout to update our supporters and celebrate all the good work that has

been done'

"Seeing the number of kids and families that use the services double and triple has been so exciting and inspiring," Alie B. says. "Continued growth is my biggest hope. There's nothing better than feeling included, supported, and taken care of. For that feeling to stay with all these kids and all their families, that's what I want." "I feel like we have a world-class center here," DeCarlo says, "and the support of the Gorrie family is one of the major reasons why. The fact that the Gorries think this is important really does elevate our center in everybody's eyes."

A Visionary Connection

t UAB's Center for Low Vision Rehabilitation, the Songs for Sight Youth Low t UAB's Center for Low Vision Renabilitation, the Songs for Signa road, 201. Vision Support Group provides educational, recreational, and peer-support opportunities to families of children with vision impairment. Sonas for Sight, created by Alie B. Gorrie to raise money, awareness, and understanding for low vision, has generated more than \$1 million to help support the center and its director Dawn

Alison adds, "I can't stress enough the gratitude we feel. The center has meant so much to us because of our child, and we want to help others who may not have the





Above: Christine A. Curcio, Ph.D.

The Macula Foundation

BY CARY ESTES

Christine A. Curcio, Ph.D., an endowed

professor in the UAB Department of Ophthalmology and Visual Sciences, has developed an influential ally in her efforts to study age-related macular degeneration. The New York-based Macula Foundation, which has distributed several million dollars to eye research across the country, is an enthusiastic supporter of Curcio's work.

"Dr. Curcio knows more about the pathology and the anatomy of the macula than anyone alive," says renowned ophthalmologist Lawrence Yannuzzi, M.D., founder of both the Macula Foundation and Vitreous Retina Macula Consultants of New York (VRMNY). "Her work has advanced our science immeasurably. We don't just support her. We're dependent on her, because she does this work better than anyone else out there. So we are pleased to help in her research projects." Curcio, in turn, is extremely grateful for the support. She says the foundation's assistance has enabled her to hire additional research fellows and upgrade the technology in her laboratory.

"It's been a fantastic collaboration that's resulted in about 59 publications," Curcio says. "It's been very important for our research, because now we have a good timeline of the disease: where it begins, how it progresses.

"Dr. Yannuzzi is one of the leading figures in clinical retina, and the doctors in that practice are like explorers because they've discovered so much by using advanced diagnostic technology. It's a privilege for me to work with people who have such deep clinical expertise, and are open to new ideas. We're making a difference in the field."



Above: Clarence and Sheila Blair. Below: Portraits of Carl and Pauline Buck that are currently displayed in Callahan Eye Hospital.

the weekend off, the Monday," Blair say: care and the resear phenomenal." Clarence and hi these advances the UAB Department of

Clarence and his wife Sheila contribute to these advances through generous gifts to the UAB Department of Ophthalmology and Visual Sciences. Their connection with the Callahan Eye Hospital is so longstanding that Clarence Blair was operated on multiple times by founder Alston Callahan, M.D.

Buck Trust Planned Gift

contributors to the growth of UAB Callahan Eye Hospital. After Carl sold his successful Fairfieldbased, barrel-manufacturing business in 1964, a friend suggested he become a trustee with the Eye Foundation. Carl accepted, and the Bucks began making regular contributions to the new hospital.

The Bucks' assistance in the ensuing decades was so substantial that the hospital named two patient rooms in their honor. Then in 1985, the Bucks donated funds for the construction of what became known as the Pauline and Carl Buck Memorial Operating Room, followed in 1988 by the opening of the Pauline and Carl Buck Ambulatory Surgery Center. The couple willed their entire estate to the

The couple willed their entire estate to the Eye Hospital, and their support continues today through the Buck Trust Planned Gift. The trust

Luke White Fund

BY CARY ESTES

Even though he passed away 10 years ago,

Milton "Luke" White, Jr., M.D., is the first person mentioned on the list of physicians at the Retina Consultants of Alabama website. That shows how much he still means to the practice he helped form in 1992.

RCA also honors White's memory through the Luke White Fund, which was established to support research and education at the UAB Department of Ophthalmology and Visual Sciences. The fund recently was repurposed for an endowed professorship, which went to Christine A. Curcio, Ph.D.

"Dr. White was the embodiment of the compassionate, caring physician," says RCA vice president Michael Albert, Jr., M.D., an assistant professor at UAB. "He is the ideal to which I aspire as a physician myself. "The lasting rule he tried to impart upon us is in every endeavor and every decision we make is to let the only and overriding motivation be to do what is best for the patient. That central philosophy has allowed us to carry forth his mission at this practice."

White completed his Ophthalmology residency at UAB in 1991, then helped start RCA a year later at the age of 32. He passed away suddenly from Type I Diabetes on May 20, 2009.

"The Department of Ophthalmology and Visual Sciences and its resident education and research missions were always very important to him," Albert says. "So we could think of no better way to honor Dr. White than to establish this fund as a way to support those missions." "The lasting rule he tried to impart upon us is in every endeavor and every decision we make is to let the only and overriding motivation be to do what is best for the patient."



Clarence and Sheila Blair

C larence Blair knows firsthand how dramatically things have changed in the field of eye care. When he had his first cataract surgery more than a half-century ago while still in his 20s, Blair spent a week in the hospital and another two months recuperating. "Now you go in for cataract surgery, take the weekend off, then go back to work on Monday," Blair says. "The advances in eye care and the research have really been "I've lived with Clarence for 63 years, and I've seen all the various eye problems he's had," says Shelia Blair, who herself has been treated at Callahan for macular degeneration and retinal obstruction. "We are so fortunate to have a world-class eye department and eye surgeons in Birmingham, and we're glad to be able to help."

Clarence Blair, who served on the hospital board in various roles for several decades, says Callahan is "an institution that has done exceptional work and justifies support."

"That's why Sheila and I contribute to it," he says. "It goes beyond the ability of a doctor to help with what's wrong with you. It's also the ongoing research that has developed at the hospital. Other breakthroughs will come, and it's gratifying to play a small part in that."

Carl and Pauline Buck were important

helps with equipment and capital expenditures related to eye care, treatment of vision-related illnesses, and medical and scientific research.

"The history of the Eye Foundation Hospital cannot be told without remembering those who gave willingly of their time, and whose unselfish generosity made it possible for the hospital to go from a dream to a reality," says Sandra Blackwood, MPA, executive director of the International Retinal Research Foundation and a friend of the Bucks. "Pauline and Carl Buck were part of a special group of individuals who recognized their good fortune in being able to help others. The Bucks are an important part of the UAB Callahan Eye Hospital, and remain an important component of its legacy."

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MICHAEL A. ALBERT JR., M.D.

Education:

- Medical School: West Virginia
 University School of Medicine
- **Residency:** University of Alabama at Birmingham
- **Fellowship:** Retina Consultants of Alabama

Title: Associate Professor Clinical Specialty: Retina and vitreous



ANN MARIE ARCINIEGAS-BERNAL, M.D.

Education:

- **Medical School:** The University of Alabama at Birmingham
- **Residency:** Henry Ford Hospital, Detroit, Michigan
- **Fellowship:** W. K. Kellogg Eye Center, University of Michigan **Title**: Assistant Professor

Clinical Specialty: Pediatrics



RITA ARMITAGE, M.D.

Education:

- Medical School: University of Kentucky
- Residency: University of
 Alabama at Birmingham

Title: Assistant Professor Clinical Specialty: Comprehensive



CARSON BEE, M.D.

Education:

- Medical School: Oregon Health
 & Science University
- **Residency:** Medical College of Wisconsin
- Fellowship: University of
 Alabama at Birmingham
- **Title**: Assistant Professor **Clinical Specialty**: Glaucoma, routine and complex cataract surgery



J. WAID BLACKSTONE, M.D.

Education:

- **Medical School:** University of Alabama at Birmingham
- Residency: University of
 Alabama at Birmingham

Title: Assistant Professor **Clinical Specialty**: Comprehensive



MICHAEL E. BOULTON, PH.D.

Education:

- **Doctoral Degree:** Polytechnic of Central London, United Kingdom
- Fellowship: Institute of
 Ophthalmology, United Kingdom
 Title: Susan and Dowd Ritter/RPB
- Endowed Chair in Ophthalmology Research; Professor
- **Research Interest**: Pathogenesis of age-related macular degeneration; diabetic retinopathy



MICHAEL A. CALLAHAN, M.D.

Education:

- **Medical School:** The University of Alabama at Birmingham
- **Residency:** University of California, San Francisco
- **Fellowship:** Indiana University; Manhattan Eye, Ear & Throat Hospital; and Callahan Eye Foundation Hospital
- **Title**: Co-Director, Oculoplastics; Professor

Clinical Specialty: Comprehensive



JOY CHUANG, O.D.

Education:

Optometry Degree: Southern
 College of Optometry
Title: Clinical Instructor
Clinical Specialty: Primary eye care



MARTIN S. COGEN, M.D.

Education:

- **Medical School:** The University of Alabama at Birminaham
- **Residency:** The University of Alabama at Birmingham
- Fellowship: James Hall Eye Center/Scottish Rite Children's Hospital
- Title: Director, Pediatric Ophthalmology and Strabismus; Professor Clinical Specialty: Pediatric
- ophthalmology and adult strabismus



R. JEFFREY CRAIN, M.D.

Education:

- **Medical School:** University of Alabama at Birmingham
- Residency: University of
 Alabama at Birmingham

Title: Director, Birmingham Veterans Affairs Medical Center Ophthalmology Service; Associate Professor Clinical Specialty: Comprehensive



JASON CROSSON, M.D.

Education:

- **Medical School:** University of Florida College of Medicine
- Residency: San Antonio
 Uniformed Services Health
 Education Consortium
 Title: Assistant Professor
- Clinical Specialty: Retina



CHRISTINE A. CURCIO, PH.D.

Education:

- **Doctoral Training:** University of Rochester
- Postdoctoral Training: Boston University, School of Medicine; University of Washington School of Medicine

Title: White-McKee Endowed Professor in Ophthalmology; Professor **Research Interest**: Age-

related macular degeneration (pathobiology including molecular discovery; validation of clinical imaging technology including optical coherence tomography, autofluorescence, adaptive optics scanning laser ophthalmoscopy; retinal structure and functional outcomes)



DAWN K. DECARLO, O.D., M.S., MSPH

Education:

- Doctoral Degree: University of Alabama at Birmingham, School of Optometry
- **Master's Degrees:** University of Alabama at Birmingham, School of Optometry; University of Alabama at Birmingham, School of Public Health
- Residency: Hines Central Blind Rehabilitation; Chicago West Side Veterans Administration Medical Center

Title: Director, UAB Center for Low Vision Rehabilitation; Professor **Clinical Specialty**: Low vision rehabilitation

Research Interest: Low vision rehabilitation; pediatric vision impairment



J. CRAWFORD DOWNS, PH.D.

Education:

- Master's Degrees: Tulane University
- Doctoral Training: Tulane University
- **Postdoctoral Training:** LSU Eye Center, Louisiana State University

Title: Professor

Research Interest: Ocular biomechanics and physiology; glaucoma



LAURA E. DREER, PH.D.

Education:

- Master's Degree: University of
 Hartford
- Doctoral Degree: Central
 Michigan University
- Postdoctoral Training: Duke University Medical Center (Neuropsychology); University of Alabama at Birmingham (Medical Rehabilitation Psychology)

Title: Associate Professor (Clinical Medical Rehabilitation Psychologist) Research Interest: Adjustment to chronic health conditions and disabilities; development and evaluation of innovative behavioral health interventions to improve patient and caregiver health outcomes; understanding health and race disparities



PARISA DUDLEY, O.D.

Education:

 Optometry Degree: University of Alabama at Birmingham, School of Optometry

Title: Assistant Professor Clinical Specialty: Primary eye care



ANDREW W. EVERETT, M.D.

Education:

- **Medical School:** University of South Alabama
- **Residency:** University of Alabama at Birmingham
- Fellowship: University of Alabama at Birmingham Title: Assistant Professor

Clinical Specialty: Comprehensive



MASSIMO ANTONIO FAZIO, PH.D.

Education:

- Master's Degree: University of Calabria, Calabria, Italy
- Doctoral Degree: University of Calabria, Calabria, Italy
- Postdoctoral Fellowship: Devers Eye Institute, Portland, Oregon

Title: Associate Professor Research Interest: Ocular biomechanics; glaucoma



RICHARD M. FEIST, M.D.

Education:

- **Medical School:** University of Alabama at Birmingham
- **Residency:** University of Illinois, Eye and Ear Infirmary

• Fellowship: University of Iowa Title: Associate Professor Clinical Specialty: Retina, macula, and vitreous



PRISCILLA FOWLER, M.D.

Education: • Medical School: University of South Alabama

- Residency: University of
 Alabama at Birmingham
- **Fellowship:** Wills Eye Institute **Title**: Director, Cornea Service; Assistant Professor
- Clinical Specialty: Cornea



MARCELA FRAZIER, O.D., MPH, FAAO

Education:

- Doctoral Degree: University of Alabama at Birmingham, School of Optometry
- Residency: University of Alabama at Birmingham, School of Optometry
 Title: Associate Professor
 Clinical Specialty: Pediatric

optometry



PAUL D. GAMLIN, PH.D.

Education:

- Doctoral Degree: State University of New York, Stony Brook
- **Postdoctoral Training:** University of Alabama at Birmingham
- Title: Professor Research Interest: Neural control of eye movements; Non-image forming vision;



Education:

Gene therapy

CHRISTOPHER A. GIRKIN, M.D., MSPH, FACS

- **Medical School:** University of Arkansas
- **Residency:** University of Alabama at Birmingham
- Fellowship: Wilmer Eye Institute, Johns Hopkins University; Heed Fellow, Shiley Eye Center,

University of California, San Diego **Title**: Chairman, EyeSight

Foundation of Alabama Endowed Chair; Professor **Clinical Specialty**: Adult and pediatric

Glaucoma and complex cataract **Research Interest**: Clinical and basic research into glaucoma pathogensis



MARIA GRANT, M.D.

Education:

- **Medical School:** University of Florida
- **Residency:** University of Florida
- Fellowship: University of Florida;
- The Wilmer Eye Institute, Johns Hopkins University

Title: Eivor and Alston Callahan,

- M.D., Endowed Chair in
- Ophthalmology; Professor Clinical Specialty: Stem cell use for

retinal repair and regeneration



RAFAEL GRYTZ, PH.D.

Education:

- **Master's Degree:** Ruhr University Bochum, Germany
- **Doctoral Degree:** Ruhr University Bochum, Germany
- Postdoctoral Training: Devers
 Eye Institute, Portland, Oregon
- Title: Associate Professor Research Interest: Growth and
- remodeling mechanisms in myopia, keratoconus, and qlaucoma



TYLER A. HALL, M.D.

Education:

- Medical School: Wright State
 University School of Medicine,
 Dayton, Ohio
- **Residency:** University of Alabama at Birmingham
- **Fellowship:** Emory University, Atlanta, Georgia

Title: Assistant Professor Clinical Specialty: Cornea, cataract, and external disease



SARAH MIRELES JACOBS, M.D.

Education:

- Medical School: Mayo Medical School
- **Residency:** Washington University, St. Louis
- **Fellowship:** University of Washington

Title: Assistant Professor; Assistant Director of Oculoplastics

Clinical Specialty: Oculoplastic and Reconstructive Surgery

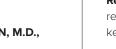


D. WADE JOINER, M.D.

Education:

- **Medical School:** University of South Alabama
- **Residency:** University of Alabama at Birmingham
- **Fellowship:** New York Eye and Ear Infirmary

Title: Associate Professor Clinical Specialty: Glaucoma





LANNING B. KLINE, M.D.

Education:

- Medical School: Duke University
- **Residency:** McGill University
- Fellowship: Bascom Palmer Eye Institute, University of Miami; Montreal Neurological Institute

Title: Professor

Clinical Specialty:

Neuro-ophthalmology



MIYOUNG KWON, PH.D.

Education:

- Doctoral Degree: University of Minnesota
- **Postdoctoral Training:** University of Southern California; Schepens Eye Research Institute, Harvard Medical School

Title: Assistant Professor

Research Interest: Low vision and spatial vision



CHRISTOPHER LEE, O.D.

Education:

- **Doctoral Degree:** University of Alabama at Birmingham, School of Optometry
- Postdoctoral Training: Veterans
 Affairs Medical Center of
 Alabama; Geriatric and Low
 Vision Rehabilitative Optometry

Title: Clinical Instructor

Clinical Specialty: Comprehensive; low vision



SARAH DILLE LEE, O.D., MSPH, FAAO

Education:

- **Doctoral Degree:** University of Alabama at Birmingham, School of Optometry
- Postdoctoral Training: University of Alabama at Birmingham, School of Public Health

Title: Assistant Professor **Clinical Specialty**: Pediatric optometry



MARISSA K. LOCY, O.D.

Education:

- Doctoral Degree: University of Alabama at Birmingham, School of Optometry
- **Postdoctoral Training:** University of Alabama at Birmingham

Title: Instructor Clinical Specialty: Comprehensive



VIRGINIA LOLLEY, M.D., FACS

Education:

- Medical School: Tulane
 University School of Medicine
- Residency: University of Alabama at Birminaham

Title: Assistant Professor; Chief of Staff, Callahan Eye Hospital Clinical Specialty: Comprehensive; refractive cataract surgery

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JOHN O. MASON, III, M.D.

Education:

- Medical School: University of Alabama at Birmingham
- Residency: University of Alabama at Birmingham
- Fellowship: Wills Eye Hospital, Philadelphia, Pennsylvania Title: Associate Professor Clinical Specialty: Retina and

Vitreous, Ocular Oncology



ANDREW MAYS, M.D.

Education:

- Medical School: University of Alabama at Birmingham
- **Residency:** University of Alabama at Birminaham
- Fellowship: University of Florida

Title: Associate Professor Clinical Specialty: Glaucoma



CECIL JAMES MCCOLLUM, M.D.

Education:

- Medical School: University of Alabama at Birmingham
- · Residency: University of Alabama at Birmingham

• Fellowship: Duke University **Title**: Director of Emergency Services, Assistant Professor Clinical Specialty: Emergency Services: cornea



CYNTHIA OWSLEY, PH.D., MSPH

Education:

- Master's Degree: University of Alabama at Birmingham
- Doctoral Degree: Cornell University
- Postdoctoral Trainina: Northwestern University Title: Nathan E. Miles Chair of Ophthalmology; Director, Clinical Research Unit; Professor **Research Interest**: Aging-related vision impairment and eue disease: functional biomarkers for agerelated macular degeneration; vision and driving; improving eye care

access and quality for underserved



populations

LYNE RACETTE, PH.D.

Education:

- Doctoral Degree: Carleton University, Ottawa, Canada
- University of California San Diego Title: Associate Professor
- Research Interest: Glaucoma



RUSSELL W. READ, M.D., PH.D.

Education:

- Residency: University of Washington Seattle
- Fellowship: Doheny Eye Institute, University of Southern California
- Title: Residency Director; Max and Lorayne Cooper Professor of Ophthalmology Residency

Training; Vice Chair of Education **Research Interest:** Health disparities in uveitis outcomes Clinical Specialty: Uveitis/ocular inflammatory disease



SHILPA REGISTER, O.D., PH.D.

Education:

- Optometry Degree: University of Alabama at Birmingham, School of Optometry
- Graduate: Ohio State University, College of Education and Human Ecology
- Postdoctoral Training: UAB School of Medicine, Harvard University Extension School Title: Clinical Assistant Professor **Clinical Specialty:** Primary eye care



LINDSAY A. RHODES, M.D., MSPH

Education:

- Medical School: Northwestern University Feinberg School of Medicine
- Residency: University of Alabama at Birmingham
- Fellowship: University of Alabama at Birmingham
- Title: Assistant Professor Clinical Specialty: Glaucoma **Research Interest**: Health services research; novel methods of care delivery, such as telemedicine



CAROL ROSENSTIEL, O.D., FAAO

Education:

• Doctoral Degree: University of

Alabama at Birmingham, School of Optometru Title: Director, Contact Lens Service; Associate Professor Clinical Specialty: Primary eye care; contact lens service



BRIAN C. SAMUELS. M.D., PH.D.

Education:

- Medical School: Indiana Universitu
- Residency: University of Alabama at Birmingham
- Fellowship: Duke University Title: Dennis Endowed Professor in Glaucoma Research; Director, UAB Glaucoma Division; Director, UAB Glaucoma Fellowship: Associate Professor

Research Interest: Role of the central nervous system in the development and progression of glaucoma

Clinical Specialty: Glaucoma



JASON C. SWANNER. M.D., FACS

Education:x

- Medical School: Universitu of South Alabama College of Medicine
- **Residency:** University of Alabama at Birmingham
- Fellowship: Massachusetts Eue and Ear Infirmaru. Harvard School of Medicine

Title: Medical Director of Callahan Eye Hospital Clinics; Professor; Vice Chair of Clinical Affairs Clinical Specialty: Cataract, anterior segment, and glaucoma surgery





KAYLA L. THOMASON, O.D.

Education:

• Doctoral Degree: University of Alabama at Birmingham, School of Optometry

Title: Clinical Instructor

Clinical Specialty: Primary eye care



MARTIN THOMLEY, M.D.

Education:

- Medical School: University of Alabama at Birminaham
- **Residency:** Bascom Palmer Eye Institute, University of Miami
- **Fellowship:** Bascom Palmer Eye Institute, University of Miami Title: Associate Professor

Clinical Specialty: Retina and vitreous



TIMOTHY THOMPSON, O.D.

Education:

 Doctoral Dearee: Universitu of Alabama at Birmingham, School of Optometry

Title: Assistant Professor Clinical Specialty: Primary eye care



MICHAEL S. VAPHIADES, D.O.

Education: • Medical School: University of New England

- Medical Internship: Brown Universitu
- **Residency:** Loyola University
- **Fellowship:** Michigan State University

Title: Director, Neuro-Ophthalmoloau and Electrophysiology Services; Professor

Clinical Specialty: Neuroophthalmology



SHU-ZHEN WANG, PH.D.

Education:

- Doctoral Degree: Virginia Polytechnic Institute & State University
- Postdoctoral Trainina: Virainia Polytechnic Institute & State University; Wilmer Eye Institute, Johns Hopkins University School of Medicine

Title: Professor

Research Interest: Photoreceptor regeneration in the mammalian eye



C. DOUGLAS WITHERSPOON. M.D., FACS

Education:

- Medical School: St. Louis Universitu
- **Residency:** University of Alabama at Birmingham
- Fellowship: University of Tennessee

Title: Professor Clinical Specialty: Retina and vitreous; ocular trauma Research Interest: Retina and vitreous; ocular trauma



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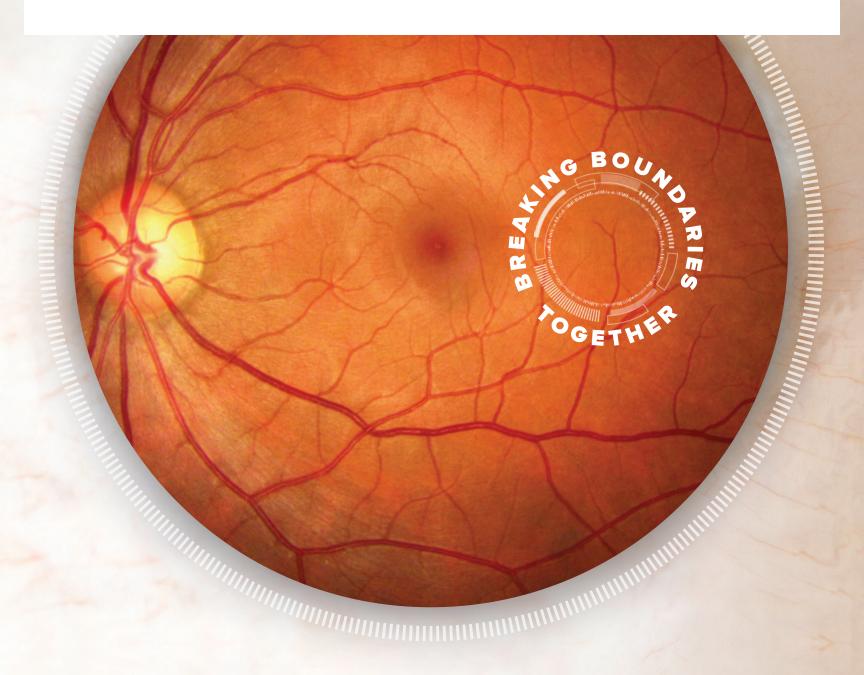


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