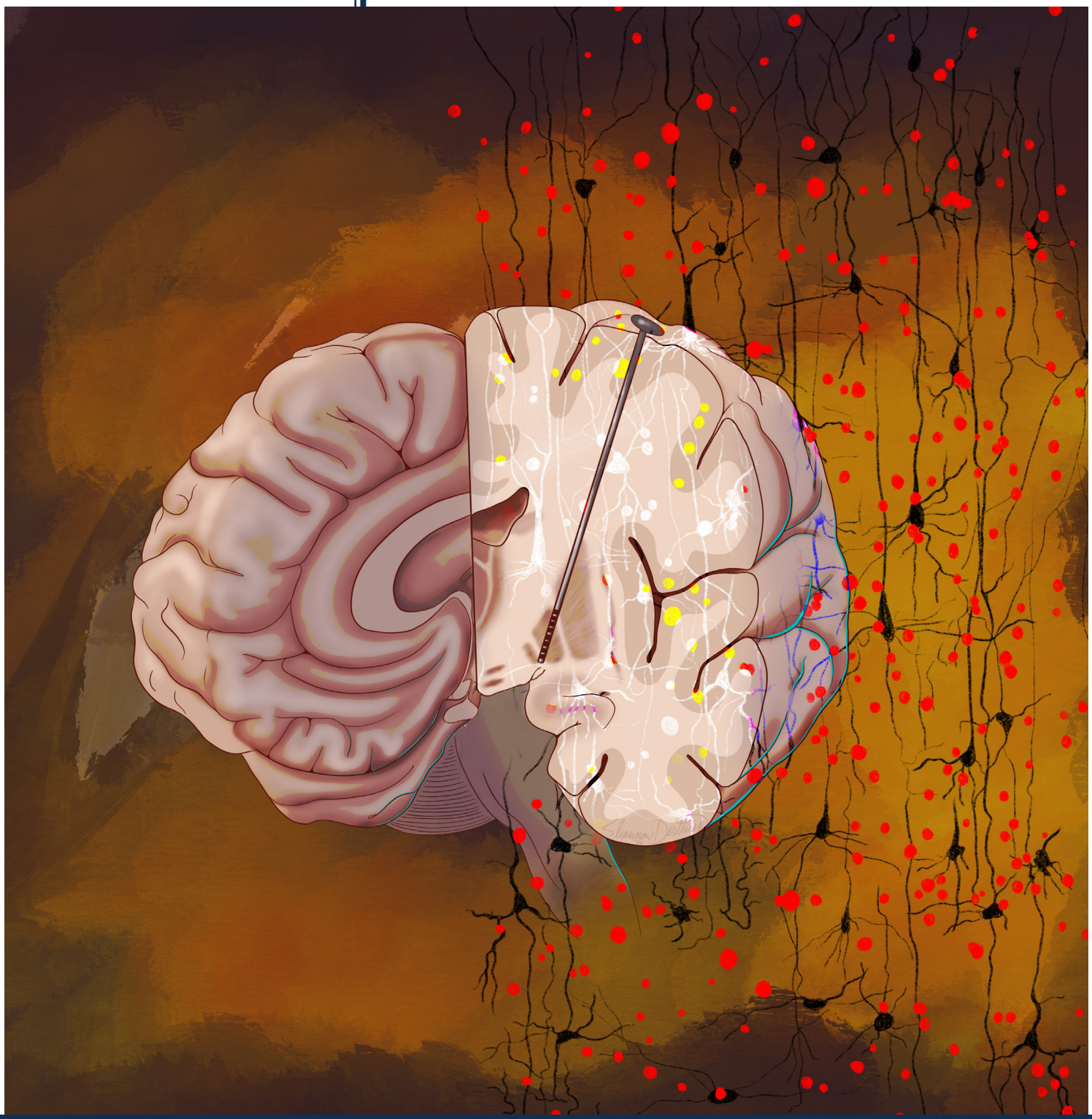
AUGUSTA UNIVERSITY
MEDICAL COLLEGE OF GEORGIA
Neurology

NEUROLOGY NEWSLETTER

Fall Issue 2025



Feature Article: Bench to Bedside Translation of New Neuromodulation

Cover Illustration : Shannon Derthick, MSc

MESSAGE FROM THE CHAIR

I am excited to share some updates from the Medical College of Georgia Department of Neurology.

In this issue, we spotlight the transformation of our Neurocritical Care unit and division. I remember when Dr. Chris Hall, our first neurointensivist, returned from fellowship in Houston to establish what was then a nascent NeuroICU. Over the following decade, the program grew in fits and starts. However, in recent years, it has flourished—thanks to the dedication of our faculty and staff. We plan to continue expanding the division with the addition of a fourth faculty member next year and are hopeful to launch a dedicated fellowship program in the near future.

We also highlight the translational laboratory of Dr. David Blake, whose pioneering work on neurostimulation to improve working memory in Alzheimer's disease is laying the groundwork for upcoming clinical trials.

Through our collaboration with Wellstar, we are expanding both faculty depth and clinical operations. This month, we welcomed two new faculty members: Dr. Zach Rohm and Dr. Hamid Ali, a recent fellowship graduate.

I would also like to recognize the outstanding educational leadership within our department. This summer, we graduated MCG Neurology's largest residency class to date. Our seven graduates—each with diverse interests and talents—are now pursuing fellowships across the country, including at Washington University, Emory University, University of Florida, UT Houston, University of Maryland, and here at MCG. Their specialties include Neurocritical Care, Epilepsy, Neuroimmunology, Clinical Neurophysiology, and Vascular Neurology. Remarkably, 18 of our medical students—about 6% of the class—are applying to neurology programs, more than double the national average. Kudos to Debra Moore-Hill, Danielle Weiss, and Ben Barnes for their incredible work in helping current students "see the light"!

Finally, our mission remains to train the best and brightest future neurologists and to make innovative advances in neurologic diagnosis and treatment. We could not achieve these successes without your support. If you are interested in making a gift, please visit https://www.augusta.edu/giving/neurology.php; your contribution will be directed where it can have the greatest impact.

Please keep in touch—and I hope to see you soon.

Jeffrey A. Switzer, DO, MCTS, FAHA, FAAN
Professor and Chair of Neurology
Director, Telestroke and Teleneurology
Medical College of Georgia at Augusta University

CONTACT INFORMATION
Phone: 706-721-7051
Email: jswitzer@augusta.edu

1120 15th Street
BI - 3080
Augusta, GA 30912

We would appreciate donations that will allow our clinic to operate and grow.
Please go to https://www.augusta.edu/giving/neurology.php to reach our donation page.

FACULTY UPDATE

We are excited to welcome **Dr. Zach Rohm** to the team!

Dr. Zach Rohm is a board-certified neurologist with a specialty in multiple sclerosis and neuroimmunological diseases. He earned a B.S. in neuroscience at Emory University and M.D. at the Medical College of Georgia. He completed neurology residency at Emory University where he served as chief resident. After residency, Dr. Rohm was a neurohospitalist at Wellstar Kennestone Hospital in Marietta, GA and an outpatient general neurologist at Ascension St. Vincent's Healthcare in Jacksonville, FL. He next completed a fellowship in multiple sclerosis and clinical neuroimmunology at Vanderbilt University Medical Center in Nashville, TN.

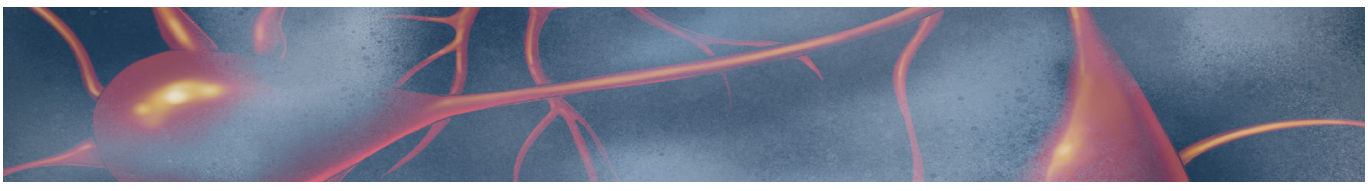
Outside of clinical care, Dr. Rohm's interests include medical education and research into novel treatments of progressive multiple sclerosis.

We are excited to welcome **Dr. Hamid Ali** to the team!

Dr. Hamid Ali is a neurologist with specialized training in vascular neurology. He completed his medical education at King Edward Medical University in Lahore, Pakistan, and went on to do neurology residency at the Medical University of South Carolina (MUSC) in Charleston, where he also served as a chief resident. He then completed his vascular neurology fellowship at MUSC before joining Medical College of Georgia.

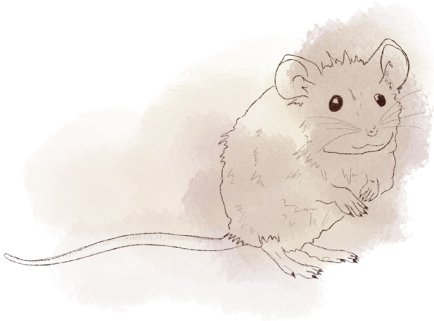
Dr. Ali's academic and research interests center on vascular and interventional neurology, particularly mechanical thrombectomy outcomes, management of embolic stroke of undetermined source, and the role of advanced cerebrovascular imaging in complex vascular neurology pathologies. He has presented his work nationally at the American Academy of Neurology, International Stroke Conference, and the Society of Vascular and Interventional Neurology, and his research has been published in leading journals including Neurology, Journal of Neurosurgery, and Seminars in Neurology.

In addition to his clinical and research pursuits, Dr. Ali is passionate about medical education and mentorship, with a strong commitment to training residents and students and advancing excellence in stroke care.

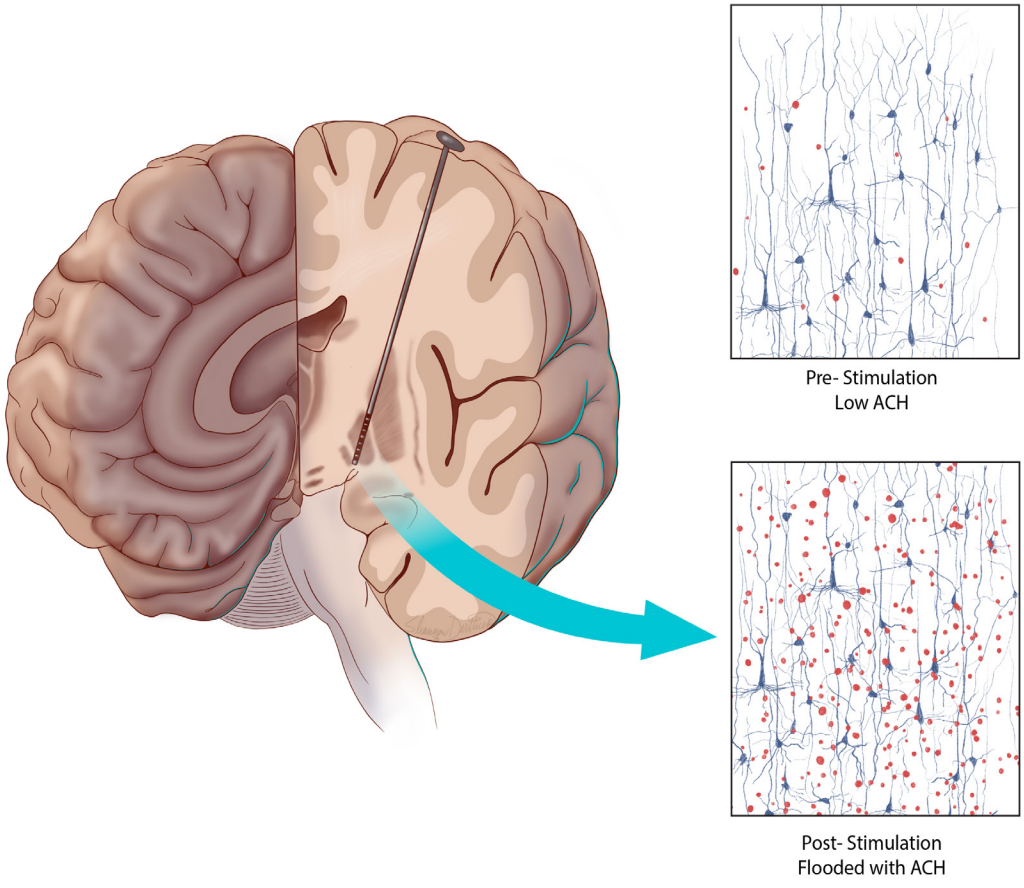


FEATURE ARTICLE: Bench to Bedside Translation of New Neuromodulation Blake Lab

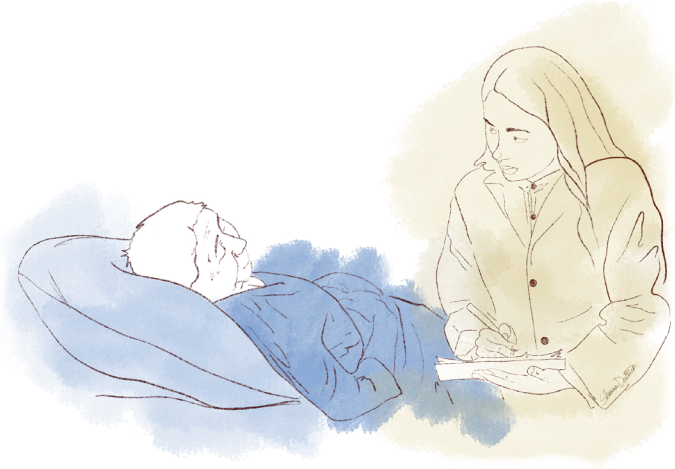
In the Blake lab, work is centered on using neuromodulation to improve executive function in humans. In other words, we seek to stimulate the brain to make people smarter with applications centered on dementias. The development of this work spans from mice to young monkeys to old monkeys to humans.



In mice, we use genetically encoded fluorescent receptors for acetylcholine. Once we induce the expression of these receptors, we can surgically establish an imaging window that enables two photon microscopy to measure acetylcholine levels in the cerebral cortex of the mouse. Earlier work seeking to measure neuromodulators in the brain had time resolutions of roughly 10 minutes per sample. With the new methods, we can define samples every 600 milliseconds in the awake animal. This increased time resolution permits us to map the relationship between the stimulation pulses delivered to the basal forebrain and the levels of acetylcholine in the cerebral cortex. Because the acetylcholine levels deplete, and recover, the stimulation must include brief periods of high frequency stimulation separated by recovery periods.



In the monkey, we used intermittent stimulation of the nucleus basalis of Meynert to increase the working memory duration of the animals. In young monkeys, the duration of the measured threshold increased three- to five-fold. We repeated these experiments in monkeys at ages analogous to 75 to 90 year old humans, and we could cause working memory durations to increase by 90%. These changes occur within at most a few weeks.



In the human, we are pursuing approvals to initiate a clinical trial at the Medical College of Georgia in subjects who have a recent diagnosis of Alzheimer's dementia. We have also collaborated with other neurology centers to use the stimulation developed in the Blake lab in clinical trials of subjects with Parkinson's dementia. The trial from the University of Toronto, led by Alfonso Fasano, was published in 2023 and found that subjects improved significantly in their sustained attention after two weeks of stimulation. The trial at Stanford, which is funded by the BRAIN Initiative and led by Helen Bronte-Stewart, is ongoing and seeks to perform the stimulation developed in our lab in subjects who are also receiving subthalamic nucleus stimulation to treat their Parkinson's dementia. David Blake is a consultant on both of these efforts.

We anticipate a time in the near future in which neuromodulation can be used to help prevent the loss of the activities of daily living in subjects afflicted by dementias in which executive function declines.

Grand Rounds every **Thursday** at **8:00 am EST.**
Contact Deana Brown for more information at
dbrown3@augusta.edu

Neurocritical Care Division at Wellstar MCG through the years

Creation of the Neurocritical Care Society

In 1999, seven neurointensivists—Dr. Bill Coplin, Dr. Jeff Frank, Dr. Claude Hemphill, Dr. Ed Manno, Dr. Stephan Mayer, Dr. Wade Smith, and Dr. Gene Sung—collaborated to create an independent, international, multidisciplinary organization: the Neurocritical Care Society (NCS). Each member contributed their time and resources, leading to the first official annual meeting held in Phoenix, AZ, in 2003.

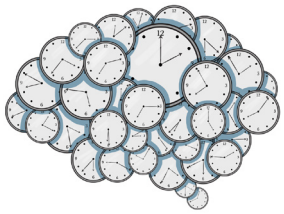
The first president of the NCS was Dr. Thomas Bleck, and the first vice president was Dr. Michael Diringer. Over the years, the Society has grown significantly—expanding membership, increasing meeting attendance, and boosting the impact factor of the Neurocritical Care journal. Most importantly, the Society has played a vital role in improving the care of patients with critical neurological conditions.

There is no doubt that the presence of neurointensivists in ICUs has improved patient care and outcomes. Although initially met with skepticism from some neurologists and neurosurgeons, multiple studies have since demonstrated the benefits of specialized care in neurocritical settings—showing improved outcomes in mortality, morbidity, length of stay, infectious complications, and more.

The vision and commitment of the NCS founders have had a lasting impact on academic medical centers across the United States and internationally.

Neurocritical Care Division at Wellstar MCG through the years.

Dr. Christina Hall, a 1995 graduate of the Medical College of Georgia (MCG), completed two years of neurosurgery training at the University of New Mexico before returning to MCG to complete her neurology residency. She went on to pursue a fellowship in Neurocritical Care and Vascular Neurology at the University of Texas in Houston. After completing her training, she joined the MCG faculty in 2004 and led the neurocritical care program through 2008. During that time, Dr. Hall served as a mentor and inspiration to neurology residents pursuing careers in neurocritical care.



Dr. Shuba Ramesh, also an MCG graduate, completed her Neurocritical Care fellowship at Emory University. During her training, Dr. David Hess, then Chair of the Department of Neurology, approached her with a vision to reestablish the Neurocritical Care Service at MCG. After graduating in June 2012, Dr. Ramesh returned to MCG with that mission in mind. Her first year leading the unit was filled with challenges—chief among them, building a team from the ground up. In October 2012, she attended the NCS Annual Meeting in Denver, CO, where she met Dr. Alfredo Garcia, then a neurocritical care fellow at Washington University. She invited him to visit Augusta, Georgia—and the rest is history.

Following his graduation, Dr. Garcia joined the team and worked alongside Dr. Ramesh to build and stabilize the unit. In June 2015, Dr. Ramesh relocated to Washington, DC. At that pivotal moment, Dr. Hess met with Dr. Garcia and offered him a challenge and an opportunity:

"I understand if you decide to leave—this may be too much for one person. But if you choose to stay, you'll have the opportunity of a lifetime: to build an entire division within the Department of Neurology."

Dr. Garcia accepted. On July 1, 2015, he became Head of the Neurocritical Care Division.

With limited support, Dr. Garcia implemented the Washington University–Johns Hopkins model, integrating nurses as full members of the interdisciplinary care team and assigning neurology residents to dedicated Neuro-ICU rotations. Despite early obstacles, the vision began to take shape. In 2016, William Todd, NP, joined the team. Although there was no formal APP fellowship at the time, William became the first advanced practice provider (APP) at MCG to receive specialized Neuro-ICU training.

In 2018, the division reached a new milestone when Dr. Manan Shah joined from the University of Texas at Houston, bringing fresh ideas and helping to consolidate the growing division. That same year, the team gained crucial support from the new Chair of Neurosurgery, Dr. Fernando Vale, who not only endorsed but formally supported the Neurocritical Care Division. Neurointensivists were given joint appointments in Neurology and Neurosurgery. Despite staffing challenges, perseverance prevailed. Dr. Jamey Brinson, NP, also joined the team in 2018.

In 2019, the Division received renewed support under the new Chair of Neurology, Dr. Jeff Switzer. His collaborative approach respected the existing vision while introducing new initiatives to advance the division's mission.

In 2020, the division was prepared to launch its first Neuro-ICU APP Fellowship; however, the COVID-19 pandemic delayed the rollout. The program launched in 2021 with Jiangnan Song, NP, and Ben Lindroth, PA, as the first APP fellows in an academic Neuro-ICU program in the U.S. That same year, Dr. Nilufer Yalcin became the third attending neurointensivist.

The fellowship initiative gained momentum in 2022 when Yamika Glover, NP, and Daniel Williamson, NP, joined as new fellows. Over the years, several registered nurses embedded in the unit's culture and workflow also advanced their careers and became nurse practitioners (NPs), further enriching the team.

In June 2024, Dr. Yalcin relocated to Boston, MA. In February 2025, Dr. Ashutosh Pandey, a graduate of The Ohio State University, joined the division. This year, additional providers have also joined the team: Marianne Somma, NP; Jimmy Jenkins, NP; Sarah Gaddy, NP; and Lauren Collins, PA.

A Decade of Impact

Over the past 10 years, the Neurocritical Care Division has not only become an essential part of the Department of Neurology—it has grown into a cornerstone of Wellstar MCG as a whole. The division has received numerous awards and recognitions for clinical excellence, innovation, and education.

DEPARTMENT UPDATES

- **Dr. Danielle Weiss** has been awarded the AUPN Faculty Leadership Award (Association of University Professors of Neurology)! Award recipients exemplify excellence in leadership, innovation, and dedication to advancing neurology.
- **Dr. Mehari Gebreyohanns**, MCG Neurology resident alumnus, is the recipient of the 2025 Ted Burns Humanism Neurology Award, sponsored by the American Brain Foundation. Dr. Jeff Ratliff spoke with Dr. Gebreyohanns about his journey into stroke care, the BORNE initiative, and the challenges faced in global neurology.
- **Dr. Debra Moore-Hill** is the sole recipient of the 2024 MCG Faculty Senate Clinical Science Teaching Award.
- The Neurology Movement & Memory team held a retreat in Dahlonega, Georgia, in March. The retreat provided an opportunity to recharge, relax, and fellowship, and included memory education and strategic planning.
- **Dr. Manan Shah** has been appointed Neurology Vice Chair for Clinical Affairs and Quality.
- APPs **Elizabeth Rhoades** (General Neuro) and **Audrey Meyer** (Stroke) have joined the department.
- The Brain Health Symposium was outstanding! There were 510 registrations and 322 attendees. Congratulations to the Movement & Memory team for their great work!
- The *MCG Neurology Advances in Stroke Management Symposium* at Kiawah Resort was successful, bringing together attendees and exhibitors for updates on stroke prevention, acute stroke interventions, and management of acute stroke complications.
- The *MCG Seizures, Spells and Shakes: Neurology for the Non-Neurologist Conference* at Kiawah Resort was also a great success.

RECENT RESIDENT GRADUATE UPDATE

What are the recently graduated residents up to?

- **Luis Rueda, MD** is in St. Louis, Missouri, doing a fellowship in Neurocritical care at Washington University.
- **Rakchhya Shrestha, MD** is in Baltimore, Maryland, doing a fellowship in Neurophysiology at University of Maryland Medical Center.
- **Ghazal Ahmad, MD** is in Houston, Texas, doing a fellowship in Epilepsy at University of Texas.
- **Alaa Mohamed, MD** is in Atlanta, Georgia, doing a fellowship in MS at Emory University.
- **Giandor Saltz, MD** is in Augusta, Georgia, doing a fellowship in Vascular Neurology at Medical College of Georgia.
- **Brinda Bhaskar, MD,** is in Gainesville, Florida, doing a fellowship in MS at University of Florida.
- **Mingyu Li, MD** is in Atlanta, Georgia, doing a fellowship in Epilepsy at Emory University.

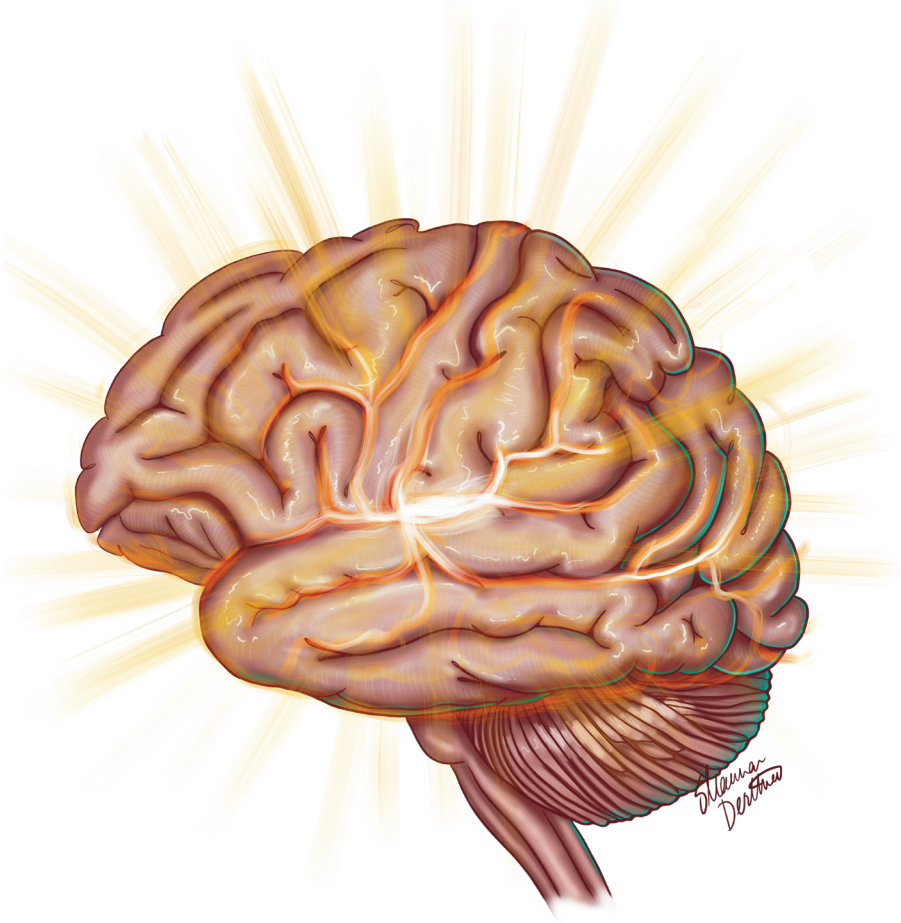
NEUROLOGY CLERKSHIP UPDATE

Pre-clerkship students are in the midst of the Brain and Behavior Module. They have just completed the 3rd Annual Stroke Simulation Case with the Pre-Clerkship Students. Our stellar Neurology Clerkship Liaisons and Neurology Residents helped run the Stroke Simulation case, which was extremely well-received by staff and students alike. Our future-boarded Neurologists helped show students how to perform the NIHSS, reviewed relevant neuroanatomy, and stroke management for the case.

It's about that time for Clerkship Students to "declare" a specialty that they are planning to apply to. If you are interested in becoming a student mentor and or would like to join a virtually hosted panel of Neurologists sharing with students "Why Choose Neurology", please reach out to dweiss@augusta.edu.

Save the date for the Northwest Campus "Neurology Symposium: Bridging Academia & Community Medicine" this will be on November 7th from 1-6 p.m. at the Coosa Country Club (110 Branham Ave SW, Rome, GA 30161). This hosted event by the MCG Northwest Regional Campus & MCG Department of Neurology will cover current practice and future cutting edge management in the topics of Epilepsy, Stroke, Multiple Sclerosis, and Dementia.
Contact MCG-FACULTYDEVELOPMENT@augusta.edu or go to https://www.augusta.edu/mcg/academic-affairs/faculty-development-and-educational-research/development/ to learn more on how to RSVP.

Senior medical students would like to give a shout out to some fantastic resident teachers: Robert Hill, Parth Patel, Mitchel Oei, Sam Natla, and Brandon Pope.



Get to Know the Adult-Neuro PGY- 1 Residents

Ankita Agrawal

I am from India/Nepal. My goal for residency is to develop strong diagnostic reasoning and evidence-based management skills. Goals for residency: Develop subspecialty interests that could guide fellowship or career paths. Strengthen communication with patients, families, and the healthcare team. Prioritize physical and mental health. Where do you see yourself in five years: I see myself working as a Vascular Neurologist in the United States in the next 5 years

Deeksha Barman

I am from a small town in the northeastern region of India called Siliguri. Born and raised there, I moved out at 18 to attend medical school in the state capital, Kolkata.

I recognize this opportunity as the only time where I will be trained under supervision in the specialty that I love with all my heart. This being the foundation of my future career as a neurologist, I intend to work as hard as I can and learn under the best guidance of our esteemed faculty. I also want to build long-term relationships and friendships during my time here, which I shall carry with me throughout my life, as they will be my family away from home.

I haven't been able to choose one particular fellowship interest yet, since there are so many pathways that I am drawn to. But knowing myself best, I know I will want to continue training in the specialty I choose later on in residency. Later in life, I definitely see myself as a physician in neurology, continuing to practice and learn each day. I love teaching, so I may assume a role in an academic institution.

In terms of my personal life, I wish to reunite with my husband, who is currently pursuing his residency in a different city, and grow a family and home together — which will definitely have a giant old tree in the backyard and one dog, or maybe five!

Mohamed Ahmed

I'm from Sudan and studied at the University of Khartoum, the oldest medical school in the country. My goal for residency is to dive deep into neurology, learn as much as I can, and grow into the kind of doctor patients and colleagues can count on.

In five years, I envision myself working as a neurologist in the U.S., balancing patient care with research, mentoring younger doctors — and hopefully starting a fellowship once I decide which subspecialty sparks my passion most.

Lina Mustafa

I am from Brazil and Jordan. I was born and raised in Brazil until the age of 15, then moved to Jordan, where I have lived since.

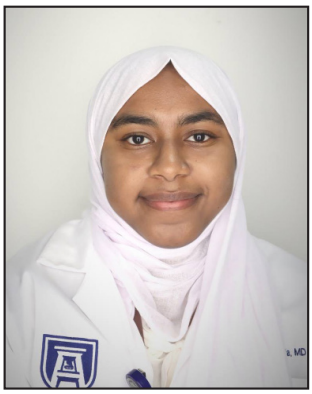
My goal for residency is to continue learning and growing every day while becoming the best neurologist I can be for my patients. I hope to embrace each challenge, enjoy the journey, and keep striving to be the best version of myself.

In five years, I envision myself pursuing a fellowship in neurocritical care or vascular neurology. I hope to have built a strong foundation for my career, one that not only makes my mentors proud but also inspires the next generation of neurologists and allows me to leave a positive impact wherever I go.

Hiba Ali

I am originally from Sudan, where I was born and spent almost my entire life before moving to the U.S. to begin my dream residency in neurology. My goal for residency is to build a strong foundation in clinical neurology while gaining exposure to the different subspecialties. While I am particularly interested in movement disorders, I am also open to exploring other fields within neurology as I develop my career path. I want to strengthen both my clinical and research skills in preparation for fellowship training. In five years, I see myself as a neurology fellow who is well-prepared and competent enough to begin my career journey as an independent specialist, contributing to both patient care and research.

Sara Elawad



I'm originally from Sudan born in Saudi Arabia and my main goal in residency is to grow into a very efficient and dependable neurologist. I want to be able to manage multiple patients at once, remember the important details about each of them, use my time wisely, and also act quickly when the situation calls for it. At the same time, I hope to be both an excellent clinician and a safe doctor, while being a supportive team leader and a good colleague.

I really value teaching. I want to be the kind of resident who takes the time to help medical students understand neurology, and hopefully even inspires some of them to pursue it in the future. Right now, I'm keeping an open mind, but I find myself especially interested in epilepsy, EEG, EMG, and general neurology. For now, I'm focused on learning as much as I can so I can become a strong general neurologist, and if I discover a subspecialty that excites me, I'd love to pursue it and really excel in that area.