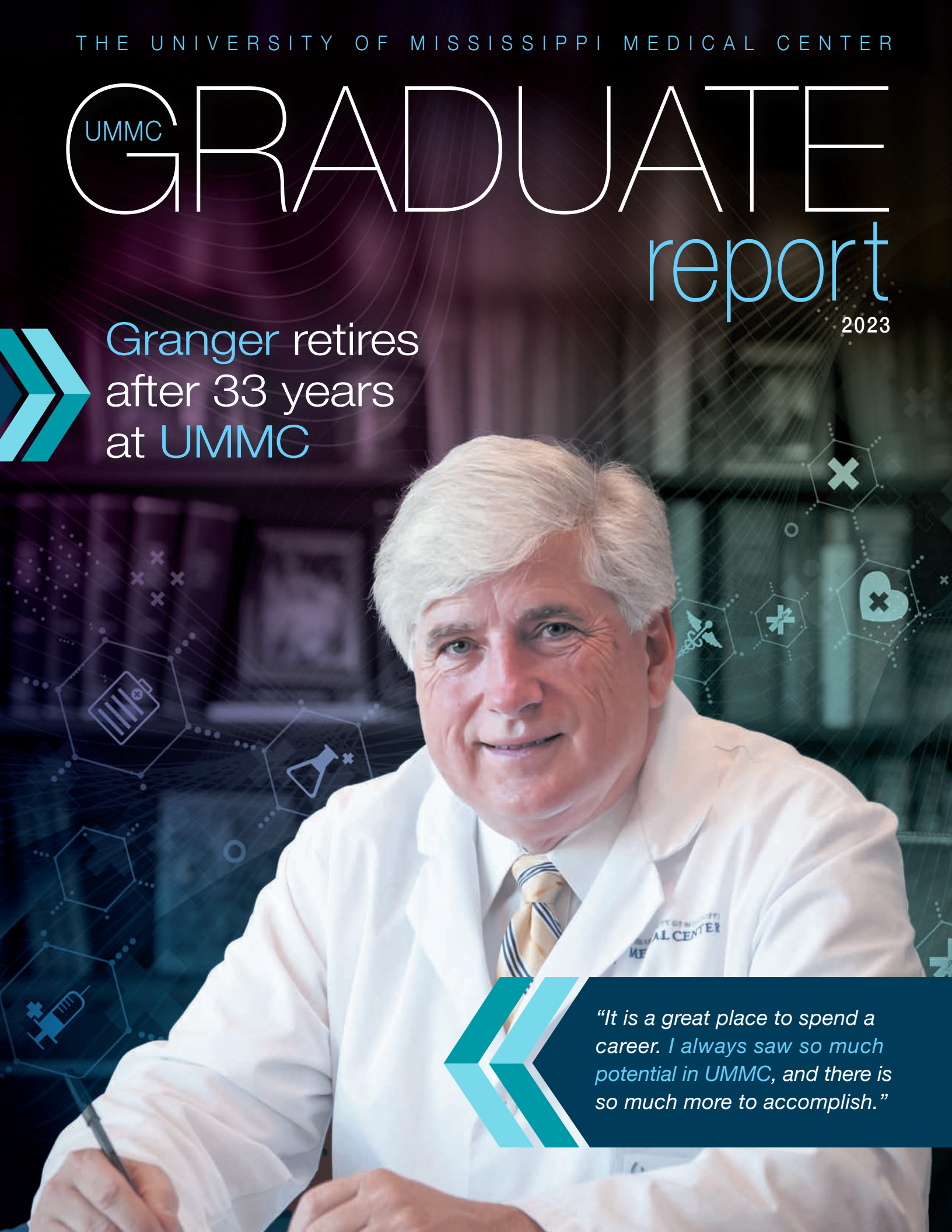
THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER

# UMMC GRADUATE report

2023

## Granger retires after 33 years at UMMC



*"It is a great place to spend a career. I always saw so much potential in UMMC, and there is so much more to accomplish."*

# LETTER FROM THE DEAN

UMMC
School of Graduate Studies in the Health Sciences


**I HOPE YOU ENJOY** the ninth issue of the Graduate Report, the School of Graduate Studies in the Health Sciences (SGSHS) magazine. This publication aims to give alumni, faculty, current and prospective students and friends a picture of what's happening within our school and our accomplishments over the past year.

This has been a time of growth and change for our school. The most significant change has occurred with the retirement of our long-time dean, Dr. Joey P. Granger. Dr. Granger was the longest-standing dean within SGSHS and at UMMC. His vision and drive to mark SGSHS as a premiere school for research and graduate education has led to the transformation and creation of several educational offerings and training programs for learners K-12 through professional school. His continued efforts to strengthen the research arm of the institution have been instrumental in recognizing UMMC as a world-renowned research training facility. I have had the honor of working with Dr. Granger both as a graduate student and as an administrator for the school for several years. I can attest to his commitment to UMMC, SGSHS, colleagues and trainees. Thank you and congratulations on your retirement.

Congratulations are also in order for several of our current faculty and alumni who have recently stepped into leadership positions across campus. Dr. Lee Bidwell, a biochemistry alum, is the new associate vice chancellor for research and will work alongside Dr. Caroline Compretta, assistant vice chancellor for research, who is faculty within the master of science in clinical investigation degree program. Dr. Hanna Broome, a biochemistry alumna, now serves as UMMC's chief student affairs officer. At the same time, Dr. Babbette LaMarca, a graduate of the microbiology program, now leads the Department of Experimental Therapeutics and Pharmacology. Lastly, Dr. Barbara Alexander, an alumna of the biochemistry program and current professor of physiology, was awarded UMMC's TEACH prize.

Our students and postdoctoral fellows, whose research was highlighted at our annual SGSHS Research Day, have garnered numerous honors and awards this past year. We have continued to see a rise in the number of funded pre-doctoral fellowships and publications and attribute these successes to our students' hard work and distinguished graduate faculty and research mentors.

As the new dean, I am excited about the opportunities ahead of the SGSHS. This year, we graduated our first student from our new resident-PhD program and expect to expand that training program in future years. UMMC has also welcomed back several graduates of the school's MD-PhD training program with the goal of increasing the number of cross-trained clinician-scientists on our campus.

Sydney Murphy

**Sydney R. Murphy (PhD-Physiology & Biophysics, '10)**
**Dean, School of Graduate Studies in the Health Sciences**
**University of Mississippi Medical Center**

## SUPPORT OUR SUCCESS

A gift to the School of Graduate Studies in the Health Sciences is an investment in meaningful research and a contribution toward a brighter and healthier tomorrow.

Your gift will go a long way in helping us realize our vision for the future. You may designate a contribution to a specific need (i.e., student scholarships, visiting lectureship for Research Day, etc.). Gifts may be made in various forms, including cash, securities, planned gifts, life insurance and wills. There are different tax advantages for different assets. To make a donation, contact Dr. Sheila Henderson at 601-815-3302 or send an e-mail to sahenderson@umc.edu.












UMMC™
School of Graduate Studies in the Health Sciences

**Vice Chancellor for Health Affairs**
LouAnn Woodward, MD

**Dean, School of Graduate Studies in the Health Sciences**
Dr. Sydney Murphy, PhD

**Editor**
Andrea Wright Dilworth

**Writers**
Andrea Wright Dilworth
Gary Pettus

**Photographers**
Joe Ellis
Jay Ferchaud
Lindsay McMurtray
Melanie Thortis

**Art Director**
Derrick M. Dyess

**Layout and Design**
Kyle Tillman

**Director of Communications**
Patrice Guilfoyle, APR

**Executive Director of Communications and Marketing**
Marc Rolph

Produced by the Office of Communications and Marketing. For more information, contact the editor at awdilworth@umc.edu or 601-984-4743.

# CONTENTS

# GRANGER RETIRES AFTER 33 YEARS AT UMMC

BY ANDREA WRIGHT DILWORTH

Dr. Joey Granger (Physiology & Biophysics, '83) pulls out his iPhone and swells with pride as he swipes through scenic family photos, including him with wife Linda – whom he calls his girlfriend – in Paris, and their six grandchildren and three children at Orange Beach, Alabama.

The beaming faces peeking from his cell phone's library are the reason he decided June 30 was R-Day: when he hung up his campus ID badge and said farewell to the manifold roles he masterfully juggled at the University of Mississippi Medical Center.

After 33 years at UMMC, the Billy S. Guyton Distinguished Professor who wore many hats – not to mention a Cajun apron and occasional Mardi Gras mask that paid homage to his roots – retired.

Granger and wife Linda surrounded by their six grandchildren at the beach this year.

His why was simple: "To enjoy spending more time traveling to Europe and beaches with my wife and visiting our kids and grandkids and extended family, play a little more golf, and of course my weekly poker tournament with friends."

If you count his doctoral training at UMMC – which he does – Granger spent 36 years here, albeit an eight-year lapse. The Mayo Clinic lured him away as a newly minted PhD to begin his career as a National Institutes of Health trainee and later, assistant professor of physiology and biophysics. Four years later, he was appointed assistant professor at Eastern Virginia Medical School and soon thereafter, associate professor.

He would return after receiving a call from his mentor, Dr. John Hall, Arthur C. Guyton Professor and Chair, and not leave again. Until now.

"I would not change any of it," said Granger, a native of Erath, Louisiana. "It is a great place to spend a career. I always saw so much potential in UMMC, and there is so much more to accomplish."

Those who have worked with him, for him, and over him, as well as those who've learned from him, say he is an integral thread woven in the fabric of the Medical Center.

A prolific researcher, Granger has brought more than $50 million in extramural funding to the Medical Center and published more than 300 manuscripts, which have been cited more than 25,000 times.

Woodward

"Dr. Granger has helped set the bar as one of the Medical Center's most accomplished researchers and grant writers," said Dr. LouAnn Woodward, vice chancellor for health affairs and dean of the School of Medicine. "His ability to lead, innovate, research, mentor and recruit with such mastery has made his job look easy. I am grateful for his selflessness over the years in taking on multiple leadership roles and helping to bring national and international acclaim to our research mission, and I wish him the best in his retirement."

Perhaps most indicative of his impact at the Medical Center are the five torches carried simultaneously during his last year: associate vice chancellor for research, dean of the School of Graduate Studies in the Health Sciences, and director of three programs: Cardiovascular-Renal Research Center, Center for Clinical and Translational Research, and Hypertension and Cardiovascular Disease Training Program.

Rodgers

Dr. Scott Rodgers, associate vice chancellor for academic affairs, said it's hard to imagine UMMC without Granger's steady hand, visionary ideas

Granger celebrates at his retirement reception with his staff, left to right: Shanna Moulds, Dr. Sydney Murphy, Dr. Edgar Meyer, Dr. Hanna Broome, Melody Turner, Jessie Bowman.

and transformative mindset.

"Dr. Granger is one of those people who walk the halls and define the UMMC culture by their very presence," said Rodgers. "He is respected and greatly admired for the longstanding quality of his research programs as well as for his superb leadership of the School of Graduate Studies in the Health Sciences."

Hall, his doctoral mentor, said Granger's leadership of SGSHS has been transformational and that his research, especially in the fields of preeclampsia and hypertension, has been recognized internationally with the highest honors by organizations including the American Heart Association.

"Joey has established a legacy of excellence in leadership, research, education and mentoring," said Hall. "But, perhaps his most important legacy at UMMC is his outstanding mentorship of many young scientists and health care professionals who themselves have become excellent researchers, educators and leaders in academia.

"I am extremely grateful to Joey for his many contributions to the department, to UMMC, to Mississippi and to the international scientific community. However, I am perhaps most grateful for his friendship over the past 44 years."

Murphy

Dr. Sydney Murphy, who succeeded Granger as SGSHS dean on July 1 and was one of his many graduate mentees, said it was his trailblazing research on preeclampsia that began over 25 years ago that helped UMMC become one of the top five NIH-funded institutions in the country in that area.

Following in his footsteps won't be easy, but she believes he has trained her well, including his perspective to "focus on the big picture."

"If I've heard him say that once, I've heard him say it one thousand times," said Murphy. "It didn't matter if we were discussing mechanisms of action of a signaling peptide or policy review. Zooming out provides a perspective that allows one to simplify the issue and focus on the intended goal."

Then & Now: Granger with his mentor, Dr. John Hall, Arthur C. Guyton Professor and chair, Department of Physiology and Biophysics. Left, pictured in 1996 at a Council on Hypertension meeting, and right, in 2023.

That philosophy has served Granger well, who drew a blank when asked about obstacles he's face during his tenure.

"I never saw challenges but continued opportunities for improvement," he said. "The leadership at UMMC has always been supportive."

When it comes to things that have made him proud, though, Granger cited many, including improvements to the PhD programs, the overwhelming successes of the Summer Undergraduate Research Experience and MS in Biomedical Sciences programs, and that the MD/PhD clinical scientist pipeline programs are starting to pay off.


Broome

Dr. Hanna Broome, chief student affairs officer, said of the many nuggets she's learned from Granger, three stand out: One, to always have an agenda for any meeting, even if it's jotted down on a piece of paper, and two, to bring about positive change, be prepared to back up your reasoning with data, or at the very least, solid logic.

And three: "Dr. Granger has really taught me how to be a strategic thinker in higher education," said Broome. "I have learned so much from discussions with him over the past five years. He is not only a forward thinker, but he thinks well beyond the status quo, well into the future, when he is making decisions."

Dr. Barbara Alexander, Billy S. Guyton Distinguished Professor, considers herself fortunate to have joined Granger's lab as a post-doctoral fellow 26 years ago just as he was beginning his preeclampsia-related research, which has had a major impact on her own research.

"Joey was also so mindful of our future career and research goals," she said. "He not only provided training as a renal physiologist, but he also helped guide my transition toward independence, always serving as an incredible resource throughout my academic career.

"Although he is retiring, he is a mentor for life."


Bidwell

Dr. Lee Bidwell, who succeeded him as associate vice chancellor for research, said Granger, who helped him craft his first NIH-funded grant, has also been a great mentor in preparing him for his new role.

"Joey was also a great role model for how to mentor trainees," said Bidwell. "He has done an unbelievable job of supporting numerous people's careers, and I have strived to model that in supporting my own trainees as they leave my lab and launch their own careers."


LaMarca

Dr. Babbette LaMarca, chair of pharmacology and toxicology, said one thing unrelated to research that makes Granger special is that he's a genuinely caring person who treats everyone with respect and kindness.

"One time, our housekeeper fell sick in new Guyton, and he ran to the hospital, got a wheelchair and personally escorted her to the ER and made sure she was cared for," remembered LaMarca. "He didn't call someone or tell someone else to do that; he did it because he wanted to be sure she got the help she needed. He's been that way in every role he's played at UMMC. And he makes you laugh while doing it. The laughter and smile and kindness of Dr. Granger is what will be missed here every day in the halls of UMMC."

Another thing that will be missed: Granger's annual Holiday Open House, where he served as chef.

"It was definitely Dr. Granger's way of saying thank you," said Shanna Moulds, SGSHS operations manager. "He lets us know we are here to serve our students."

Granger is a fabulous Cajun cook whose gumbo was the best she's ever had, said Betsy Davis, CCTR director of operations and his assistant. She considers it an honor to have worked with the esteemed professor and scientist for the duration of her 14 years at UMMC.

"It's bittersweet to think of him retiring because he has played such a big role in my life here at work, but he is such a down to earth, family man and I know he is going to enjoy spoiling all of his grandkids."

Though retired from his fulltime roles, Granger, now professor emeritus of physiology and biophysics, has returned part-time as director of both the MCCTR and the HCDTR, where he is continuing his National Institutes of Health grants, which will gradually transition to other researchers.

Still, there's no shortage of things he'll miss, but chief among them are "the people I work with." Gr

# Granger's contributions

**Years at UMMC: 36** including doctoral training

**More than $50 million** in extramural funding

**More than 300** publications

**Cited more than 25,000** times in other publications

**Mentored over 50** trainees

**Enrollment** went from 100 in 2007 to 230 in Fall 2023

**Biomedical Sciences** has grown from 5 to 120 students

**Instrumental in creating 2** residency/ employee training programs

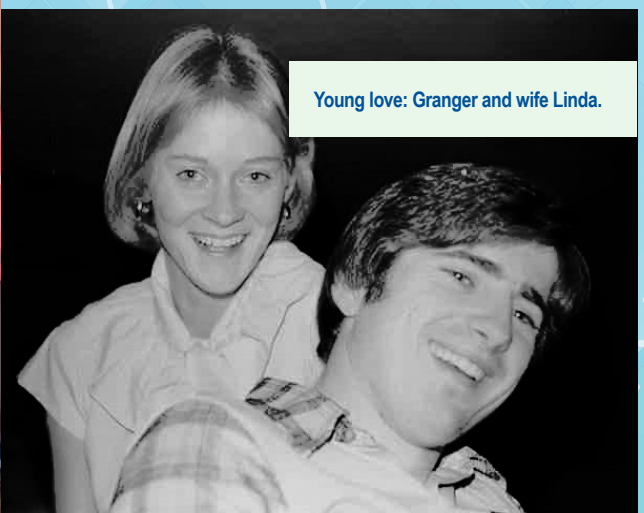
Granger at his retirement reception with Betsy Davis.

From left to right: Dr. Ana Palei, Dr. Paula Warrington, Granger, Kathy Cockrell, Davis, Dr. Frank Spradley, and Alex Himel.

Passing the torch: New SGSHS Dean Murphy helps Granger pack up his many awards.

Open House: Granger seasoning one of his Cajun recipes in preparation for the annual event created to thank UMMC supporters.

Work and play hard: Granger and members of the SGSHS putting on a musical performance. Performers include Dr. Jane Reckelhoff (left, holding a microphone), Dr. Richard Roman, on guitar, and Dr. Hall, far right.



Young love: Granger and wife Linda.

Granger at his retirement reception with Dr. Robert Lewis, retired professor of pathology.

# Murphy takes the reins as dean of Graduate School

BY ANDREA WRIGHT DILWORTH

Dr. Sydney Murphy's (MS-Biomedical Sciences, '09; PhD-Physiology & Biophysics, '10) love of experimentation was nurtured under the expert eye of her first mentor, her grandfather, an organic chemist whose career focused primarily on sugar research.

"We would do 'experiments' in the kitchen, which usually resulted in a candy product," said the new dean of the School of Graduate Studies in the Health Sciences. "While 'experimenting,' he would explain the basics of atoms, chemical bonding properties and crystalline structures.

"I was always intrigued by how something so intangible resulted in a very tangible, and tasty result."

It was no surprise Murphy pursued a career in the sciences. After a year majoring in biomedical engineering at Mississippi State University, she decided to switch to microbiology.

That's when divine intervention stepped in.

Sent to the wrong building to register for classes, in one of those classic mix-ups movie scripts are made of, Murphy unwittingly ended up transferring to biochemistry instead. Because the two majors shared the same foundational courses, she didn't realize for another year that she was not who she thought she was: a microbiology major.

But it was too late.

"I had begun working in an on-campus laboratory in the plant and soil sciences department, assisting one of the professors in sequencing the genome of the Loblolly pine," she said. "It was my first experience in a research lab, and I loved the dynamic of it all."

That switcheroo shaped her career trajectory, placing her in a field she did not know was her calling.

After earning a BS in biochemistry and molecular biology, Murphy enrolled at the University of Mississippi Medical Center, where she earned a master's in biomedical sciences, followed by a PhD in physiology and biophysics.

She's been here ever since, turning down post-doctoral training opportunities at schools including Harvard University, accepting a research fellowship in pharmacology and toxicology at UMMC instead.

She has no regrets. "I have had the opportunity to train under and with some of the field's giants and work with great staff and administrators."

Murphy transitioned from fellow to instructor, and two years later, at just 30, assistant professor and assistant dean of academic affairs, while also serving as associate dean of academic and faculty affairs in the John D. Bower School of Population Health.

"I did my graduate work under Dr. Joey Granger, so he knew exactly what he was getting with me when he offered me the position," Murphy laughed.

Murphy was an obvious choice to succeed him as dean, said Granger, who retired in June. During her nine years in the SGSHS, her responsibilities have included school accreditation, curriculum oversight, and external and internal review of all educational programs, he said. She also assisted with recruitment and student affairs issues and played a critical role in the development and implementation of Workday.

"Sydney is well suited for the position," he said. "She has a great personality and loves working with our graduate faculty and students. She is focused, fair, organized and forward thinking. These are characteristics I saw in her as a graduate student over 15 years ago. I am very proud of her accomplishments and look forward to great things happening under her leadership."

Some of the traits Granger noted can be traced back to Murphy's upbringing as a triplet. She and sister Lyndsay Shipp both graduated from UMMC in 2010; Shipp, now in private practice in Oxford, completed medical school at UMMC. Her brother Jason Roberts, a small business owner, crawfish farmer and wildlife artist, rounds out the trio.

"We have always been 'the Roberts triplets,' but my mom was determined we would not always be grouped together," Murphy said. "She knew we were three very different personalities and never dressed us alike and encouraged us to do our own thing. In fact, we all ended up going to different high schools for our junior and senior years."

Her parents' influence is evident in how she leads: Her mother, the creative who thrives in organized chaos – she is the mom of triplets, after all – and her father, analytical and regimented.

"I like to tell people that my brother is very much like my mom, my sister is very much like my father and I'm just the best of both worlds," Murphy laughs. "That is usually met with eye rolls. However, it is good to be prepared, knowledgeable and planned, but you must be flexible and resilient if you want to influence change. Most importantly, my parents taught us all to do everything with integrity."

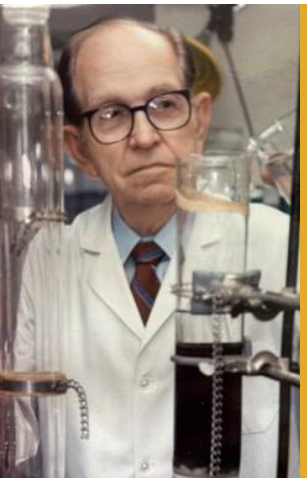
Having played an integral role as SGSHS associate dean, Murphy is not trying to reinvent the wheel.

"I am very excited to see what the school can accomplish in the coming years," she said. "We have had a lot of growth in the area of support for our programs, and we have recently begun to see the fruits of those labors in the area of trainee success.

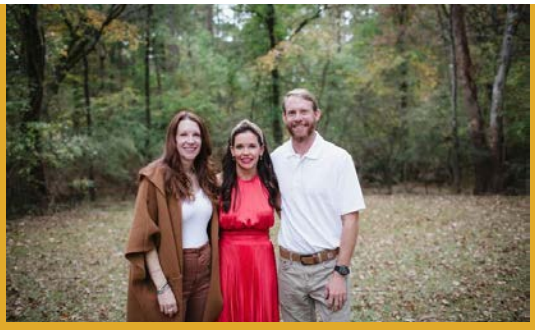
"Long term, we must stay relevant. Biomedical education and research are changing very quickly, and we will continue to offer an exceptional training environment for our students, post-doctoral fellows and graduate faculty."

While some might be intimidated by the legacies of research leaders UMMC and the SGSHS have produced, Murphy is motivated and inspired by the giants whose shoes she now fills.

"I do think my training 'pedigree' is very cool," Murphy said. "Dr. Guyton, Dr. Hall, Dr. Granger, me. That will make you want to be successful." Gr



Murphy keeps this photo of her paternal grandfather, Earl Roberts, at work in his lab, in her office. Because of their similarities in appearance, attitude and interests, her family nicknamed her Syd Earl in his honor.



The Roberts triplets: Murphy, Dr. Lyndsay Shipp and brother Jason Roberts.

Dr. Joey Granger is flanked by Murphy, left, and her sister Dr. Lyndsay Shipp, who both graduated in 2010 from UMMC.

Dr. Michael Garrett, Molecular Center of Health and Disease director and chair of cell and molecular biology, stands in the Molecular and Genomics Core Facility that he established in 2010. It will serve as the "nucleus" of the MCHD.

# NEW CENTER TO STUDY GENETIC ORIGINS OF DISEASES, INNOVATIVE TREATMENT

**BY ANDREA WRIGHT DILWORTH**

A new research center at the University of Mississippi Medical Center will arm researchers with tools to study health and diseases at the molecular level – where they start – with the goal of developing new treatments.

The Molecular Center of Health and Disease, funded by an $11.5 million Centers of Biomedical Research Excellence (COBRE) grant, will help scientists better understand genetic susceptibility and factors that cause disease, enabling them to create earlier interventions and cures. The key to much of the innovation is in studying the genome, the set of DNA instructions in a cell that contains the information we need to develop and function, according to the National Human Genome Research Institute.

"Our genomes, along with interactions with our environment, make us who we are – the way we look, act, think – and it dictates our general health as well as our susceptibility to develop disease," said Dr. Michael Garrett, MCHD director and chair of cell and molecular biology. "An understanding of our genome provides important information that can lead to quicker and better diagnosis of disease and more tailored treatment for when we become sick." The MCHD has the potential to make a significant impact in Mississippi, which consistently ranks at or near the bottom in every major chronic health condition. Of the top 10 leading causes of death, the state ranks first or second in eight, including first in heart disease, kidney disease and Alzheimer's and second in cancer, stroke, diabetes, influenza and sepsis, according to the Centers for Disease Control and Prevention.

In 2015, 90 percent of Mississippians had at least one chronic disease.

Garrett, who is also a professor of pharmacology, hopes that by applying innovative molecular technology and computational biology to enhance research in understanding the health-disease continuum, the center will be able to help Mississippians lead healthier lives.

"The status of our health and disease can fluctuate throughout life," he said. "While chronic diseases, such as heart disease, diabetes, and cancer can be treated, an understanding of genetic contribution and mechanisms involved in the start of disease has the potential to halt progression and return an individual to a healthy state."

Phase 1 of the grant, which spans five years, will focus on strengthening the existing UMMC genomic infrastructure, adapting new technologies such as gene-editing and building new computing and analysis capabilities. COBRE awards consist of three sequential five-year phases.

Dr. Joey Granger, associate vice chancellor of research and dean of the School of Graduate Studies in the Health Sciences, said the MCHD is the third UMMC center made possible by the Institutional Development Award, a congressionally mandated program that builds research capacity in states with historically low levels of funding from the National Institutes of Health.

Granger

That the Medical Center is now home to three IDeA centers is no small feat, said Granger.

"Our success in receiving COBRE funding highlights the quality of our researchers as well as the critical need for research faculty development and infrastructure improvements at UMMC," he said. "The MCHD will enhance training, mentorship and research support to generate unique opportunities in the application of omics [scientific fields associated with measuring biological molecules] technology and computational biology."

The MCHD is not replacing UMMC's Molecular and Genomics Core Facility, which provides expertise to researchers at the Medical Center and throughout the region. Instead, the core facility, which Garrett established in 2010, is "the nucleus" of the new center, providing the technology and expertise to explore molecular questions associated with each research project.

Dr. Babbette LaMarca, chair of the Department of Pharmacology and Toxicology, said the center's technology will help UMMC continue to make life-saving advancements.

LaMarca

"We will continue our long-standing support for the Molecular and Genomics Core, which is the hub of technology that drove many of the ideas fueling this newly-funded machine," said LaMarca. "The investment in this type of center will provide avenues to help us attract new investigators and train young investigators with expertise in genomics and proteomics who will hopefully work with our physicians to provide better health care for all of us in Mississippi."

The center consists of three main components: administrative; omics and gene-editing; and research computing, bioinformatics and biostatistics. It will also fund three junior researchers.

Dr. Jorge Vidal, associate professor of cell and molecular biology and one of the research project investigators, said the center will give him the tools to contribute to a better understanding of pneumococcal pneumonia, a deadly infectious disease.

Vidal

"It will also allow us to train graduate students and postdocs with world-class technology," said Vidal. "We will consolidate our research programs at UMMC, and this funding will ultimately allow us to generate more exciting data to attract NIH-level funding."

Gisabella

Dr. Barbara Gisabella, assistant professor of psychiatry and human behavior, also a project leader, studies the involvement of sleep disturbances in memory dysfunction in psychiatric disorders. Her goals are to construct a database of molecular pathways to strengthen emotional memories during sleep, and long-term, after identifying molecules involved in emotional memory dysfunction in psychiatric disorders and aging, use that knowledge to develop new therapeutic targets.

"This is such a wonderful opportunity for my research," said Gisabella. "It will allow us to incorporate cutting-edge approaches with Dr. Garrett and the Molecular and Genomics Core and make significant advances in our studies that would not be possible without this funding. We are very excited for these studies.

"In the broader context, the state-of-the-art resources that this funding will support will be a great benefit for all researchers here in Mississippi for decades to come and opens up a wide range of opportunities." Gr

# ‘Science mom,’ ‘superb mentor,’ Alexander secures ace educator award

BY GARY PETTUS

For her first job at the University of Mississippi Medical Center, Dr. Barbara Alexander (Biochemistry, ’97) made $3.19 an hour.

Last week, it took her that long to make $10,000.

During a 60-minute celebration in the Sanderson Tower Community Room, the professor of physiology and biophysics at UMMC learned she is the 2023 recipient of the Regions TEACH Prize.

Offered for the first time a decade ago, the Toward Educational Advancement in Care and Health honor has recognized annually the “single educator who represents the very pinnacle of Medical Center teaching,” said Dr. Rob Rockhold, professor emeritus of pharmacology/toxicology, who announced this year’s winner of the five-figure prize.

After the ceremony, Alexander, a Rankin County Reservoir resident who’s a classic car enthusiast in her own right, said: “My husband has probably already spent every penny of it on antique spare car parts.”

But it was enthusiasm for teaching that shaped the proceedings, wherein UMMC and Regions Bank awarded the TEACH Prize in conjunction with the annual induction ceremony for the Nelson Order.

A group of exemplary educators from all seven campus schools, the order is named for Dr. Norman C. Nelson, a predecessor of Dr. LouAnn Woodward. The current vice chancellor for health affairs and dean of the School of Medicine, Woodward was on hand to acknowledge the inductees who were selected by students and recommended by each school’s dean.

Nominated by the School of Graduate Studies in the Health Sciences, Alexander is the fourth SGSHS contender in the last six years to take home the top honor.

Her impact, Rockhold said, is captured in this quote from Dr. William Osler, a founder of Johns Hopkins Hospital: “‘No bubble is so iridescent or floats longer than that blown by the successful teacher.’”

Alexander comes by her talent honestly. Many of her family members were teachers in the town where she grew up, Starkville, home of Mississippi State University. Among others, her parents and her mother’s mother – only the third female faculty member hired there – taught at MSU, where Alexander earned her BS in zoology in 1979. That was also the year she arrived at UMMC, as a research assistant making three bucks and change.

She has remained at the Medical Center throughout her career, earning her PhD in biochemistry at age 40 and completing a post-doctoral fellowship in physiology.

Since high school, she has wanted to be a scientist. Many of her numerous career accolades are tributes to her ability as a researcher, including the American Heart Association’s Harriet Dustan Award which recognizes female investigators for their contributions in the field of hypertension. Alexander has helped connect the dots between birth weight and blood pressure.

In 2015, she received the platinum medallion, the Medical Center’s highest honor recognizing extramural research funding. She was also the SGSHS 2019 Distinguished Alum and, two years later, was named a Billy S. Guyton Distinguished Professor, another nod to her scholarship.

But, Alexander said, she has come to realize that “my legacy is not going to be my research; it’s going to be my trainees. I think of myself not only as a researcher, but also as a mentor.”

Dr. John Henry Dasinger can vouch for that. Now a postdoctoral fellow in physiology at the Medical College of Georgia, he penned a letter of support to the Nelson Order on behalf of his “science mom” who once brought a beach ball and candy to the classroom to lighten the load that is cardiovascular physiology.

"She makes the investment in you as a scientist, but even more so as a person," Dasinger wrote. "These are the intangibles that make Dr. Alexander the superb mentor she is. I can only hope that I am able to be as generous and attentive to my future trainees as Dr. Alexander is with hers."


Ojeda

Another of her former trainees, Dr. Norma Ojeda, described how Alexander helped mold her academic life and her life beyond the lab in the 19 years since she arrived in the United States from Paraguay.

"She includes me, even until today, in her family holiday parties, and other family events such as weddings, birthdays, or just to feast on the chicken fajitas prepared with the famous secret sauce by her husband, Mike," wrote Ojeda, professor and chair of advanced biomedical education at UMMC.

"She is also the primary reason why I decided to become a U.S. citizen and move permanently to Mississippi."

Also weighing in with his own letter was Dr. Joey Granger, former associate vice chancellor for research and dean of the SGSHS: "[Alexander's] lectures related to grant writing and the job portfolio that includes teaching and research statements are some of the highest rated lectures within the SGSHS.

"Clearly, Barbara has contributed extensively to the educational and mentoring goals of our trainees at all levels through her many contributions related to education, mentoring, and teaching."


Granger

For her part, Alexander said that she has profited from the wisdom of her own mentors, including Granger. "He always said, 'Never compare yourself to anyone else, always put your best foot forward, work as hard as you can and show a passion for your work.'

"That's what I want to pass on to my trainees. I believe that if you have a passion for teaching, it comes through to the students. So, have that passion, and just care." Gr


Dr. Scott Rodgers, associate vice chancellor for academic affairs, second row, far left, and Dr. LouAnn Woodward, vice chancellor for health affairs and dean of the School of Medicine, back row, far right, applaud the 2023 Nelson Order inductees. They are, front row, from left: Monica White; Dr. Michael Fast; Dr. Stanley Smith; Dr. Barbara Alexander, the Regions TEACH Prize awardee; Dr. Angelia Garner; and Dr. Stacy Vance; back row, from left: (Rodgers); Dr. Joshua Jeter; Dr. Paul Moore III; Dr. Daniel Riche; Dr. William Daley; Dr. M. Jeanne Calcote; Dr. Michael Brown; Dr. Mary Currier; Dr. James Lott; Zack Gray; Dr. Gongchao Yang; (Woodward). Not pictured are Dr. Stephen Stray, Dr. Lorraine Street, Dr. Hess Robertson, Marlie Farrar and Dr. Leigh Holley.

# Maria Jones-Muhammad: Homegrown neuroscientist in training

BY ANDREA WRIGHT DILWORTH

Middle school science fair projects may be a nuisance for some students, but Maria Jones-Muhammad's project was the catalyst for what has become her passion.

It was her sixth-grade experiment on how music impacts learning that piqued her interest in the brain.

"It amazes me that the human brain is the least understood part of our bodies, yet we use it every day," said the lifelong Jacksonian. "That's why I chose to pursue a career focused on scientific exploration of the brain."

On May 26, some 15 years later, Jones-Muhammad received a PhD in neuroscience from the University of Mississippi Medical Center, the culmination of a five-year program.

"I love how interdisciplinary and diverse the neuroscience field is," said the 27-year-old. "Based on the questions a researcher asks, collaborations can be made in almost any field of research, which is one of the many reasons why I enjoy neuroscience."

With her training, she'll have the knowledge and tools to investigate how environmental and biological factors affect the brain. "By providing the health care field with information that can better inform the development of therapies to mitigate neurological issues, both bench science and clinical research can improve the lives of people worldwide."

By all accounts, Jones-Muhammad is a homegrown UMMC scientist. During her junior and senior years at Murrah High School, she was shuttled from just across Woodrow Wilson Avenue for one hour a day to participate in Base Pair, a research mentorship program that pairs Medical Center faculty with students from Jackson Public Schools.

"I was amazed at the environment that UMMC had for students to learn, be innovative and explore different career paths," she remembers. "I also loved that I had people around me willing to teach me about a career path that I did not know existed."

Freeman

Her mentor was Dr. Kevin Freeman, director, Office of Medical Student and Resident Research and professor of neurobiology and behavior research in the Department of Psychiatry and Human Behavior.

"Maria exhibited a level of focus and drive for becoming a neuroscientist at an age that is very rare," Freeman remembers. "She was curious, interested and invested herself in the research topics for her work to a degree that is typical of an advanced college student."

That experience inspired Jones-Muhammad's continued immersion into research, earning a BS in chemistry from Tougaloo College, where she was named a Howard Hughes Medical Institute scholar and Jackson Heart Study research assistant, and awarded internships from the Ronald E. McNair Post-baccalaureate Achievement program and Leadership Alliance Summer Research Early Identification program at Brown University.

The honors continued at UMMC, where accolades included six publications (five as first author), eight travel and presentation awards from national conferences, and about $113,000 in funding from the National Institutes of Health and the American Physiological Society Porter Fellowship. Perhaps

most notable, she was the first from a Mississippi institution awarded the prestigious NIH F99/K00 Predoctoral to Postdoctoral Fellow Transition Award.

A mixture of excellent scholarly and research work ethic combined with a deep understanding of the science and top-notch ability to communicate her findings are at the heart of her "truly extraordinary" success, said Freeman.


Vallender

"She is a very eclectic scientist and will do well as an independent researcher," he said. "She is a real gem."

Dr. Eric Vallender, associate professor of psychiatry and director of the program in neuroscience, agrees. "In her own right, Maria is an amazing scholar. She can put her accomplishments up against any graduate student and be proud. More than that, though, she is one of our own. She is an amazing representative of the PhD in neuroscience program, UMMC and Jackson."


Warrington

Dr. Junie Warrington, associate professor of neurology, remembers, as a new faculty member with no direct contact with students, seeing Jones-Muhammad sitting "diligently" in a classroom before other students arrived.

"This dedication and work ethic caught my attention, and I could not help but ask her to consider my lab for a rotation," said Warrington, who became her primary mentor and advisor. "I quickly noted that Maria is self-driven and ambitious. She never turned down a challenge. When I asked her to start working on a review paper during the first summer in the lab, she did not flinch even for a moment and had a draft of the paper before the end of the summer. In the lab, she is no different. She has set a high bar for future students to follow.

"I am her biggest sponsor, cheerleader and career coach and have no doubt she will excel in all her endeavors."

Post commencement, Jones-Muhammad was looking forward to finally being able to relax and recuperate with family, including husband Thristrum, before starting postdoctoral training at University of Alabama-Birmingham.

She admits the journey has had its challenges as she's struggled to find a balance between completing her training and finding time for herself, physically and spiritually.

But it's all been worth it, says Jones-Muhammad, the oldest of three who has come a long way from the child who dreamt of being a tap dancer, actress and real estate broker before being bitten by the science bug.

"I'm excited about my journey to become an academic scientist and to one day train the next generation of scientists to be brave enough to learn something new and still be themselves in the process." Gr


Jones-Muhammad, who graduated with a PhD in neuroscience in May, is now completing a postdoctoral fellowship at University of Alabama-Birmingham.

# Graduate student REACHes back, pays it forward by teaching

BY ANDREA WRIGHT DILWORTH

When Joe Mack Jr.'s right foot stepped over the threshold into LaSondra Brown's classroom at Barack H. Obama Magnet Elementary School, he was greeted with a rock star's welcome.

By the time his left foot landed, the 19 fourth graders in the second-floor classroom overlooking downtown Jackson were giddy, yet quickly pivoted to business, grabbing clean sheets of notebook paper and sharpened pencils to take notes on the day's lesson: light.

Mack isn't a teacher at the Jackson school. On this chilly March morning the first week of spring, the pharmacy technician was still a graduate student at the University of Mississippi Medical Center.

The Jackson native, who earned his master's degree in biomedical sciences in May, was also a volunteer with Project REACH (Reaching Education and Changing Healthcare), a partnership between UMMC and Obama Elementary.

The program was created to enrich the teaching and learning of science at the International Baccalaureate school, exposing underrepresented students to medical sciences careers and creating a pool of Mississippians equipped to serve the state's health care needs.

As Mack explained the physics of light and how refraction, reflection and absorption affect the colors we see, not a writing hand in the classroom was idle.

And when, after each PowerPoint slide, he asked questions to gauge who was paying attention, not a hand wasn't raised at least once, with students demonstrating not only detailed note-taking skills, but a keen comprehension of rather complex scientific concepts.

Isabella Burrell, 10, answered most of the questions, and at the end, summarized the lesson in precise detail.

"I like that Mr. Mack is creative in his lesson plans and makes it fun," said Burrell, whose future career is a toss-up between nurse and veterinarian.

Students from the School of Graduate Studies in the Health Sciences teach lessons once a month to the Obama Elementary students.

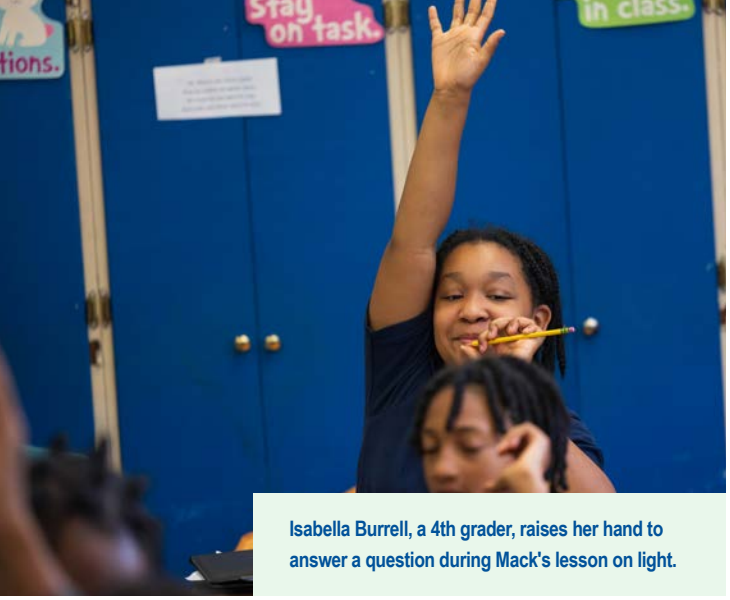
"Every year there's one volunteer who tends to get really involved," said Beth West Roach, REACH and IB coordinator at the elementary school. "This year, Mr. Mack is that volunteer."

That Mack is able to teach the class is in itself a lesson in science. Diagnosed with profound to severe sensorineural hearing loss at 18 months, he was fitted with hearing aids, spent the next five years at Magnolia Speech School and at 6, was mainstreamed to public school in first grade. After sixth grade, his right hearing aid no longer served his needs.

"Here I testify that God told me it was time to be implanted," said Mack, who, in 2010, underwent a cochlear implantation in his right ear at the Batson Tower of Children's of Mississippi.

The surgically implanted device consists of an external part that sits behind the ear and an internal part placed under the


Joe Mack teaches a lesson on light to 4th graders at Barack H. Obama Magnet Elementary School in downtown Jackson.




Isabella Burrell, a 4th grader, raises her hand to answer a question during Mack's lesson on light.

After asking students a question during the lesson, Mack calls on Kylee Sandifer, whose hand is raised.

skin. Included are a microphone that picks up sound, a speech processor that arranges those sounds, and a transmitter and stimulator that receive those signals, converting them into electric impulses.

The technology changed his life.

"It changed how I could hear. I could listen to the wind whisper, a bird's wing fluttering and a nearby classmate sliding their paper across the desk – seemingly simple things people can take for granted."

Three years later, he received his second implant – in his left ear – on the first day of high school.

Long before receiving cochlear implants, Mack, who earned a bachelor's degree in biological sciences from Belhaven University, had dreams of becoming a physician, but his journey has made that goal more purposeful.

"My lifelong experience as a UMMC audiology patient has given me insight into how people see and feel their health care experience. It will make me a more robust health care provider because I can relate to and ease whatever my patients feel, improving their overall well-being."

Broome

Though his immediate plans post-graduation are to continue working as a pharmacy tech, Mack will "walk through whatever doors God opens for me. I will apply to medical school at the right time."

Dr. Hanna Broome, chief student affairs officer in the Office of Academic Affairs, and REACH coordinator, is proud of the partnership because it creates opportunities for graduate students to gain valuable teaching skills and the elementary students to learn not only more about science, but the personal journeys of their volunteer teachers.

"I know that the elementary students have benefited from Joe's teaching passion and style and are also encouraged to know that he is doing all of these great things – earning a master's, volunteering to teach, researching – with an added day-to-day challenge of his hearing deficit," said Broome.

Mack's lesson on light was his fourth of the year. Earlier topics included the function of organs on the respiratory system and distinguishing between fact and opinion in health information.

Because he has always wanted to teach, Mack viewed REACH as an opportunity to get hands-on experience.

"It takes a great deal of discipline and preparation," he said. "Students expect and trust you to know the subject. So, I hold myself accountable accordingly."

Said Riley Cancer, 10, a future pediatrician, "He teaches us things we may have learned about before, but he gives us more information."

Brown said Mack's lessons have allowed her students to dive deeper into science lessons, often not possible because of limited classroom instructional time.

"He has an interactive activity or model with each presentation," she said. "This has piqued my students' interest in the human body, and they have done awesome on the units."

If this group of fourth graders is any indication, there may not be a shortage of future health care professionals in Mississippi. Nine – nearly half – in Jones' class alone aspire to work in the field.

Mack is happy to pay it forward, giving back to the next generation to, in some part, show his gratitude to all who have been instrumental in his journey.

"Being an instructor has taught me that I learn from the students just as much as I teach the students. And the most incredible thing is I love every bit of it. I also do my best to ensure they are heard because school may be the only place they are seen." Gr

# UMMC graduates first combined Resident-PhD

BY ANDREA WRIGHT DILWORTH

When Dr. Elliot Varney earned his doctorate in biomedical imaging in May, he became the first student to graduate from a University of Mississippi Medical Center combined residency and PhD program.

But he's not done yet. Because the Residency-PhD track adds time to a traditional residency, Varney still must complete two years of diagnostic radiology residency, followed by one-to-two years in interventional radiology.

But why would a newly licensed MD, starting a residency, want to pursue a PhD? The answer: passion. As much as he loves radiology, he's equally enamored with research and wanted to marry the two.

"Being a physician in my mind is much more than treating patients each day," Varney said. "It is reading and understanding the medical literature and staying up to date on advances within the field. Research training teaches you how to do that the most effectively in my opinion."

The diagnostic radiology chief resident, who earned his medical degree from UMMC and bachelor's in biochemistry from Millsaps College, believes his research training will make him a better physician.

"The medical community should never be content with the current options and treatments we have to offer patients," Varney said. "There are so many technologies, treatments and interventions that would benefit from improvement.

"Innovation is medicine, and challenging the status quo is essential to improving the care of our patients. The real reason I do research and pursued this program was to hopefully do just that."

Granger

Varney's dissertation focused on finding new ways of assessing obesity and obesity-related disease with the use of CT and MRI scans, with an emphasis on body composition and fatty liver disease.

"The quality of his dissertation research is exemplified by the awards he's received from regional and national scientific societies," said Dr. Joey Granger, former SGSHS dean and professor emeritus of physiology and biophysics. "The Residency-PhD program is a unique training program within the SGSHS and is an important component of our clinician-scientist pipeline program."

After completing his residencies, Varney wants to begin his career as a physician-scientist focusing on health disparities, especially as they relate to subspecialty cancer care in interventional radiology.

Further down the road, he hopes to maintain an active role in research and education by teaching students and residents while actively participating in and serving as principal investigator of clinical trials. Ultimately, he wants to chair an academic radiology department or serve in an administrative role related to advancing institutional research initiatives.

Howard

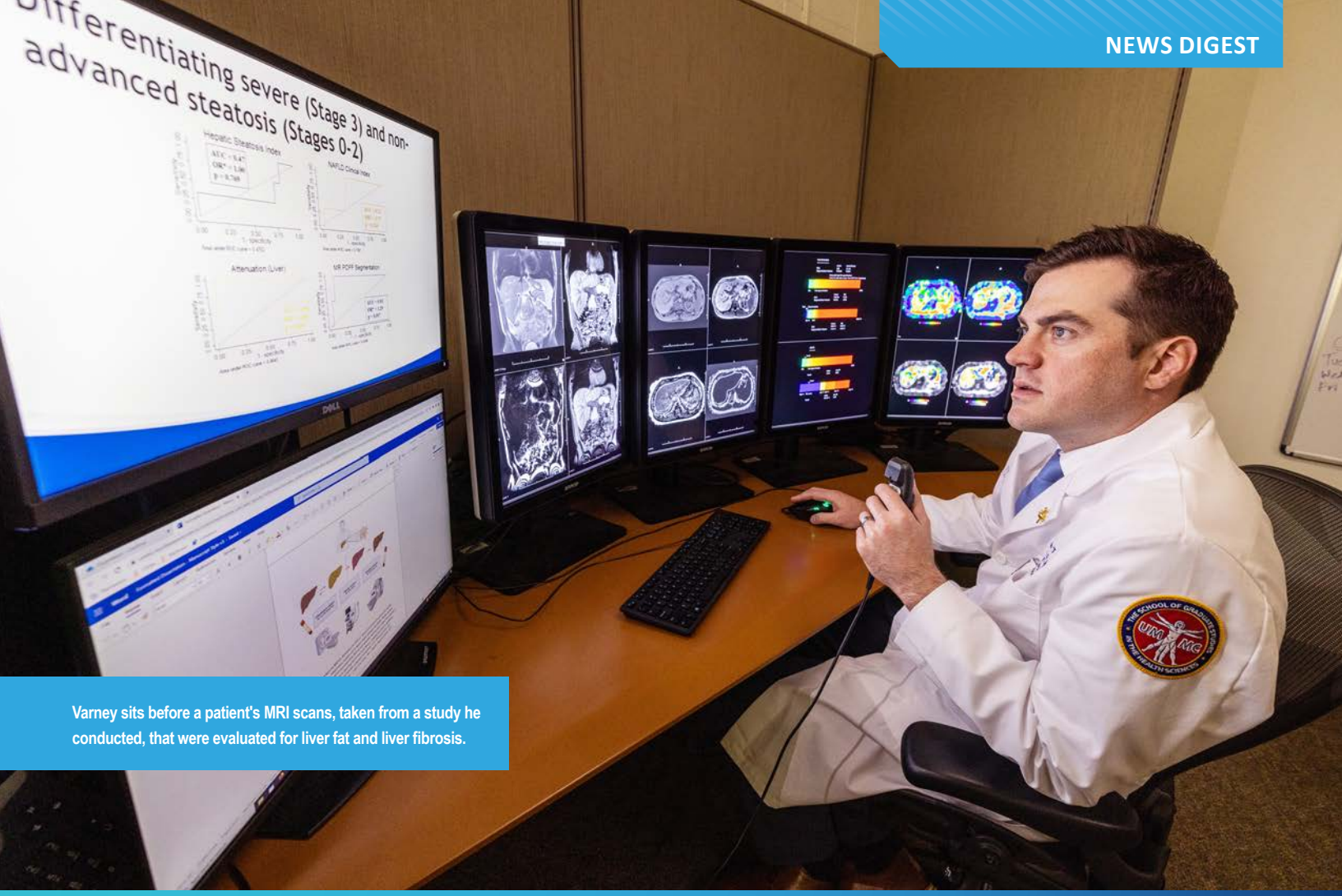
The program is the only active one in the nation that offers a combined residency in radiology and graduate doctoral work, said Dr. Candace Howard, associate professor and graduate track director of biomedical imaging, vice chair and director of radiology research, director of imaging for translational research and chief of cardiac and body imaging.

"This is a creative, out-of-the-box program meant to cultivate and retain our own physician-scientists and set them up on a path of success within their chosen field of medicine without the gaps in training and research projects inherent to traditional MD-PhD programs," said Howard, its founder.

Varney was the ideal initial candidate, said Howard, his mentor.

"His outstanding work ethic, keen analytical mind and unmatched enthusiasm for research and medicine ensured that he would be able to handle the rigors of completing graduate course work and his clinical radiology residency training in concert.

"Elliot has exceeded all expectations. His clinical training has not been diminished by his research but has been enhanced. He was chosen by his peers and faculty to be chief resident,




Varney sits before a patient's MRI scans, taken from a study he conducted, that were evaluated for liver fat and liver fibrosis.

has been one of the DXIT [Diagnostic Radiology In-Training Exam that residents take each year] top performers in the nation and won the Rising Scholar award each year of his residency."

The accolades don't stop there. Varney has already published 12 peer-reviewed articles, with another nine under various stages of review. By graduation, he'd already garnered seven awards for the year, including a dissertation fellowship, scholarship, radiology research awards and two oral presentation awards -- one for first place and one "Outstanding."

His most recent, the American Roentgen Ray Society Resident/Fellow in Radiology Award received in late February, was particularly humbling.

"It is one of my most coveted awards I have received to date," said Varney. "Not only am I extremely honored that my dissertation work is being recognized by an international society, but it also provides a sense of validation for my efforts throughout my time as a graduate student and resident. It validates the exact reason why I chose this path. I am extremely grateful."

The biomedical imaging PhD track is designed for highly qualified students interested in how science relates to applications of image analysis and biotechnology in biomedical research, said Granger.

"Dr. Varney's performance in this program has been exceptional and sets a high standard for future candidates," said Granger. "We look forward to him joining UMMC's growing clinician-scientist research team when he completes his clinical training."

Varney, who lives in Madison with his wife and son, 2, admits the workload has been challenging.

"It has been much more difficult than I expected," he said. "The time required to work clinical duties full-time through the day -- at times through the night -- and finding time after hours to continue progress on research and continue growing my clinical knowledge was the most challenging part.

"My top priority beyond completing the program was to never jeopardize my clinical training or clinical skills. This thought process definitely made it more difficult, but I do believe served me well in the end." Gr

# MSU interns work with mentors to design biomedical solutions

BY ANDREA WRIGHT DILWORTH

Four Mississippi State University biomedical engineering seniors worked alongside University of Mississippi Medical Center faculty mentors this summer to identify a clinical problem and develop an innovative design to solve it.

The UMMC MSU Engineering Excellence in Device Development (UMEEDD) internship program, in its first year, matches students with researchers who have specific expertise in clinical sciences, basic biological sciences or applied engineering technologies.

When the summer leg of the 12-month internship ended in July, it would be the beginning of Phase II for students, who then returned to MSU where, enrolled in a senior design course and continued working on their project and meeting with mentors until April.

In the last phase, they will work toward goals that may include publication and an intellectual property agreement.

Maggie Phillips, from Decatur, Alabama, said the program is giving her the space to practice what she's learned at MSU.

"We've gotten the opportunity to observe and study real-world problems people experience in health care and think about attainable solutions," said Phillips, who plans on attending medical school after graduating next year.

"As a pre-med student with an engineering background, my goal has been to use my training to make medical care accessible to those who need it."

The School of Graduate Studies in the Health Sciences has a long-standing relationship with MSU's Bagley College of Engineering, said Dr. Hanna Broome, chair of the UMEEDD Advisory Board. Five years ago, they started brainstorming ways to collaborate, and the result was UMEEDD, funded by the Hearin Foundation through 2028.

Broome

"We hope this experience leads to the development of more Mississippi-based jobs and industries that are related to medical innovation through biomedical engineering-driven device and/or process development," said Broome.

The internship has been enlightening and challenging, said Austen Breland, of Ellisville, who said he applied because biomedical engineers should have a thorough understanding of how the devices they design are used to treat patients.

"UMEEDD has provided me with valuable clinical experience and allowed me to get a better understanding of how to define problems from an engineering, clinical and patient-oriented perspective to arrive at the best possible solution," said Breland.

Post-graduation, the mathematics minor wants to work in an engineering design or research role in the medical device industry, specifically with orthopedic implants. "While I have been faced with many questions I did not immediately know the answer to, my mentors have helped provide the tools I needed to independently seek out those answers."

One of those mentors is Dr. John Clemmer (Physiology, '15),

assistant professor in the Department of Physiology, who graduated from the same program at MSU – biomedical engineering – 15 years ago.

Clemmer

"I know how much of an impact the course had on me and my education at State," said Clemmer. "We were limited to doing a senior design project using the resources at MSU, whereas the UMEEDD students have access to larger facilities, more faculty and a different/clinical environment."

The interns were put in situations similar to what they will encounter in graduate school or academia, filled with challenges that force them to think outside the box, said Clemmer.

"It requires a lot of thinking on your feet, researching new areas in a short amount of time and persistent communication with possible collaborations. I have enjoyed seeing how they overcome obstacles and look for help and advice from different faculty when something doesn't work or if it's taking too long, which is very relevant for careers in medical research."

Mary Echelberry, who wants to go into prosthetic development after graduate school, said that after talking with their lead mentor, Dr. Matthew Kutcher, associate professor of surgery-trauma, the group decided to tackle chest tube removal. It's a problem because when a lung is punctured through a traumatic injury, there is no quantifiable way of knowing if air is leaking into the chest cavity instead of expanding the lung, causing its collapse, known as pneumothorax.

"Because of this, it is hard to know if the air leak that caused the pneumothorax is properly healed to the point that a chest tube is no longer required," said Echelberry, of D'Iberville.

With no way of determining if the lung has healed, physicians rely on trial-and-error, removing the chest tube to monitor the patient, and if the lung re-collapses, putting it back in and trying again in a few days, explained Joseph Rueff, of Madison, who wants to attend medical school.

"We are looking for a way to know definitively when one can take out a chest tube," said Rueff. "Eliminating the need to replace a chest tube would reduce the length of stay of the patient and prevent discomfort."

Over the next nine months, the four will work on building a model to solve that problem. After testing designs, they will present a final product at the end of their senior year.

The mentors have exceeded their mentees' expectations, said Phillips.

"I have been astounded by the enthusiasm of the faculty here at UMMC to help us reach our goals," said Phillips. "Every faculty member we have met has been quick to patiently answer our questions, provide resources for our study and open opportunities for us to explore both the center clinical problem and our personal interests beyond the project." Gr

Dr. John Clemmer, center, is one of several UMMC faculty mentoring UMEEDD interns (left to right) Breland, Phillips, Echelberry and Rueff.

# Physician-scientist returns to UMMC

BY ANDREA WRIGHT DILWORTH

After graduating with an MD-PhD from the University of Mississippi Medical Center in 2016, Dr. Peter Mittwede left the state to complete the next steps in his journey of becoming a physician-scientist: a residency and a fellowship.

But there's a famous quote that goes, "If you love someone, set them free. If they come back, they're yours; if they don't, they never were."

Surely, that saying can be applied to a medical center bidding "farewell, for now" to the students its faculty have taken under their wings, teaching, training, mentoring and pouring into them over the course of four or more years.

In Mittwede's case, it was seven years in the MD-PhD program at UMMC, with degrees from both the School of Medicine and School of Graduate Studies in the Health Sciences.

"I have always had it in the back of my mind that I would like to return to UMMC at some point," said the South Carolina native, who lived most of his childhood in Turkey, where his parents were missionaries. "There is a tremendous amount of medical need in Mississippi, and I do have a passion for taking care of underprivileged patients."

When he returned to UMMC on Sept. 5 to begin his new appointment as assistant professor of orthopaedic surgery, he was fulfilling the vision of Dr. Joey Granger, professor emeritus of physiology and biophysics, and former SGSHS dean and associate vice chancellor for research.

The Medical Center does a great job of training researchers in programs like the MD-PhD, Granger said. But after they have their degrees in hand, most leave to complete fellowships and residences at other medical centers and never return.

One of Granger's goals before he retired in June was to "get some of these people back because we've put a lot of resources into them."

By all accounts, Mittwede's return is a big deal.

"His training as a physician-scientist provides patients an exclusive advantage," said Dr. Matthew Graves, chair of the Department of Orthopaedic Surgery in the School of Medicine. "Imagine having a physician who is doing practice-changing research providing your clinical care. It sounds like a Mass General commercial.

"Peter's background as an MD-PhD program graduate is one of the many things that made him a highly-recruited orthopaedic trauma surgeon. This is a unique distinction in our subspecialty and places him in a position to excel in both research and clinical care, strengthening multiple missions within our department and university."

Mittwede spent six years in the research-track orthopaedic surgery residency program at the University of Pittsburgh Medical Center and just finished a one-year fellowship in orthopaedic trauma at R. Adams Cowley Shock Trauma Center at the University of Maryland Medical Center in Baltimore.

"The training has been rigorous and has prepared me both clinically and academically to provide excellent clinical care to patients, teach in the academic setting and perform collaborative research with basic scientists and physician-scientists," he said.

As an orthopaedic traumatologist, Mittwede will perform surgery on broken bones and treat chronic issues including infections, deformity and circumstances where bones have failed to heal.

Mittwede credits several UMMC physicians and scientists as mentors, most of whom he's stayed in contact with over the years. For his part, Granger has invited him back a few times to talk with current and prospective MD-PhD students, helping him stay in touch with friends at the Medical Center.

Granger, who also helped in recruiting him back to UMMC, has invited him to perform research through the Mississippi Center for Clinical and Translational Research, which Granger directs.

Dr. Robert Hester, professor emeritus of physiology and biophysics, was his primary mentor in the lab and, during his recruitment, met with him to discuss possible research projects if he were to return.

"Dr. Mittwede's work effort and personality made him stand out among his peers," said Hester. "His dissertation work was based on a desire to understand what makes obese patients more susceptible to adverse outcomes following orthopedic trauma, particularly in terms of acute kidney injury. The physician-scientist has the knowledge and experience to link basic science research with clinical outcomes."

The MD-PhD program helped him grow personally and professionally, Mittwede said. Now that he's back home, he is eager to get to work.

"I am excited to get back and work with old friends in both the clinical and research realms and to take care of the patients in Mississippi." Gr

# DR. KIM HOOVER: DISTINGUISHED ALUMNA OF THE YEAR

BY ANDREA WRIGHT DILWORTH

Dr. Kim Hoover (Clinical Health Sciences, '00) didn't decide to go into nursing until realizing three years into a pre-med program that she didn't want to be a physician. Neither did she aspire to teach nursing, nor were executive

Dr. Granger stands with Dr. Kim Hoover after presenting her with the Distinguished Alumna Award

leadership positions including dean or COO on her radar.

But she achieved all of the above, and then some, accumulating a bevy of accolades along the way. So much so, that she's been named Distinguished Alumna of the Year by the School of Graduate Studies in the Health Sciences.

"I am incredibly honored and surprised to be chosen for this honor given the number of successful graduates from the SGSHS," said Hoover, who earned a master's in nursing and PhD in clinical health sciences from University of Mississippi Medical Center.

Dr. Joey Granger, former SGSHS dean, said Hoover is a strong advocate for research who used skills learned in the clinical sciences program to develop an outstanding career in education and service. "We are proud of the accomplishments she has made in the various leadership roles during her distinguished career."

Now COO of the Mississippi Hospital Association and president/CEO of MHA's Research and Educational Foundation, Hoover formerly worked as a staff nurse and clinical manager in Natchez before being recruited to teach nursing at Alcorn State University, where she taught the most memorable student of her career.

"Not long after I began teaching, my mother decided she wanted to go to nursing school," said the Missouri native who grew up in Louisiana. "She started that journey at 50 and had a 17-year career after she graduated. I taught her in nursing school."

After a decade at Alcorn, Hoover worked with the Mississippi Office of Nursing Workforce as project director, director of research and nursing workforce research consultant. While pursuing her PhD at UMMC, she received an offer from Dr. Kaye Bender, then School of Nursing dean, setting the stage for her next chapter.

"When I decided to move from Natchez to Jackson, she asked if I would meet to talk about opportunities at UMMC. I had worked in administration, but not with the responsibilities and potential for leadership available at UMMC."

During her 15 years with the SON, Hoover served as associate dean, director of the PhD program, and dean, a position she held eight years.

The most difficult and most rewarding position she's held was SON dean.

Risley

"Knowing that every decision you make affects so many others is humbling. One of my mentors told me that leadership is vision plus people. If you have vision, but you can do it by yourself, you aren't leading. This role challenged me more than any other role.

"Over time, authenticity and respect for others helped me earn the trust of an incredible team of faculty and staff. Through that trust, we were able to help students be more successful and ultimately improve health care."

One of those students was Dr. Carolann Risley, now associate professor of nursing, who said Hoover's influence taught her to reach higher and think broadly.

"Dr. Hoover served as a role model and advocate for me at all times and at every level," said Risley. "As a result of her leadership, encouragement, and support, the School of Nursing now leads a premier NIH-funded statewide longitudinal cohort study to investigate disparities in cervical cancer. She is my hero, and I continue to strive to achieve her level of excellence."

As professor emerita since retiring from UMMC in 2019, Hoover no longer teaches a class. But she continues to work with doctoral nursing students, providing feedback and guidance in their dissertation proposals and courses and sits in on classes when invited.

"Just as being there for patients and their families is the most rewarding aspect of clinical work, working with students is the most rewarding aspect of teaching." Gr

# BIDWELL STRIVES TO BE A SERVANT LEADER FOR RESEARCH MISSION

BY ANDREA WRIGHT DILWORTH

Dr. Gene "Lee" Bidwell (Biochemistry, '07) became associate vice chancellor for research in July, but he has been preparing for the role for more than two decades.

When the Greenwood native enrolled as a biochemistry doctoral student in 2002 – the same year he married Josie Bidwell, now associate professor and clinical director of preventive medicine – he didn't know he'd still be at the University of Mississippi Medical Center more than 20 years later.

He and his future wife, whose first date was his senior prom, had attended the University of Mississippi together and decided to continue their studies at the Medical Center.

"UMMC has been my professional home for my entire career," he said. "I genuinely care about the health of the research mission, and I am excited about the opportunity to lead it."

In his new role, he wants to build on the momentum of the research mission left by predecessor Dr. Joey Granger, whom he credits as an impactful mentor, and continue to grow clinical and basic science research, using a data-driven, decision-making process that considers input from all stakeholders.

"But mostly, I'm looking forward to working with all of the great people we have in the research mission. I have developed many great relationships in my 20 years on this campus, and I look forward to working as a team to lead the research mission to new heights."

As a freshman biochemistry major at Ole Miss, Bidwell thought he'd be applying to medical schools in a few years. But then, as a member of the Honors College, he was required to complete a research project. By sophomore year, his fate was sealed.

"The experience led me to fall in love with the lab and with research," he said. "I was studying a very basic science project, and this experience opened my eyes to a world that I never knew existed.

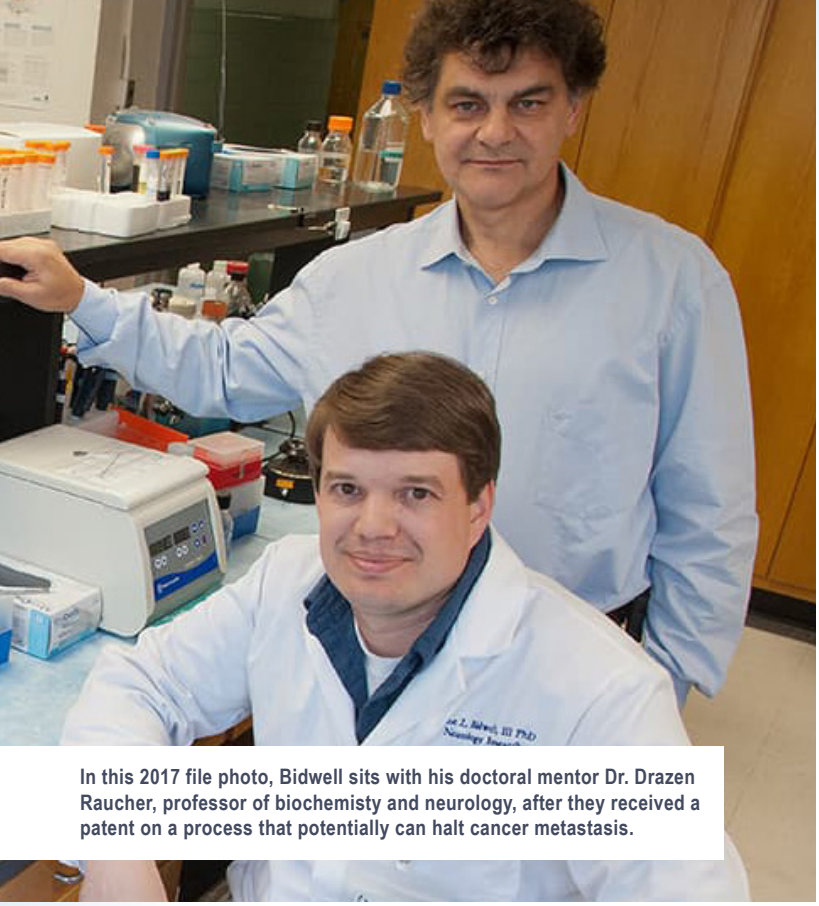
"Growing up in a small town in the Mississippi Delta, I didn't know what a PhD was, and I had no knowledge of career options in science. I learned about graduate school as an option and, from that time on, I changed my plans and pursued research as a career."

After completing his postdoctoral fellowship in biochemistry, he began applying for faculty positions across the southeast. When Dr. Parminder Vig, then the research division chief of neurology, whom he had helped write an NIH grant, heard he might be leaving UMMC, he encouraged Bidwell to apply for an opening in his department. The chair offered him the position.

"I will always be grateful to them for taking a chance on a new faculty member, straight out of a fellowship, who did not bring extramural funding."

Vig

In the dozen years since his first faculty appointment, Bidwell has more than made up for that deficit, bringing in more than $10 million in extramural funding to the Medical Center.



In this 2017 file photo, Bidwell sits with his doctoral mentor Dr. Drazen Raucher, professor of biochemisty and neurology, after they received a patent on a process that potentially can halt cancer metastasis.

Bidwell and Dr. Eric George hold their patent, “Composition and Method for Therapeutic Agent Delivery during Pregnancy" at UMMC's first intellectual property ceremony in 2019. Also pictured are Dr. James Petell, left, and Dr. Richard Summers.

When they're not at UMMC, Lee and Josie Bidwell enjoy family time with their two sons, Cambell and Caleb.

He is also inventor on 11 patents focused on drug delivery systems and new treatments for diseases. His first patents, in partnership with his doctoral mentor Dr. Drazen Raucher, professor of biochemistry and neurology, focused on targeting solid tumors.

George

His more recent patents, in collaboration with Dr. Eric George, associate professor of physiology, prevent drugs from crossing the placenta, allowing treatment of mothers during pregnancy without exposure to the fetus. Yet another patent with co-inventor Dr. Alejandro Chade, professor of physiology and radiology, reduces renal injury during chronic kidney disease by protecting the kidney’s blood vessels.

Vig, now professor emeritus of neurology, has expected nothing less of the former doctoral student with whom he has continued to collaborate over the years.

“Lee is a very knowledgeable, humble and methodical researcher, and an excellent teacher,” said Vig. “Another good thing about Lee is that he is open to new ideas and critical feedback. All these qualities make him a very good scientist. I was sure that he would excel as an academic leader, and here he is where I envisioned him to be.”

Raucher, his doctoral mentor, said Bidwell’s intellectual curiosity, passion for research, leadership potential and collaborative nature stood out in his lab.

“Even during his time as a graduate student, Bidwell exhibited leadership qualities,” Raucher remembered. “He took the initiative to lead research projects, mentor junior researchers, and organize academic events, all of which foreshadowed his future leadership role in research. Perhaps the most striking trait was his passion for research. His enthusiasm for the subject matter was compelling, motivating those around him and driving his own dedication to advancing knowledge.”

That passion for research and collaboration are still important to Bidwell, who is committed to continuing his lab’s research and maintaining an extramurally funded research program.

“I hope to be a servant leader and a leader by example,” he said. “I don’t want to require things of other faculty that I’m not asked to do myself. Beyond that, in my first year I plan to listen and learn. I want to accept input and feedback from the research community as we work to improve policies and programs.” Gr

# LaMarca transforms pharmacology department through teambuilding, collaboration

Dr. Babbette LaMarca still prioritizes time mentoring students in her research lab. Behind her are biomedical sciences master's student/researcher Luke Strong; 5th year pharmacology graduate student Owen Herrock; and 4th year pharmacology student Nathan Campbell.

BY ANDREA WRIGHT DILWORTH

Dr. Babbette LaMarca (Microbiology & Immunology, '04) was bitten by the research bug her senior year of high school when a Mississippi College professor spoke to her Advanced Placement biology class, sealing her fate as a scientist.

"He talked about genetics, the process of academia and the pace, and I became enthralled by his lecture and very interested in doing human genetics," says LaMarca.

That interest in genetics developed into a love for molecular biology at MC, where she earned a bachelor's degree in biology and chemistry and worked briefly as a lab assistant before donning a lab coat as a research assistant in the University of Mississippi Medical Center's Department of Preventative Medicine.

Minus a year teaching high school biology (which solidified her desire to quickly return to the lab), she's been at UMMC ever since, 27 years, earning a doctorate in microbiology and immunology and serving in various clinical and faculty appointments.

Now chair of the Department of Pharmacology and Toxicology after a stint as interim, the lifelong Clinton resident has transitioned from faculty member, where her focus was her own research agenda and those of a handful of trainees, to leader, where she has been charged with refocusing the department.

The new role hasn't been without its challenges, the biggest of which was also her main goal: convincing her nearly 20 faculty members to buy into the power and benefits of teamwork.

"I look at UMMC as being a small scientific community that can be a lot stronger if everybody's working together," LaMarca explains. "Science is a very competitive world. It's 'I've got to have the most papers' because we're taught for years and years that we have to be the best. You know, papers turn into grants, and grants turn into more papers, which turn into more grants. It's a vicious cycle, and you lose sight of contributing to the scientific community."

"So, my first goal was to bring this talented group of people together as a group and not individual silos. I think we've achieved that. Everybody wants to be part of a good team, and people want to help other people. It's in our nature. We just want incentive. So, you encourage and recognize people's talents and allow them to be leaders in their own rights. And it almost just naturally comes out of people."

Smith

Dr. Stanley Smith, professor of pharmacology, says having LaMarca as chair has been "refreshing" as she's proven she's up to the challenge of bringing faculty members together, enhancing their abilities, and making sure each has a clear role with her support, in the process creating a collegial environment in which she is not only willing to discuss needs and problems, but comes up with viable solutions.

"She has made a transformative impact on the department and UMMC," says Smith. "She has grown the department by promoting and encouraging young faculty and providing

them with mentorship and support. For more senior faculty such as myself, she has helped and guided several of us into roles that have enabled us to be successful and important contributors to the goals of the department.

"She has created a true team environment where everyone's role is defined, valued and important. The synergy that results is not only refreshing but makes each of us strive to improve and grow."

To achieve the goal of building faculty collegiality and collaboration, LaMarca had to find the tools. She couldn't expect faculty to consistently use their labs and machines for another team member's research. So, she invested back into the department with new technology, created department cores with directors and hired a clinical research coordinator to help faculty link their basic science research interests back to the clinical mission.

"The research that you do in the lab on the rats and the cells or whatever your model is really doesn't matter if you can't apply it clinically," says LaMarca, who has seven ongoing research projects, of which she is principal investigator on two.

Balancing it all is another challenge. In addition to leading the program and finding time for her own research, which focuses primarily on hypertension in pregnancy, LaMarca has to still prioritize time to mentor her fellows and graduate students.


Wallace

One former mentee, Dr. Kedra Wallace, who was appointed associate professor of pharmacology last year, says a team builder, LaMarca gives everyone a chance and encourages them to find a niche that will help them be successful both at UMMC and beyond.

"She encourages everyone to collaborate with others so that no one is competing within the same research space," says Wallace. "Overall, her willingness to develop the person for their good, combined with her goal of everyone being a team player is what, in my opinion, makes her a great chair. She realizes that her strength may not be your strength, but we can all work together to really have a positive impact on the research and the overall mission of UMMC."

That overall mission is integral to what LaMarca finds most rewarding about being a research scientist: developing new ways to improve health care, which she stresses to students.

Owen Herrock, a fifth-year doctoral student in experimental therapeutics and pharmacology, says LaMarca's empowering leadership style extends into the lab, where she has trained him to focus on how his work affects real patients, taught him to work hard but give himself grace, encouraged him to work at work and rest to recover, and pushed him to apply for awards he didn't think he was qualified for.

"She is so very encouraging as a mentor," Herrock says. "She also teaches that everyone deserves to feel appreciated; that people do not work under you, they work with you; that the data is the data and to be honest in what you report; and though your hypothesis may not have fit perfectly, your work still has value, and it's your job as a scientist to figure out how it fits."

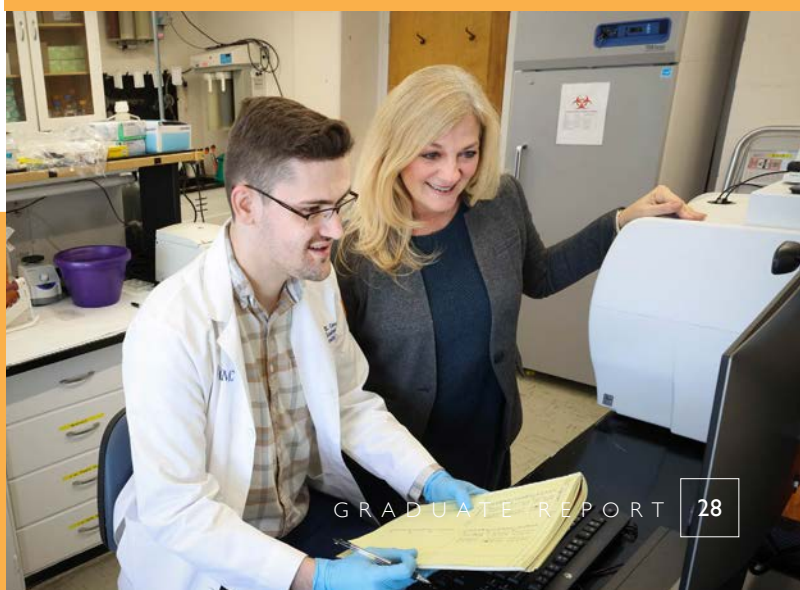
Dr. Joey Granger, former SGSHS dean, associate vice chancellor for research and LaMarca's mentor when she was a postdoctoral fellow in his lab, is "delighted" by the appointment of his former student, who is also internationally recognized for her preeclampsia research.

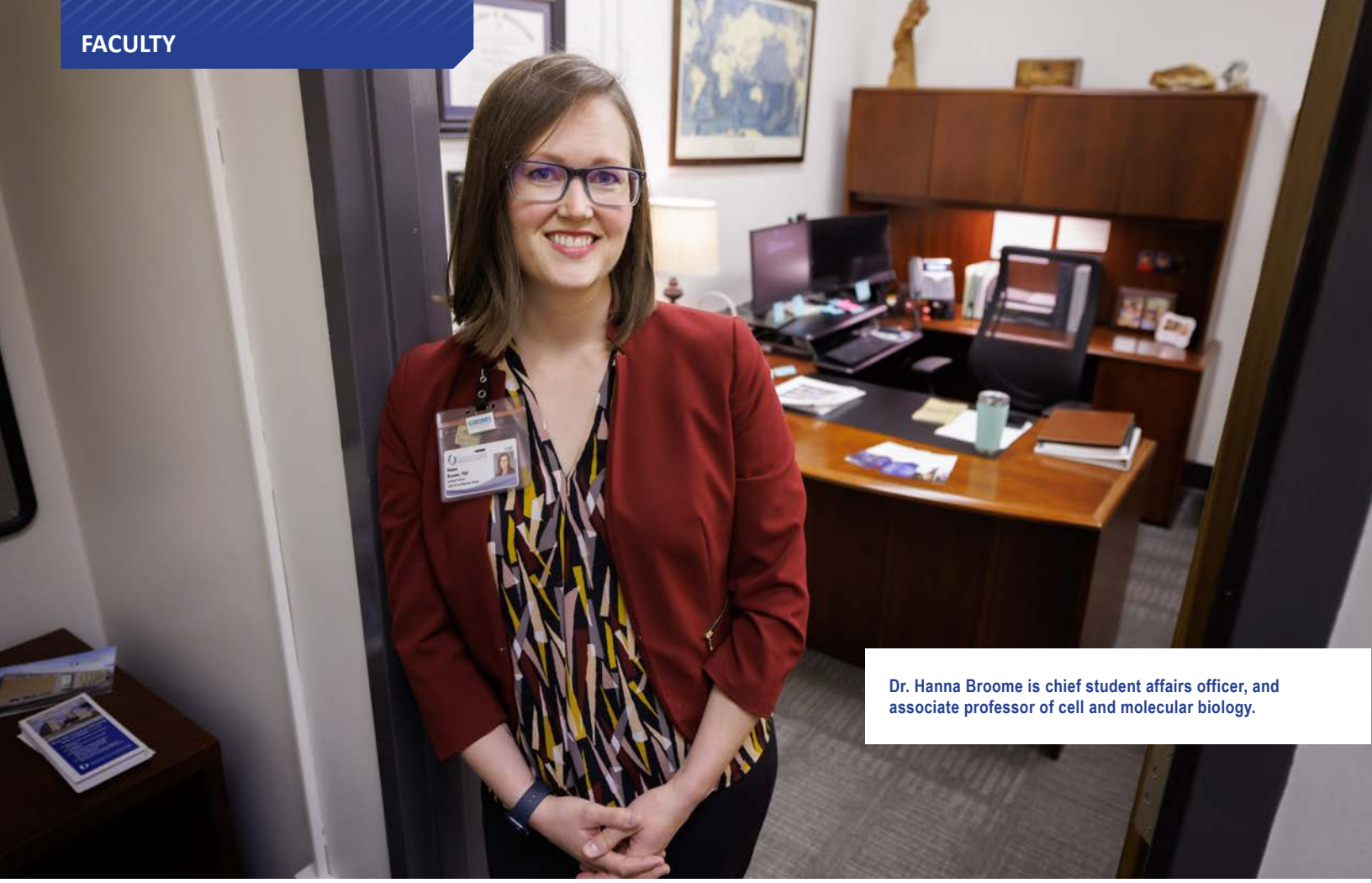
"She has outstanding organizational, leadership and mentorship skills," says Granger. "We all look forward to seeing her oversee a productive basic science department that excels in research, education, and local and national service."

Outside of work, LaMarca de-stresses by running with her dogs a few times a week for a combined 15 miles or so. She enjoys watching movies and college football, cooking, and spending time with family: husband Darren, their three children and two grandchildren.

She lives her life by a simple truth. "I just try to do what my dad always said we should do, which was, 'do the right thing for the right reasons and go about it the right way.' So, I just try to approach challenges and opportunities with this teaching in the front of my decision making." Gr

LaMarca works with Campbell in her lab.





Dr. Hanna Broome is chief student affairs officer, and associate professor of cell and molecular biology.

# BROOME APPOINTED CHIEF STUDENT AFFAIRS OFFICER

BY ANDREA WRIGHT DILWORTH

Dr. Hanna Broome (Biochemistry, '13) so loved teaching at Mississippi College that she thought she'd retire there. What she didn't know was she'd made such an impression as a postdoctoral fellow at the University of Mississippi Medical Center that her former mentors had other plans.

After four years as an assistant professor teaching biology, genetics and anatomy classes at MC, she was offered a new role created with her in mind.

"We closely followed her progress as a faculty member at MC, and when we created a program director position for our ever-growing Master of Science in Biomedical Sciences program, we knew Hanna was the best person for the position," said Dr. Joey Granger, who retired as dean of the School of Graduate Studies in the Health Sciences in June.

"I welcomed the challenge," Broome said of the offer. "It was an easy decision to come back here because I loved my training here, so I knew I would love working here."

Four years later, she was appointed associate dean of student affairs, SGSHS, where her official responsibilities included advising and recruiting. Unofficially, she was cheerleader, motivator and counselor. But being the go-to person when students are facing challenges can present its own challenges.

"You have to have a certain level of emotional stamina," said the lifelong Madison resident and mother of three. "To be able to pour myself into these students and really show them that I care about each of them, because I do. It can be emotionally taxing. But it's my favorite part. Really trying to communicate to the student that it's OK if they fail at something, OK if they

change their minds, and really take on their struggles."

Broome's effectiveness as associate dean didn't go unnoticed. Effective May 1, her reach spans beyond SGSHS, with a new appointment: chief student affairs officer in the Office of Academic Affairs.

"Dr. Broome was outstanding in her student affairs role within the graduate school," said Dr. Scott Rodgers, associate vice chancellor for academic affairs. "She is an approachable, intelligent, and enthusiastic person who has great respect for students, their well-being, and their professional development. These qualities make her an ideal choice for an even larger role within UMMC. As our chief student affairs officer, she will now provide support for students across all seven of our health professions schools, and we look forward to all that she will bring to the role."

Said Broome: "As chief student affairs officer, I am enjoying the challenge of organizing and implementing programs, events and resources that serve and benefit students in all seven schools."

As the rest of the student body will discover, being on the receiving end of her wise counsel has been a blessing for former students who've completed the biomedical sciences program and gone on to pursue doctoral programs at UMMC.


Hilton

Keauna Hilton, a fourth-year medical student, said when she felt overwhelmed, she'd talk to Broome and almost instantly feel at ease. "Dr. Broome always encouraged me to learn from situations in a way to prepare me for compassionate care for my future patients. I was always reminded that although things happen in life that may interrupt our plans, it doesn't alter how capable I am of achieving goals I've set or have to change who I am as an individual."


Cutrer

James Cutrer, who graduated from the School of Dentistry and is practicing in Birmingham, Alabama, remembers dropping by her office after not performing well on his first biochemistry exam. "As I sat in her office dejected, she began to encourage me with the progress I had made. She knew I wanted to go to dental school, and she was adamant on getting me to achieve my goal. I will never forget that day because I left her office feeling rejuvenated and encouraged."


Holm

Even after starting medical school, Tyler Holm, now a resident physician, would still stop by Broome's office when he needed to vent. One day during his second year stands out. "In the midst of my rambling, she said, 'I always knew you'd become a physician,' and that resonated with me. There were many days I doubted myself, but hearing her say that made me realize people can see things in you that you don't always see in yourself."

Under Broome's leadership, the biomedical sciences program flourished, the MD-PhD program was reinvigorated and the quality of diverse applicants increased, said Granger. "Bottom line: Hanna made a tremendous impact on our school, and we were very fortunate to have her."

Broome herself had wanted to become a physician until the research bug bit her at MC, where she earned a bachelor's degree in biology-research. After teaching high school two years, she earned a master's in biomedical science and PhD in biochemistry from UMMC.

Graduate school can be a vulnerable time for students, she said. "Many are turning down a different path than what they set out to do. Many set out to go to medical school but get their eyes opened to different opportunities, like research, industry or teaching. Those are my success stories: anytime students feel they achieved something they didn't expect to achieve, and maybe changed their career goals in the process. That's a really vulnerable place to be: Having to explain that to their loved ones who have supported them can be unsettling. I often have to counsel them on how to explain that to their parents.

"One of my favorite things is walking from the parking garage in the morning and getting to pass so many students going to medical school or dental school that I knew from the graduate school. Or going on LinkedIn and seeing them doing something completely different from what they'd planned. But that they love. I celebrate with them." Gr

# Research enterprise surpasses $96M

BY ANDREA WRIGHT DILWORTH

Researchers at the University of Mississippi Medical Center received funding for 311 projects during fiscal year 2023, amassing $96,788,545 in grants, awards and contracts.

The total funding is slightly lower than the previous year. Dr. Lee Bidwell, associate vice chancellor for research, said that is due to changes in how industry-sponsored clinical trials are reported. The total FY funding for 2022 was $107.3 million.


Bidwell

"The value reported for FY 2023 only represents the startup costs which have been received by the institution, which is an under-representation of our overall clinical trial revenue," Bidwell said.

Bidwell is working with the Office of Sponsored Programs to more accurately track actual account receivables from industry-sponsored trials.

Three of the top-funded grants address mental health, with two specifically targeting students in Mississippi schools.

At $6 million, the CIDA (Center for Innovation and Discovery in Addictions) Mississippi Horizons Project was the largest for the fiscal year, which ran July 1, 2022 through June 30, 2023.

The project, funded by Congress and administered by the Substance Abuse and Mental Health Services Administration, expands drug and alcohol addiction services by providing medications for addiction treatment via telehealth and funding to help non-insured patients buy medications. It also offers residential treatment scholarships.

Soon, the project will share online resources providing real-time information on bed availability at treatment facilities, consultation assistance to community emergency departments and educational offerings for the public.

Co-principal investigators of the grant are Dr. Jefferson Parker, division director of psychology, Dr. James Rowlett, professor of psychiatry, and Dr. Julie Schumacher, professor of psychiatry. Parker and Rowlett are also co-directors of CIDA.

The ESSER Telehealth Services in Schools Grant was the second largest award of the fiscal year at $5.2 million. The total amount of the project is $17.6 million, with funds split over three years.

The UMMC Center for Telehealth, in partnership with the Department of Education, is using the funds to create a telehealth delivery system for eligible K-12 public schools in the state.

Services include minor medical care, behavioral health services and promotion of dental health education and lifestyle coaching of students at risk for developing diabetes, for which each school in a participant district was provided a laptop, USB stethoscope and USB otoscope.


Chandra

Dr. Saurabh Chandra, chief telehealth officer, said that so far, the program serves 70 school districts, 406 schools and 183,456 students. There have been more than 200 visits per month since the beginning of the academic year.

"The program brings access to health care for students in schools so that they don't have to miss out on attendance," said Chandra, grant PI. "Students receive care fast, which allows parents to avoid unnecessary trips to seek care for their kids.

"Mississippi School Based Telehealth has been established as one of the largest school-based telehealth programs in the nation and certainly the fastest implementation of any other program."

Dr. Dustin Sarver, associate professor of psychiatry, also targeted K-12 students with his project: AWARE in Mississippi, or AIM.

The aim of the $3.6M grant, also funded by SAMHSA, is to increase mental health awareness, foster resilience, and strengthen access to trauma-informed, culturally responsive and family-driven mental health services.

AIM is being rolled out in the Mississippi Achievement School District, which currently covers Humphreys County and Yazoo City School districts for grades K-12.


Sarver

Sarver, the PI, said the system involves executing a multi-tiered system of support and provides workforce training, suicide prevention and response, trauma-informed practices, and direct service provision to schools, students and their communities.

"School-based mental health supports are crucial to providing children and youth opportunities for positive development and outcomes," said Sarver. "Mississippi has a significant lack of behavioral health specialists, particularly those available in the schools. This is despite the fact that Mississippi is at the top of the nation in terms of both the prevalence of youth with emotional or behavioral disorders and the percent of youth with mental health conditions that do not receive

needed services."

The project's partners are Mississippi State University, University of Southern Mississippi, MDE, Department of Mental Health, statewide mental health nonprofits and family organizations, and community mental health providers.

"There is a major unmet need. AWARE in Mississippi is meant to partially address this need, starting in the MASD, but with the aim that we develop a model that can be extended to all schools in Mississippi," said Sarver.

The associate vice chancellor said he is incredibly optimistic about the future of research at UMMC.

"Our faculty are doing an excellent job of pursuing funding for both individual research project grants and larger programmatic grants," he said. "And our office is launching programs to increase support for the research mission, including increased support for institutional core facilities, increased intramural funding for pilot grants, and expanded support for clinical research operations. We are also actively recruiting faculty in several focus areas.

"I am confident that these efforts will synergize to result in growth in the research mission."

**The following SGSHS faculty received some of the largest extramural grants and awards during the fiscal year 2023.**

**Dr. Jefferson Parker**, division director of psychology, and Drs. James Rowlett and Julie Schumacher, both professors of psychiatry, received $6 million from the Substance Abuse and Mental Health Services Administration for the project, "CIDA (Center for Innovation and Discovery in Addictions) Mississippi Horizons Project."

**Dr. Saurabh Chandra**, chief telehealth officer, received $5.16 million from the MS Department of Education for the project, "ESSER Telehealth Services in Schools Grant." He also received a $3.75 million award from the Health Resources and Services Administration for the project, "Telehealth Center of Excellence."

**Dr. Joey Granger**, professor emeritus of physiology and biophysics, received $3,995,465 from the National Institutes of Health for the project, "Mississippi Center for Clinical and Translational Research."

**Dr. Dustin Sarver**, associate professor of psychiatry, received from the Department of Health and Human Services a $3.6 million award for the project, "AWARE in Mississippi (AIM)."

**Dr. Jane Reckelhoff**, Billy S. Guyton Distinguished Professor and chair of the Department of Cell and Molecular Biology, received $2.32 million from the National Institutes of Health for the project "Mississippi Center of Excellence in Perinatal Research, Phase 2."

**Dr. Michael Garrett**, professor of pharmacology, received a $2.28 million award from the National Institutes of Health for the project, "Molecular Center of Health and Disease."

**Dr. Fan Fan**, associate professor of pharmacology, received $1.72 million from the NIH for the project, "Vascular mechanisms of inhibition of sEH as a novel therapy for AD/ADRD."

**Dr. Matthew Kutcher**, assistant professor of surgery, received a $1.65 million subaward from the University of Pittsburgh and the Department of Defense for the project, "Type O whole blood and assessment of age during pre-hospital resuscitation (TOWAR) trial."

**Dr. Lei Zhang**, professor of nursing, received a $1.38 million award from the NIH for the project, "A Proposal to Establish the Mississippi Violence Injury Prevention (VIP) Program."

**Dr. Deborah Konkle-Parker**, professor of nursing, received $1,316,846 from the NIH and University of Alabama for the project, "UAB-MISS MACS/WIHS Combined Cohort Study."

**Dr. John Hall**, Arthur C. Guyton Professor and chair of the Department of Physiology and Biophysics, received $1,162,500 from the NIH for the project, "Cardiorenal and Metabolic Diseases Research Center - Phase III."

**Dr. Kedra Wallace**, associate professor of pharmacology, received a $1.15 million award from the Silicon Valley Community Foundation for the project, "Evaluating Neuro Vascular Function and Hypertension Across a Lifespan (SDL)."

**Dr. Thomas Mosley**, Robbie and Dudley Hughes Distinguished MIND Cen ter Chair, received $1,090,348 from the NIH and Johns Hopkins University for the project, "ARIC Neurocognitive Study (ARIC-NCS)" and $1 million from the Mayo Clinic for the project, "Mind Center - Mayo Clinic Study of Aging."

**Dr. James Brock**, associate professor of medicine, received $1.04 million from a private foundation for the project, "Mississippi HIV Care Connect."

**Dr. Norma Ojeda**, professor and chair of the Department of Advanced Biomedical Education, received $1 million from the Department of Health and Human Services for the project, "Mississippi Perinatal COVID-19 Registry." Gr

Dr. Michael Garrett, chair of the Department of Cell and Molecular Biology, conducts research in the Molecular and Genomics Core Facility.

# Grants & Awards

Adesanya Akinleye (PhD-Experimental Therapeutics & Pharmacology) American Society for Pharmacology and Experimental Therapeutics Annual Meeting Travel Award to present an oral presentation; American Physiology Society Renal Section Recognition Award for an abstract to be presented at the APS Summit

Aya Ali (PhD-Biomedical Sciences – Biomedical Materials Track) Abstract nominated as an outstanding contribution to the Society for Biomaterials' 2022 Annual Meeting

Esinam Attipoe (MS-Biomedical Sciences) 2022 Renal Section Predoctoral Excellence in Renal Research Award

Olufunto O. Badmus (Instructor, Physiology & Biophysics) American Heart Association (AHA) Postdoctoral Award; 2023 Cardiovascular Section Steven M. Horvath Professional Opportunity Award at the APS Summit; Water & Electrolyte Homeostasis Trainee Award & Data Diuresis Presenter, APS Summit

Jelina Basnet (PhD-Cell & Molecular Biology) Endocrine Society Outstanding Abstract Award; Endocrine Society's Annual Meeting Early Career Forum Travel Award

Komal Beeton (PhD-Microbiology & Immunology) 1st place Award in Oral Presentation at 87th Annual Mississippi Academy of Science (MAS) Meeting; American Society for Virology Travel Award for 42nd Annual Meeting
Oheneba Boadum (PhD-Clinical Anatomy) Carl Evers Award for the M1 Basic Science Professor of the Year 2022-2023; AAA Travel Award

Dan Borgatti (PhD-Neuroscience) 1st Place Award for poster presentation at MAS Meeting

Michael Brown (PhD-Clinical Anatomy) AAA Travel Award

Aubrey Cantrell (PhD-Experimental Therapeutics & Pharmacology) AHA Trainee Advocacy Committee Poster Award, Hypertension 2022

Mary Carr (PhD-Microbiology & Immunology) 2nd place, MAS Symposium; American Society for Microbiology Future Leaders Mentoring Fellowship; 2nd place, Dr. Ranjyah Ramadan Foundation Young Investigator Award in Microbiology at ARVO 2022

Marli Crabtree (PhD-Clinical Anatomy) AAA Travel Award; AAMC Learner Summit acceptance

Evangeline Deer (Instructor, Pharmacology & Toxicology) Juan Carlos Romero and Water & Electrolyte Homeostasis Section Postdoctoral Research Recognition Award Finalist, APS; AHA Award for the Support of Underrepresented Minorities; APS Renal Section, Postdoctoral Excellence in Renal Research Award Finalist; Appreciation Award, Speaker Tri Beta Sigma Epsilon, Jackson State University

William Doyle (PhD-Neuroscience) 2023 Behavior, Biology, and Chemistry Annual Meeting Travel Award

Ubong Ekperikpe (PhD-Experimental Therapeutics & Pharmacology) Journal of Pharmacology and Experimental Therapeutics Highlighted Trainee Author Award; "Best Oral Presentation" during the 2022 Basic Research Forum for Emerging Kidney Scientists (American Society of Nephrology and the American Physiological Society); AHA Predoctoral Fellowship Grant Award

Xing Fang (PhD-Experimental Therapeutics & Pharmacology) 2023 AHA Predoctoral Fellowship, Sigma Xi Grant in Aid of Research; 2022 Sigma Xi Grants in Aid of Research

Gordon Gartrell (PhD-Nursing) Daisy Nurse Leader Award

Ashley Griffin (PhD-Neuroscience) APA Porter Physiology Development Fellowship

Madeline Griffin (MD-PhD) Acceptance to the AAMC Learner Summit

Maria Jones-Muhammad (PhD-Neuroscience) 2nd place Award for oral presentation, MAS Meeting

Xiaochen He (Instructor, Physiology & Biophysics) AHA Postdoctoral Fellowship

Aubri Hickman (PhD-Nursing) Partial SON Seed Grants for funding of dissertation research

John Aaron Howell (PhD-Neuroscience) Graduate Poster Award - SGSHS Research Day 2022; SGSHS Graduate Student Ambassador; University of Florida Gator NeuroScholar

Lohitha Kalluri (PhD-Biomedical Sciences - Biomedical Materials Track) IADR 2021 Kulzer Travel Award; 2021-2022 GWIMS Trainee Award, UMMC Chapter of the AAMC Group on Women in Medicine and Science; American Academy of Implant Dentistry (AAID) Foundation 2021 student research grant award; 1st place, Oral Presentation, physics and engineering division, MAS Meeting; Paffenbarger Award Finalist

Jordan Mallette (PhD-Physiology & Biophysics) 2nd Place, Water and Electrolyte Homeostasis Section Poster Presenter Competition Award, APS Summit 2023

Alex Medders (PhD-Microbiology & Immunology) 3rd place award in poster presentation, MAS Meeting

Merlin Margaret G. Manogaram (Postdoctoral Fellow-Radiology) Young Investigator Award, 87th Mississippi Academy of Sciences Annual Meeting Health Science Division; Outstanding Medical Research Award, 1st place for the 2023 Annual SHRP Research Day.

Ana Omoto (Instructor, Physiology & Biophysics) Martin Frank Diversity Travel Award; 2023 Postdoctoral Fellow Award

Tanya Pareek (PhD-Neuroscience) BBC Meeting Travel Award; The College on Problems of Drug Dependence Stephen G. Holtzman Travel Award for Preclinical Investigators

Kayla Pavlick (PhD-Clinical Anatomy) AAA Travel Award

Jon Person (PhD-Neuroscience) 2nd place Award for poster presentation, MAS Meeting

Loc Pham (PhD-Neuroscience) Travel Award to the 2023 BBC Annual Meeting

Jacob Pruett (MD-PhD Cell and Molecular Biology) Best Basic Science Poster at Scholarship Day hosted by Department of Medicine at UMMC

Jaren Reeves-Darby (PhD-Neuroscience) Travel Award, 2023 BBC Annual Meeting

Poonam Sharma (PhD-Microbiology & Immunology) NIH support, American Society for Virology Annual Meeting Travel award; award for excellence in oral presentation, MAS 2023; travel award, MOBILion Systems, Inc., Mid-South Glycoscience meeting, Mississippi- 2022; oral presentation award in health sciences, MAS

Deloris Slade (PhD-Nursing) Partial SON Seed Grants for funding of dissertation research

Courtney Thompson (PhD-Microbiology & Immunology) Outstanding oral presentation- MAS Health Sciences Division 2023

Elliot Varney (PhD-Biomedical Sciences - Biomedical Imaging Track) ARRS Melissa Rosado de Christenson Award; MAS Outstanding Student Research Paper; Mississippi INBRE 1st Place Oral Presentation Graduate/Post Graduate Scholar Symposium; Phi Kappa Phi Dissertation Fellowship; UMMC SHRP 1st Place Outstanding Medical Research Award; MAS Outstanding Oral Presentation Health Science Division

Jake Valeri (PhD-Neuroscience) F31 NRSA Fellowship from the National Institute on Alcohol Abuse and Alcoholism; 1st place Award for oral presentation at the MAS Meeting; 4th place Award at the MS INBRE Graduate Scholars Symposium

Kathryn Veazey (PhD-Clinical Anatomy) AAA Travel Award

Xi Wang (PhD-Experimental Therapeutics & Pharmacology) 2023 APS Water and Electrolyte Homeostasis Section Portland Press Predoctoral Research Recognition Award Finalist; 2023 APS Water and Electrolyte Homeostasis Section Abstract of Distinction

## School of Graduate Studies Alumni Page

Please visit our Alumni website where you can nominate an alumna/alumnus for consideration for the School of Graduate Studies in the Health Sciences 2024 Distinguished Alumni, update your alumni contact information and connect with us.

**You may nominate a Board member (Fall 2024) by emailing your nomination with CV/resume to alumni@umc.edu**

# Excellence Awards honors top researchers' successful funding

The University of Mississippi Medical Center recognized 23 faculty and staff members during its annual Excellence in Research Awards ceremony on December 9, 2022.

In its 23rd year, the awards celebrate investigators most successful at securing extramurally funded original research during their careers at UMMC. During FY 2022, the Medical Center received 409 awards totaling $107,286,138.

This year's awards consist of one platinum, six gold, eight silver, and two bronze, determined by the level of funding through the previous year. Each researcher was presented a framed medallion and a financial award.

For the sixth year, Discovery Awards, which are peer-nominated and selected, were also presented to researchers in four categories.

Dr. Joey Granger, former associate vice chancellor emeritus for research, said the ceremony, held face-to-face for the first time in two years, is important because it highlights what he thinks is the most important mission at UMMC.

"Research makes us an academic medical center," Granger told the audience at the Norman C. Nelson Student Union. "Our research mission has an important impact on our other missions – both education and clinical research – and it makes those missions even better. One of the metrics in excellence in research is extramural awards, and I'm glad to say that we had significant increases in extramural funding."

The Medical Center's extramural funding increased by 65 percent over the last five years, and 150 percent over the last decade, said Granger. "That increase could not have been possible without many of you in this room."

Dr. Caroline Compretta, assistant vice chancellor for research and sole recipient of the platinum award, has brought in nearly $6 million in research funding, joining the ranks of just 30 others who have reached the $5 million threshold since the ceremony's inception in 2000, said Dr. Leslie Musshafen, executive director of research.

"Her research spans across many facets of population health and health equity with the focus of examining the social determinants of chronic diseases, specifically diabetes and obesity for children and families who live in resource-limited communities across the Southeast," said Musshafen, introducing Compretta.

"Her work has led to a better understanding of the local challenges that affect the adoption or rejection of many health behaviors and provided the framework for creating a more culturally specific and diverse health care and research system."

Dr. Joshua Mann, professor and chair of preventive medicine, said it's been exciting having a front-row view of Compretta's rapid rise as a researcher.

"She joined our department in 2016 in her first full-time faculty role, and in just a few short years, she has become known regionally and nationally as a go-to expert in community engagement and research on population health and health equity," said Mann. "I can't wait to see what the future has in store as she continues to grow in stature as a researcher, educator and leader."

## THESE ARE THE RECIPIENTS:

**Platinum Medallion - $5 million**

Dr. Caroline Compretta, associate professor of preventive medicine

**Gold Medallion - $ 1 million**

Dr. Yann Gibert, associate professor of cell and molecular biology
Dr. Erin Taylor, assistant professor of physiology and biophysics
Dr. Sarah Glover, professor of medicine
Dr. William Hillegass, associate professor of data science
Dr. Norma Ojeda, professor and chair of advanced biomedical education
Dr. Michael Griswold, professor of medicine/biostatistics

**Silver Medallion - $500,000**

Dr. Matthias Krenn, assistant professor of neurosurgery
Dr. Alan Joseph Mouton, instructor of physiology and biophysics
Dr. Gailen Marshall Jr., the R. Faser Triplett Sr. MD Chair in Allergy and Immunology
Dr. Nancy Min, associate professor of medicine
Chad Blackshear, biostatistician III
Dr. Harry Pantazopoulos, assistant professor of psychiatry
Dr. Eric Vallender, associate professor of psychiatry
Dr. Adrienne Tin, associate professor of medicine

**Bronze Medallion - $250,000**

Dr. Joseph Majure, professor and division chief of pediatrics
Dr. Christopher Spankovich, professor of otolaryngology

**Discovery Awards**

**Early Career Investigator**

Dr. Joshua Speed, assistant professor of physiology and biophysics

**Richard L. Summers Outstanding Achievement in Clinical Research**

Dr. Charlotte Hobbs, professor of pediatrics infectious disease
Dr. Gailen Marshall Jr., R. Faser Triplett Sr. MD Chair in Allergy and Immunology

**Meritorious Research Service – Faculty**

Dr. Jane Reckelhoff, professor and chair of cell and molecular biology

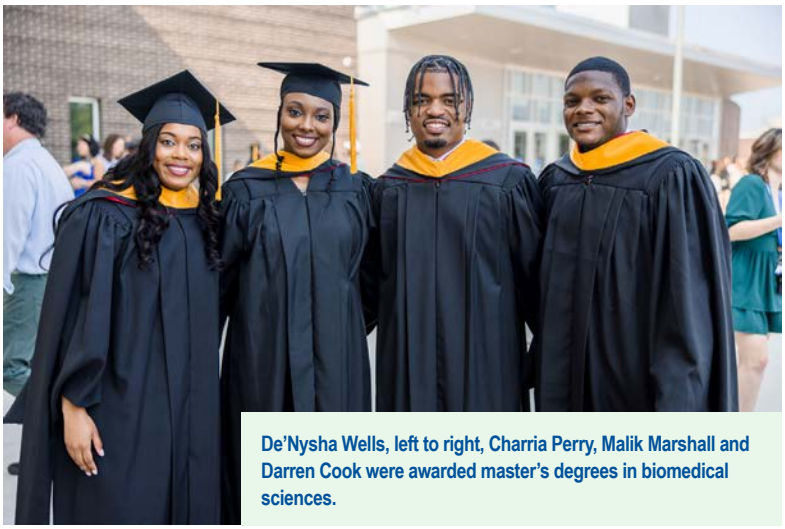
**Translational Research Team**

Dr. Matthew Kutcher, assistant professor of surgery-trauma
Dr. Ana Palei, assistant professor of surgery-trauma
Dr. Frank Spradley, associate professor of surgery-transplant

Cara Irby handles camera duties as master of biomedical sciences graduates, from left, Isabelle Garza, Hayden Tucker, Emma Grace Joyner and Kaleigh Thomas take a pre-graduation selfie.

Dr. Joey Granger, SGSHS dean, presented Jacob Pruett with the Robert A. Mahaffey Jr. Memorial Award, recognizing exceptional research potential of young investigators, at the 2023 Commencement exercises.

Torien Beard, a doctoral student in experimental therapeutics and pharmacology, is white-coated by Dr. Sydney Murphy.



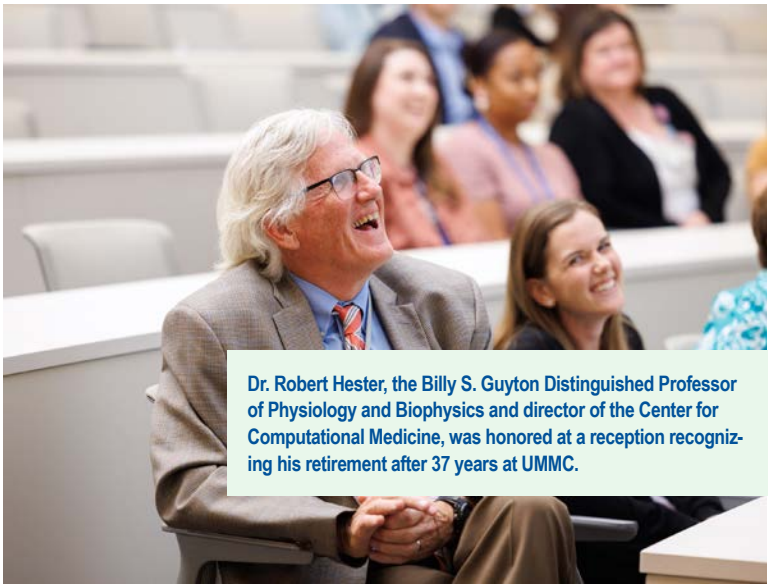
De'Nysha Wells, left to right, Charria Perry, Malik Marshall and Darren Cook were awarded master's degrees in biomedical sciences.


From left, Lauren Adams,Tija Johnson and Tyra Jackson were awarded master's degrees in biomedical sciences.

From left, Torien Beard, Jessie Besanson, Imani Smith and Krystle Hughes, students in the experimental therapeutics and pharmacology program, are all smiles after receiving their white coats.

From left, SGSHS faculty, Dr. Barbara Alexander, Dr. Stanley Smith, and Dr. William "Bill" Daley.

Aya Ali and Maria Jones-Muhammad, were awarded doctoral degrees in biomedical sciences and neuroscience.



Dr. Robert Hester, the Billy S. Guyton Distinguished Professor of Physiology and Biophysics and director of the Center for Computational Medicine, was honored at a reception recognizing his retirement after 37 years at UMMC.

From left, Kayla Pavlick, Mais Abdelhaq and Jazmin Martin, students in the clinical anatomy program, stand with Dr. Audra Schaefer, assistant dean of academic affairs and director of the clinical anatomy program, after receiving their white coats.

# Class Notes

## 1980s

**Dr. Everette Beers (PhD-Biomedical Engineering, 1984)** has retired from the Food and Drug Administration as deputy division director in the Center of Devices and Radiological Health. He writes, "I retired from the U.S. Army in 1993 as a lieutenant colonel after a career in neurotoxicology research, especially medical defense against nerve agents; I then joined the FDA. While in the Division of Ophthalmic, Neurological and Ear, Nose and Throat Devices, I was the Agency's expert on intraocular surgical fluids, toxicology of device implants, LASIK lasers and telemedicine. I'm a registered professional electrical engineer and a board-certified toxicologist." He lives in Martinsburg, WV.

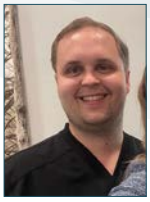
## 1990s

**Dr. Christine Schnackenberg (PhD-Physiology and Biophysics, 1996)** is senior scientific director in the novel human genetics research unit at GlaxoSmithKline, where she leads 37 biologists in the discovery of new medicines to treat cardiovascular, renal, metabolic, pain and neurodegenerative diseases. She writes that her team "uses human disease genetic associations and translational biology to identify and validate new drug targets and applies molecular, cellular and integrative biology to identify, optimize, and select small molecule, biopharmaceutical and antisense oligonucleotides for clinical trials."

## 2010s

**Dr. Richard Whitlock II (MS-Biomedical Sciences, 2012)** is a surgical resident at Baylor College of Medicine. He also graduated from the UMMC School of Medicine in 2017.

**Dr. Angelia Garner (PhD-Clinical Health Sciences, 2014)** is a professor of dental hygiene in the UMMC School of Dentistry. She was also a Norman C. Nelson Order of Teaching Excellence inductee in 2023. She lives in Canton.



**Dr. John Charles Adams (MS-Biomedical Sciences, 2017)** is a dentist at Vibe Dental in Pulaski, Tenn. He graduated from the UMMC School of Dentistry in 2021.

## 2020s

**Jordan Coggins (MS-Biomedical Sciences, 2021)** is a third-year medical student at UMMC.

**Dean Dickinson (MS-Biomedical Sciences, 2021)** is a second-year physician assistant student at Mississippi State University in Meridian. He writes, "The MS Biomedical Sciences program at UMMC really helped me prepare and have a baseline knowledge for this intense and high paced program."

**Dr. Andrew Charles Ferriby (PhD-Clinical Anatomy, 2022)** is assistant professor in the Department of Anatomy and Cell Biology at The George Washington University School of Medicine and Health Sciences. He writers, "I educate students on the topics of gross anatomy, embryology and histology. The students I teach consist of medical, undergraduate and graduate students. In the medical curriculum, I serve as a member of the curricular committee and on the committee of block directors. I also continue to conduct research in the areas of medical education and topics related to anatomy."

**Sha'Kiah Jones (MS-Biomedical Sciences, 2022)** is patient coordinator at RANE Center: Stat DVT and Edema Therapy Clinic in Flowood, where she triages patients.

**Tiffany King (MS-Biomedical Sciences, 2022)** is a second-year dental student at University of Tennessee Health Science Center College of Dentistry in Memphis, Tenn.

**Daniel "Tyler" Trussell (MS-Biomedical Sciences, 2022)** is a first-year medical student at UMMC. In the year following graduation, he worked as a Researcher II in the Basic Science Lab.

# Dr. Albert Pete Shepherd Jr.

**BY ANDREA WRIGHT DILWORTH**

Dr. A.P. "Pete" Shepherd Jr. (Physiology and Biophysics, '71), died peacefully at home on March 3, 2023, with his wife of 57 years, Melissa, and their daughter, Genevieve, by his side. He was 79.

He was an award-winning educator, mentor, researcher, author, international presenter, inventor and entrepreneur.

The Graduate School honored Shepherd as the 2015 Distinguished Alumnus.

"Your imagination is important to succeeding in science," Shepherd said in a speech to students, alumni, faculty and staff after accepting his award. "I'm still teaching physiology but by remote control."

Shepherd used his imagination to receive five patents and build many computer programs for teaching physiology. One, Alveolar Gas, available on the App Store, which teaches the factors that affect the composition of alveolar gas in a simplified, high-tech manner, has been used at leading universities and hospitals in dozens of countries around the world.

It didn't happen overnight, he said in his speech. One of his many lessons for students was to "not take the first 14 'no's as an answer."

"Dr. Shepherd was an outstanding physiologist, teacher and mentor to many young physiologists," said Dr. John Hall, Arthur C. Guyton Professor and Chair of the Department of Physiology and Biophysics. "He was also a talented inventor and entrepreneur. We are extremely proud that Dr. Shepherd was inspired to pursue his research, entrepreneurship and innovation while he was a PhD student in Physiology and Biophysics at UMMC."

A native of Greenwood, Shepherd earned a BS degree from Millsaps College in 1966 and PhD in physiology and biophysics from the University of Mississippi Medical Center in 1971. He completed his postdoctoral studies in physiology at the University of Texas Medical School in Houston. In 1974, he joined the faculty in the physiology department at the University of Texas Health Science Center at San Antonio, where he remained until he retired 35 years later.

Shepherd, who taught cardiovascular and respiratory physiology to medical and allied health students, also excelled in the business world. In 1976, inspired by Dr. Arthur C. Guyton, one of his graduate faculty mentors, he co-founded A-Vox Systems, Inc., which started by manufacturing instruments for investigators who needed to measure oxygen in the blood of experimental animals. During the 1980s, he and his colleagues studied the optical properties of blood and were awarded small business grants to design and develop oximeters and co-oximeters that would be more advanced than the current instruments hospitals were using.

After retiring, Dr. Shepherd updated his old computer programs for teaching physiology and enabling them to run in the latest Mac and Windows operating systems. He then donated them to the American Physiological Society's archive of free, peer-reviewed teaching materials.

Shepherd is also survived by his three grandsons and a double decker tree fort he built with them. Gr

Shepherd, above, showing one of the apps he created, and the day he was recognized as 2015 Distinguished Alumnus of the Year. Joined by Dr. John Hall and Dr. Joey Granger.

UMMC
School of Graduate Studies
in the Health Sciences

# HELP US SUSTAIN EXCELLENCE

## BY GIVING TO THE SCHOOL OF GRADUATE STUDIES IN THE HEALTH SCIENCES

When you support the SGSHS, you are helping students follow their passion and to prepare them for careers that will shape the future of the research and education. All gifts matter, but unrestricted gifts play a unique, significant role in building on our tradition of providing an unparalleled educational experience.

### The Guardian Society

established in 1975, recognizes supporters who contribute $1,000 or more annually to any school fund to help ensure the schools and programs remain vibrant.

### The Beige Brick Club

recognizes UMMC's most loyal donors who give a gift of any size for two or more consecutive years to any fund at UMMC.

GIVE NOW

umc.edu/givenow

## GUARDIAN SOCIETY SUPPORTER

Dr. Robert Lewis

Dr. Douglas Lyles

Dr. Donald Sittman

## BEIGE BRICK CLUB SUPPORTERS

### 10-19 YEARS

Dr. Joey Granger

Dr. Barbara Alexander

Dr. Mary Marquart

### 5-9 YEARS

Dr. Douglas Lyles

Dr. Erin Taylor

Dr. Hanna Broome

Dr. Sydney Murphy

### 2-4 YEARS

Dr. Fang Liu

Dr. Charles Gaines

Dr. Edgar Meyer

Dr. Nathan Tullos

Dr. Kedra Wallace

Dr. John Dasinger

Anna Carter

**Update Your Information!**

We are dedicated to keeping you connected to UMMC. Make sure you don't miss a moment – tell us if you've moved or changed your email so we can keep in touch!

The University of Mississippi
MEDICAL CENTER
Education • Research • Health Care

University Medical Center
Division of Public Affairs
2500 North State Street
Jackson, Mississippi

Nonprofit
Organization
U.S. Postage
PAID
Jackson, MS
Permit No. 247



Master of biomedical sciences graduate Cara Irby spots a loved one in the crowd and cheers as her mother, Melanie Irby, prepares to enter the coliseum for commencement.

## School of Graduate Studies in the Health Sciences Alumni Magazine Survey

We Value Your Feedback! We would love to hear your opinion of our alumni magazine. Please scan this QR code with your camera phone to complete a 3-minute survey. We appreciate your time.