



Finding harmony in medicine, art

Cardiac Perfusion graduate Grayce Owens doesn't have as much time to play her violin as she used to, but she finds ways to squeeze in some practice.

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anything but typical.

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Violinist, world traveler has remarkable profession as well: 'We stop hearts for a living'

BY HELEN ADAMS

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Grayce Owens is used to explaining her chosen profession. Most people have never heard of it. "It's always surprising when somebody says, 'Oh, I know what that is,'" she said.

Owens is a perfusionist, graduating from the College of Health Professions at MUSC. "So the elevator spiel is we operate the heart-lung machine for open heart surgeries. If you want to be cheeky about it, you can say we stop hearts for a living."

There are about 4,500 perfusionists in the United States. They specialize in running life support devices to support patients' circulatory and respiratory systems. MUSC has the only perfusion training program in South Carolina.

"MUSC has a great reputation in the field," Owens said. "Going out on rotations to clinical sites, I see I have big shoes to fill. The people who've gone before me have really made a good impression."

Owens has made a good impression, too – and not just in her clinical rotations in South Carolina. "I got interested in the



Owens and Bob Groom, the American perfusionist who leads the training program in Kenya.

opportunity to go to Kenya at a perfusion conference that MUSC hosts every year," she said.



Photos Provided

Owens spent a month at Tenwek Hospital in Bomet, Kenya.

At that conference, a speaker described his work as a perfusionist at the only hospital in sub-Saharan Africa with a perfusion training program. Owens got in touch with him a few months later and had a conversation that would temporarily take her from being a student to being a trainer.

"He had a Califia heart-lung machine simulator that someone had donated to him in Kenya. He just didn't know how to run it. That's the same simulator that our program at MUSC uses," she said.

"My classmates and I had been in there 24/7 practicing on it for our final exams. So it worked out that I had this familiarity with the software, and they had a need. So I was able to go out there and help get their simulation training started."

She spent a month in at a hospital in Bomet, Kenya. "Most of the people who work at that hospital are native Kenyans. The students that have graduated from that training program were working with me in the operating room, and so it was this really neat environment where I got to learn from them in the OR for their unique setup," she said.

"And then in the simulation lab, I was able to teach them the unique things about simulation. And so that was really cool. We got to have this partnership, and I left feeling like I learned just as much from them, if not more, than I shared with them."

"And then in the simulation lab, I was able to teach them the unique things about simulation... We got to have this partnership, and I left feeling like I learned just as much from them, if not more, than I shared with them."

Grayce Owens

Owens hopes to return to Kenya. "The big thing for me right now after graduation is working to get certified, and so I'll have to take board exams and all of that in the fall. But I recently accepted a job at Duke University where I'm rotating right now. Duke is supportive of medical missions, and I am looking at the possibility of returning to Kenya in the future."

Owens said she's a Christian, a fact that guides her personal and professional lives. She was homeschooled through high school

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MUSC recognizes each college's top honor graduates

Editor's Note: MUSC's Class of 2023 first and second honor graduates are recognized for their academic excellence and achievement. On May 18, the graduates were celebrated at a luncheon hosted by MUSC President David J. Cole, M.D., FACS, first lady Kathy Cole, Office of the Provost and the Division of Education Innovation and Student Life.

College of Dental Medicine

□ Doctor of Dental Medicine

First honor graduates – Charles (Trey) Buck III and Tanner Holt

Second honor graduates – Alissa Payseur and Kaylin Young

College of Graduate Studies

□ Doctor of Philosophy

Distinguished graduates – Kevin Caulfield, Brandon Hughes and Alhaji Janneh

Medical Scientist Training Program graduate – Hannah Knochelmann

College of Health Professions

□ Doctor of Nurse Anesthesia Practice (AFN)

First honor graduates – Zachary Arrington and Travis Ibinger

Second honor graduates – Adam Arlt and Carol Ann Schmidt

□ Doctor of Occupational Therapy

First honor graduates – Corinne Gillion and McRae Jimenez

Second honor graduates – Allison Farrell and Kathryn Griffin

□ Doctor of Physical Therapy

First honor graduates – Hunter Corkren and Austin Dixon

Second honor graduates – Meghan Andrews and Elena Smith

□ Master in Health Administration – Executive

First honor graduate – Kirk Buono

Second honor graduates – Melina Manos and Victoria Viventi

□ Master in Health Administration – Residential

First honor graduate – Bella Riddle

Second honor graduate – Katherine Campbell

□ Master of Science in Cardiovascular Perfusion

First honor graduates – Madeline Alfieris and William (Will) Rodell

Second honor graduates – Charles Chaney and Tullika Saraf

College of Medicine

□ Doctor of Medicine

First honor graduates – Sophia Nance and Warren Roth

Second honor graduates – Ansley Devore and Matthew Harberg

□ Medicine – Master of Public Health

First honor graduates – Emily Ash and Ashly Hatch

Second honor graduates – Chloe Jacobs and Garrett Stang

College of Nursing

□ Accelerated Bachelor of Science in Nursing

First honor graduates – Christina Burnley and Jenna Wilson

□ Doctor of Nursing Practice

First honor graduates – Hailey Crider and Julia Garcia

College of Pharmacy

□ Doctor of Pharmacy

First honor graduate – Brittany Houston

Second honor graduate – Cameron Brakefield



Photo Provided

Philip Koech, a perfusionist at Tenwek Hospital in Kenya, talks with Grayce Owens.

PERFUSIONIST *Continued from Page Two*

and graduated from the Christian liberal arts school New College Franklin before arriving at MUSC.

She's also a violinist. "In high school, I joined the Charleston Symphony Youth Orchestra for a while. And that was a lot of fun. So I'm definitely trying to keep up my skills, but it's hard with a clinical schedule."

The feeling of being part of something bigger, an orchestra, while doing her best as an individual musician, has some similarities to her professional role in the operating room. "It's fascinating. I find that it's a really rewarding balance of being super clinical and doing your own specific tasks and working as a team. So that dynamic has been really fun."

She said there may be skill-related parallels as well – like hand-eye coordination. "In perfusion, we use lot of tubing clamps to manipulate flow. And so that can be an art in itself. So I think having

that hand-eye coordination and that left hand grip strength has probably served me well," she said with a laugh.

So have her relationships at MUSC. "The college and my instructors specifically, I feel like they've been such incredible mentors and poured into me their knowledge and their passion. And the fact that they were so supportive of me going on this mission trip to Kenya," Owens said.

"They wrote reference letters. They worked with my schedule to get me out earlier so I could spend more time in Kenya. And just the way that they have fostered that community of perfusionists and caregivers and really pushed me to seek out those opportunities to keep serving. That's been really invaluable. I'd like to say thank you to them and encourage others to look for ways to serve their communities, wherever opportunity arises."

If that opportunity involves perfusion, like it has for Owens, it can lead to an amazing career that, as she said, stops hearts.

"It's never gotten routine. It's amazing just to watch the heart start back up again at the end of a case."

MUSC ARROW to host June 20 Imposter Syndrome Workshop

MUSC's Advancement, Recruitment and Retention of Women (ARROW) will host an in-person workshop on Imposter Syndrome from 12 to 1 p.m., June 20, location TBD. The event's speaker, Lidia Yamada, M.D., assistant professor, Department of Neurology, will speak about "You're not alone: Even successful people believe they are frauds." Yamada's talk will focus on how to overcome this feeling and helping people realize their worth.

To register, visit <https://redcap.musc.edu/surveys/?s=N4MMH8AW9LNKXYHC>.

Small town grad hopes to make big splash in industrial pharmacy career

BY CINDY ABOLE

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Going through pharmacy school, the wise adage “Keep your connections close, as pharmacy is a small world” is widely shared to students by faculty and mentors. It holds true throughout their careers.

It’s a concept that’s very familiar to graduating College of Pharmacy student Mattie Hucks, who can identify with the interconnectedness and camaraderie that exists between students and practitioners within her chosen profession. It’s similar, in fact, to the close kinship and belonging she grew up with in her hometown of Aynor, South Carolina – a two-stoplight town just 30 miles west of Myrtle Beach.

Reflecting on her academic journey and these last four years at the College of Pharmacy, Hucks is proud of the hard work she put in to make it to this point and cherishes the shared experiences that she’s had with her classmates, faculty and instructors. Along with alumni, fellows and pharmacy professionals, all have contributed to the knowledge, opportunities and confidence she’s gained that are allowing her to launch a career in the pharmaceutical industry.

But Hucks’ path to pharmacy was anything but typical. She was a model student growing up and followed her interests in creative writing and the humanities, earning a Bachelor of Arts in English from the College of Charleston. As an honors student, she chose to take chemistry, organic chemistry and other sciences – purposely working medicine and English together and enjoying these and other interdisciplinary pursuits.

“I’ve always been open and vocal with my family about my interests, and they’ve been supportive. Even as I was taking the next steps following my undergraduate years and strategizing my prerequisites for pharmacy school, they’ve been very encouraging,” said Hucks.

As a teen, she was drawn to pharmacy after watching her parents navigate the care of her grandparents – both diagnosed with cancer at the time. She saw how both her mom and dad struggled to manage the many types of medications required for each of them and would sometimes become so overwhelmed with questions, trying to understand and help. Hucks realized that having an expert who understands the mechanisms by which medications work and the specific ramifications for helping each patient would have been invaluable for her parents and grandparents at that time.

Hucks decided she wanted to be that person who can synthesize information and share it in a relatable way to help both patients and family members feel more secure to handle the sometimes confusing instructions while managing their care or that of loved ones.

“Having clear communications as part of health care is



Photo by Sarah Pack

College of Pharmacy graduate Mattie Hucks inspired her brother, Collin Hucks, to follow in her footsteps. The siblings sit in front of the new College of Pharmacy facility.

“Having clear communications as part of health care is so underrated. Breaking down the information to everyday terms helps the patient have confidence in what they’re going through, plus helps the caregiver be confident in the care that they provide.”

Mattie Hucks

so underrated. Breaking down the information to everyday terms helps the patient have confidence in what they’re going through, plus helps the caregiver be confident in the care that they provide. It’s a very integral part that I think is overlooked and undervalued when everyone is focused on the clinical issues.”

Today, the pharmacist is among an interdisciplinary team of practitioners responsible for open and effective patient

education. With easy access of the internet and social media, patients and consumers are often challenged in finding information that’s factual. Many drug companies have prioritized making available product data, and clinical trial information on their websites that’s patient-friendly. Still, nothing is as effective as the one-on-one help that a pharmacist lends.

“Coming into pharmacy with a background in effective communications and being able to synthesize information that is complex can hopefully eliminate that loss of communications. With many disease states being so complex and many new treatment options available today, it’s important for any consumer to feel confident in their medication and what it does and how it can help them.”

A lifelong learner, Hucks looks forward to using her Pharm.D. degree outside the scope of the profession’s most popular specializations – health care, retail and education. She felt she might prefer something else and found it in the pharmaceutical industry.

For her clinical rotations, she worked in acute care, ambulatory clinics, hospital and community pharmacies, plus an internship in a specialty pharmacy that provided cutting-edge biologic medications for specific patient populations. Hucks also managed to complete several industry elective

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MEET JADEN



Jaden Lee, D.M.D., Ph.D.

College and Program *James B. Edwards College of Dental Medicine, Dental Scientist Training Program, Department of Oral Health Sciences, 2015-2023*

Family, pets and their names *Wife, Hayoung (married four years); and our fur baby pup, Eddie, a miniature American Eskimo*

A talent you have *I'm a huge fan of mechanical wristwatches and can identify most watches on people's wrists at a glance.*

Faculty member, mentor or staff person who has helped you at MUSC *My Ph.D. mentor and Oral Health Sciences chair, Dr. Ozlem Yilmaz, has provided the greatest support throughout my training.*

Special memory about my time at MUSC *Attending international research conferences with other trainees and our lab members representing MUSC*

Plans after May 20 graduation *In July, I'll start my periodontics residency at the University of Michigan in Ann Arbor.*

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MUSC Wellness Center kicks off summer special with 'Membership MAYhem'

The MUSC Wellness Center has kicked off its biggest deal of the year – Membership MAYhem – running May 1 to May 31.

The promotion allows new or existing Wellness Center members that prepay for an annual membership to get the 12th month free on select membership types.

The MAYhem discount will be automatically applied to the total cost of a membership at the time of payment. Anyone interested in registering can visit the Wellness Center's website or chat with a front desk staff member in-person.

"If you've been on the fence about joining the Wellness Center, this is the perfect opportunity to join Charleston's best fitness facility and find 'Your Best You' in 2023," said Dusty Jackson, Wellness Center director.

The MUSC Wellness Center is located at 45 Courtenay Drive in downtown Charleston. Learn more about the Wellness Center and read a full list of promotional rules at muscu.edu/hsc.

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Liver transplant and lymphoma delay, but can't stop determined dental graduate

BY HELEN ADAMS

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Julia Filler started dental school in 2016. She had no idea that she wouldn't graduate from the James B. Edwards College of Dental Medicine until 2023, and she'd become dangerously ill along the way. But she never gave up.

"It didn't really feel like a choice for me. I knew I had to keep moving forward. One of my doctors at one point told me to not let this bad deck of cards I'd been handed make all the decisions for my life. I've always kept that in mind."

Those cards were tough. A rare liver disease. Complications. Medical leave. A pandemic. A liver transplant. Pancreatitis. Lymphoma. Chemotherapy.

But Filler was tougher. "I'm not upset by everything that I've gone through. I know it's been a lot, but it has made me who I am. I felt a lot of love and support from all my family and friends, and so I think that's kind of been a big blessing in disguise for me."

To understand her journey, it helps to go back to when she was in middle school in Windham, New Hampshire. "I was diagnosed with liver disease when I was 11 or 12. It's called primary sclerosing cholangitis. It's an autoimmune disease against the bile ducts in your liver. It's a rare disease," Filler said.

"They didn't know much about it, to be honest. So they didn't really know what my future would look like at the time. They said some people need a transplant, some people don't. You'll probably be fine."

She was — for a while. "During my last year of undergrad at the University of North Carolina, I had my first flare-up since my diagnosis. But my doctors didn't seem too concerned about it. And then I had a second one, and they told me a month before I started dental school that I would likely need a transplant in the next decade."

That wasn't enough to keep her from

following in her mother's footsteps and pursuing a dental degree. But it was the beginning of a period that would leave her balancing an escalating series of medical issues with her schoolwork at MUSC.

And she did so with determination and grace, according to associate professor Karen McPherson, D.M.D., assistant dean for Clinical Affairs. "She has always given every task her all, whether she was feeling well or not. She has never complained or shied away from anything that was asked of her and has never requested special treatment."

Instead, Filler quietly dealt with a disease that was progressing. "I had flare-ups where I would be hospitalized and have to get a procedure called an ERCP," which clear blockages from ducts in the stomach. "I would take a few days off from school and go back in, and I'd be fine. My third year I had two or three procedures. And finally, they told me, 'It's time. You need to be listed.'"

She was put on the list of people waiting for a liver transplant as she started what would have been her final year of dental school. "In December 2019, I decided to go on medical leave because I was having a lot of issues. I was really tired. I was having nosebleeds in the middle of seeing patients. I also had patients start asking me why my eyes were so yellow. So I thought, 'OK. I think it's time to step back a little bit.'"

Not long after she went on medical leave, COVID hit. "I was just kind of stuck here by myself for a little while. I have a dog, Milo, who was with me. That helped a lot."

She also read upbeat books and baked. She visited a friend and his family in North Carolina for a while so she could also get on the transplant list there. Other friends and family, including her sister Rachel, stayed in close contact.

"Then in June, my health started going downhill more. And so my parents began taking turns flying down from New Hampshire to stay with me," Filler said.

Two months later, she got the call they



Photo by Sarah Pack

Julia Filler walks Milo, who was her constant companion during the pandemic as she waited for a liver transplant.



Photo Provided

Filler pets a therapy dog while in the hospital at MUSC Health for lymphoma treatment in 2021.

were all waiting for. "I was in bed. I was actually sitting on my phone ordering candles when I got this phone call at 11:00 at night. They told me they had a liver for me, but they only have so long once it's out of the donor to transplant it. And so they had to transplant it within a few hours. So

they told me, we need you to get here as quickly as you can."

She did, and by the next morning, she had a new liver. But pancreatitis and other complications followed. More treatments did, too. "So finally in March I thought,

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‘OK, I’m ready. I’m ready to go back to school.’”

Then, she was diagnosed with post-transplant lymphoproliferative disease, a rare post-transplant complication that causes lymphoma. That meant more treatments, including chemotherapy. “I finished chemo in October 2021, and they declared me to be in remission in December 2021.”

Six months later, her doctors said it was safe for her to return to school. That fall, she was back on the MUSC campus. McPherson, her dental professor, said it was a day many people were waiting for. “During her time away, faculty and staff would often ask if anyone had heard when Julia might be returning to complete her degree, and we were all thrilled when that day finally came. She’s a wonderful student who has a special ability to connect with her patients.”

Filler will take that ability to the University of Vermont Medical Center for a general practice residency after graduation. She’s interested in helping people with medical complexities as well as other patients. And she’s grateful to have that option.

“I’m very excited. And I’m so thankful for my donor, my donor’s family and all my amazing doctors. It’s taken a while to get to this point, but they have all made it possible.”



Photo by Sarah Pack

Julia Filler in the clinical lab space at the MUSC James B. Edwards College of Dental Medicine.



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From suits to scrubs: How one nursing grad made the bold move to change careers completely

BY BRYCE DONOVAN

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The spreadsheets never stood a chance.

It was 2021, and Zach Boden was up late, crunching numbers on corporate tax returns.

“I just remember looking at the clock – it was, like, 3 a.m. – and I thought, ‘What am I doing with my life? I don’t want to do this anymore,’” Boden said.

It was a feeling that had been slowly building for the financial analyst of more than five years, finally boiling over that early morning in the glow of his computer screen.

Ironically, a few months later, while rescuing a woman – wearing no clothes and wielding a butter knife – from a tree, the 28-year-old with a master’s in business had a completely different feeling.

He knew he was finally on the right track.

ROAD LESS TRAVELED

On May 20, Zach Boden will officially become a registered nurse when he graduates from MUSC’s College of Nursing. How he got here – his path, if you will – isn’t the same-old “I just always had a fascination for health care” journey. A career in medicine was never really on the Atlanta native’s radar.

“To be honest, I never really knew what I wanted to do when I grew up,” he said. That wanderlust attitude, that lack of gravitation to any one particular subject or vocation, left him open to any and all possibilities. As a result, Boden seemed to go all-in on everything he did – from science to English to sports – on the off chance it ended up being his thing.

Eventually, football and baseball won out. It was the academic part – more specifically, the answer to the question: “What will I do for a living?” – that Boden still hadn’t figured out. Though he might not have had a clear direction on his occupational compass, Boden did well in school. So well, in fact, one of the places that offered him a scholarship was Harvard University.

“I want to be clear here,” he said with a self-deprecating laugh. “I totally wouldn’t have gotten into Harvard if not for sports.”

Sure, Harvard recruited him to play on its football and



Photo by Duke University Athletics

Zach Boden celebrates a big play for the Duke Blue Devils. Boden, who played alongside now-New York Giants’ starting QB Daniel Jones, said, “He’s a super good dude. He’s also a lot richer than I am now.”

baseball teams, but his academic record was nothing to sneeze at. Couple that with the kind of personality that makes others feel special – Boden has a way of clicking with people he’s just met, like he’s known them for years – that no doubt resonated with the prestigious Ivy League school.

Less than a year into his time at Harvard, things took a sad turn when his baseball coach had a heart attack and died during Boden’s freshman year. Two weeks later, the team’s running backs coach – the man most instrumental in recruiting Boden to Cambridge – took the head coaching job at Yale.

Understandably, Boden went through a few things. He started thinking. Reflecting.

“I was just like, ‘I don’t know. I’m from Atlanta. Nothing is really keeping me up here besides athletics.’ So much had changed so quickly for me, you know? I just wanted to go. To leave,” he said.

And so this time he rushed to a different end zone, 700 miles south to Duke University. It would be the first of several mature-beyond-his-years decisions Boden would make. And it would be that fearlessness to make big changes – the instinct to zag when others zig, to take the chance and the road less traveled – that would be one of his most defining traits in life.



Photo Provided

Boden, left, and HomeGrown Lifting business partner Will Whitman. The two were teammates at Harvard.

See **NURSE** on page 9



Photo by Sarah Pack

Boden stands in front of the College of Nursing. While still working in finance, Boden volunteered with the Goose Creek Fire Department. Funny enough, he responded to exactly zero fires during the year or so he worked there – but the job was life-changing nonetheless.

NURSE *Continued from Page Eight*

Though he didn't replicate his success on the football field in Durham, North Carolina ("We got our butts kicked every week – but at least it was on national TV, right?"), he did make lifelong friendships and even met his future wife, thanks to a spur-of-the-moment weekend road trip to visit some pals at Davidson College.

FINDING HIS OWN WAY

There came a point in time at Duke when Boden couldn't hedge any longer. He needed to choose a path, to declare a major that would hopefully relate to his future career. With no real clear path in front of him, he opted for the logical choice: to follow in his father's footsteps and join the family business – real estate finance.

"My old man really wanted me to do it, so I gave it a crack," Boden said. Slight pause. "And it sucked."

In Boden's defense, he came to that conclusion honestly, after five long years working in finance – even spending a year post-graduate earning his Master of Management Studies (MMS) from Duke's Fuqua School of Business. He gave number

"You've got to find the balance between paying the bills and being happy. It [finance] did fine in the pay-the-bills department. It just didn't make me happy enough."

Zach Boden

crunching his all.

"I'm not trying to bang on finance," he said. "You've got to find the balance between paying the bills and being happy. It did fine in the pay-the-bills department. It just didn't make me happy enough."

What it did do, though, was provide Boden with the seed money – and more importantly, the confidence – to start his own business with one of his former Harvard football teammates. In 2019, the two launched HomeGrown Lifting, a company that manufactures and sells fitness equipment. Thanks to COVID (said no one,



Photo by Silver and Chalk Images

Zach and his wife Katy, a cardiothoracic nurse at Roper Hospital, got married on the beach in 2020. "It was during COVID, so we had another celebration in 2021," he said. "And everybody was there."

ever) and a new wave of people looking to work out at home, not in a crowded gym, HomeGrown took off in a big way. That successful foray, coupled with a wild hair – his wife, Katy, a cardiothoracic nurse, whose sense of purpose not only inspired Zach, but piqued his interest in health care – led him to volunteer for the City of Goose Creek Fire Department as a firefighter/EMT.

It was during those weekend shifts – answering calls to help people who had overdosed, fallen off a ladder, gotten stuck in a tree naked – that a fire was lit. (Ironically, he never once responded to an actual fire.) And his passion for patient care blossomed.

And so there he was, the human dichotomy: By week, he was MBA Zach, keeping things in the black; by weekend, he was volunteer firefighter/EMT Zach, keeping people on the ground (and in their clothes).

And he loved it.

More specifically, he loved the time he spent with patients. Helping them with their wounds. Riding with them to the Emergency Department. Sitting with them at the hospital.

So it was inevitable. In the summer of 2021, Boden was accepted into the MUSC College of Nursing's Accelerated Bachelor of Science in Nursing (ABSN) program.

During the 16 months that followed, he was named Student Government Association president, shadowed Katy for several weeks and even randomly got the call to be a bone marrow donor (he plans to meet the 5-year-old recipient this summer). In May, he'll begin a new job – trading in his suit for scrubs – as he works as an R.N. for Roper Hospital in its Emergency Department.

"I'm really excited," he said. "I'm gonna be raw, but man, am I excited to get up in the morning and do a job I'm passionate about."

Humanitas 2023 journal now available around MUSC campus

MUSC's arts journal, Humanitas 2023, is now available around campus. The student-edited journal provides a means of self-expression and creativity through art, poetry, prose, musical compositions and photography for MUSC students, faculty, staff and volunteers. Pick up your copy in student building lobbies or MUSC Library today.

For information, contact samuel@musc.edu.

Soon-to-be dermatologist's faith is more than skin deep

BY BRYCE DONOVAN

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McKenzie Dirr remembers the moment she knew.

It was her sophomore year in high school, and she had just gotten home from spending the day with a man who had solidified all of her intuitions. Though their time together only lasted a couple of hours, it crystalized something deep inside her.

She remembers watching that ER physician – a family friend who went to their church, who said he'd be more than happy to let the teenager shadow him for a shift – go from room to room, checking on each of his patients.

"I was blown away by how many things came at him – drug overdoses, vehicular accidents, there was a patient who had a fishhook in his finger – and he showed so much empathy and compassion," Dirr said. "It was just so inspiring to watch."

And so the die is cast. Dirr was solely focused on becoming a doctor. In the years that followed, she



Photo by Sarah Pack

McKenzie Dirr, dressed in Kentucky blue, graduates from MUSC's College of Medicine on May 20.

experienced plenty of highs and her fair share of lows, but what never wavered during that time were her determination or faith.

On May 20, McKenzie Dirr will make that dream a reality when she graduates from MUSC's College of Medicine. Finally, at long last, the Kentucky native will become the medical equivalent of the city of New York, the doctor so good they named her twice: M.D., M.D.

THE BIG DANCE

Of course, no single experience defines us. For Dirr, the night shift she worked alongside Peter Latino, M.D., at the University of Louisville Hospital simply brought into focus the writing that had long been on the wall since she was a little girl, fixing her stuffed animals' boo-boos in her bedroom.

Raised in a large Catholic family – one of four siblings – Dirr's faith is the cornerstone of who she is. In fact, she can't think of too many Sundays growing up when her family wasn't at church. As a result, values like hard work, compassion and helping others have been instilled in her so deeply, it makes sense that she would choose a profession that utilized them all to such a great degree.

"My parents always said, 'We are here to give back,'" she explained. "So it's just always been something I've lived by – kind of like second nature."

But don't mistake that kindness for softness. Despite the friendly exterior, Dirr is as tough as they come. And it's that refusal to quit, to lean in when things get difficult, that have defined who she is her entire life. And nowhere – outside of possibly medical school – was that determination more evident than on the dance floor.

"I still identify as a retired ballerina," she said with a laugh. "I just did a workout this morning, and I was dying."

While most ballet dancers begin at a very young age, Dirr started much later – around the eighth grade. Her mother, an avid dancer who took ballet recreationally for years, had always tried to get her daughter to tag along to one of her classes. Finally, one day Dirr agreed and joined her mom. It was anything but love at first plié.

"Honestly, I was so bad that first time, I had to come back because I couldn't finish on that note," she said.

And come back she did. For the next five years, ballet was the thing that kept her focused, taught her to be more resilient, to work harder. It brought her great friends,

See PHYSICIAN on page 11



Photo Provided

Dirr stands with her parents at the Alpha Omega Alpha Honor Medical Society ceremony earlier this year.

PHYSICIAN *Continued from Page Ten*

newfound confidence. It led her to undergraduate school at the University of South Carolina, a school with strong programs in both dance and biology.

“It helped me realize you get as much out of a day as you can put into it,” she said. “With dancing, you have to learn how to react to difficulty, to deal with constructive criticism. The hours are long, and you can get really exhausted, but you have to keep going. Medicine is the same way. There is no doubt it helped prepare me for medical school.”

Hard work, her faith and her family. Those were everything to Dirr, until six years ago, when she added one more arrow to her quiver: a 6-foot-6 knight in shining pinstripes.

GOING THE (LONG) DISTANCE

After graduating from USC, Dirr’s friend – who was dating one of the Gamecocks’ baseball players – set her up with one of her boyfriend’s former teammates.

The first time Dirr met Jordan Montgomery, she remembered liking him right away. More than his easy smile, his laidback attitude, what appealed to Dirr most was his kindness.

“I think immediately I was like, ‘He’s special. He’s sweet. He’s God-fearing, and he gives back to the community,’” she said. “I mean, who wouldn’t be head over heels for that?”

A pretty cool footnote: He was also a starting pitcher for the New York Yankees.

For the next two weeks, Dirr and Montgomery were inseparable, spending any free moment they had together. Even though he had to leave town two weeks later for the beginning of spring training, the two knew what they had was real. And so began a long-term, long-distance relationship that eventually culminated in their wedding last December.

During the time in between, the two spent as much time together as possible. Anytime she had a free moment, she’d fly up to visit him. “That’s what planes are for,” she laughed. During the offseason, he was always by her side – a ray of sunshine in a chaotic med school lifestyle.

“He was there through it all,” she said. “He saw me after two hours sleep, up all



Dirr and her husband, Major League Baseball pitcher Jordan Montgomery, tied the knot during his offseason.

night studying. But he was just always so supportive. I remember a bunch of times he brought me dinner to the library.”

Though their physical differences are immediately obvious – Dirr is petite, Montgomery a towering man – it’s not hard to see why they are so connected. As different as their two passions might be – his, throwing a baseball 95 mph; hers, saving lives – they have three very important things in common.

Hard work, sacrifice and faith – all of which have brought them to this point – a place of opportunity and gratitude.

In March, Montgomery started his first full season with the Cardinals. In June, Dirr will head to Boston to do her intern year at Beth Israel Deaconess Medical Center. From there, it’s off to Vanderbilt University Medical Center, where she’ll be a part of their dermatology department, something she’s dreamed of for a long time.

“I’ve always prayed I would land where I was supposed to,” she said. “My prayer was I’d find something I was good at and loved at the same time. And I think that’s just what’s happened.”

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Research stand-out possesses skills, drive for a career as government scientist leader

BY CINDY ABOLE

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Growing up in the Maryland suburbs outside of Washington, D.C., Lily Neff's attraction to science was sparked in the classroom at Long Reach High School in teacher Jodi Duff's anatomy and physiology and marine biology classes. It was Duff's enthusiasm and hands-on approach in teaching about the biodiversity of marine life, environmental science and exploration of the Chesapeake Bay ecosystem that sparked Neff's interest and desire to learn more. It was all this smart, independent and curious teen needed to inspire her — setting her on a path that would soon launch a career in biomedical science research.

Neff's parents, Hyon Mi Neff, a public school assistant principal, and Thomas Neff, a career civil servant, guided their only child through her educational experience as she excelled in academics, especially courses in Earth and space science, biology and chemistry. She went on to Wesley College in Dover, Delaware, where she majored in biological chemistry and was encouraged to do research, which helped to earn her a NASA Delaware Space Grant Consortium Undergraduate Tuition Award in 2016, 2017, and 2018. That award opened doors to more opportunities and collaborations, including being selected for a Space Life Sciences Training Program summer internship, conducting research at NASA Ames Research Center in Moffett Field, California.

"It was nice to have the background and experience of already working in a government-sponsored lab, learn research grant guidelines and learn new skills to strengthen my graduate school application," said Neff.

In August of 2019, Neff began her doctoral studies in biomedical sciences at the MUSC's College of Graduate Studies

"Lily's work has made pivotal contributions to understanding the role of macrophages and heart disease, thanks to applying new study techniques, pre-clinical models and technology she's utilized."

Amy Bradshaw, Ph.D.

and was selected to participate in the T32 training grant in Cellular, Biochemical and Molecular Science under Graduate Studies' Dean Paula Traktman, Ph.D., which provided tuition and research support. This was a new project that trained students with enhanced research and critical thinking skills to develop a breadth of skills. Neff chose the communications and community engagement and advocacy enrichment tracks for her training.

Amy Bradshaw, Ph.D., a professor in the College of Medicine's Division of Cardiology, has served as Neff's adviser. Bradshaw's research explores collagen, the extracellular matrix

and the progression of fibrosis development in the heart and heart failure.

Neff, who trained in Bradshaw's Lab, studies cardiac fibrosis and heart failure with preserved ejection fraction. More



Bradshaw



Photo by Sarah Pack

College of Graduate Studies Lily Neff has worked in the lab of mentor Dr. Amy Bradshaw studying cardiac fibrosis and heart failure.

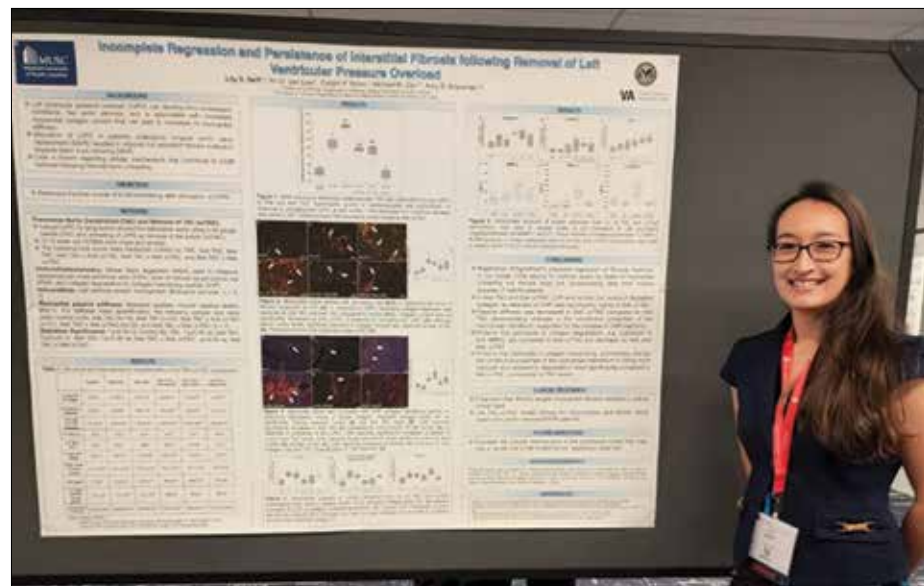


Photo Provided

Neff presented her research at the American Heart Association's Basic Cardiovascular Scientific Sessions 2022 held in Chicago.

specifically, she's looking at the role of macrophage immune cells in fibrosis regression.

"Lily's work has made pivotal contributions to understanding the role of macrophages and heart disease, thanks to applying new study techniques, pre-clinical

models and technology she's utilized. There's a distinct macrophage population that's present in the heart that's involved in degrading collagen and helping to regress fibrosis," Bradshaw said.

In 2021, Neff was awarded a prestigious

See SCIENTIST on page 13

SCIENTIST *Continued from Page Twelve*

National Defense Science and Engineering Graduate (NDSEG) Fellowship in the Biosciences sponsored by the Air Force Research Laboratory, Office of Naval Research and the Office of Army Research. As one of 159 national fellows selected that year, Neff was also the first MUSC student named as an awardee. The award covered full tuition for up to three years and provided a stipend, plus travel funds for professional development. In exchange, Neff was committed to conducting research relevant to the Department of Defense's (DOD) designated research disciplines.

"Heart failure is a disease that's relevant to military personnel and civilians alike. For me, I wanted to conduct research and work for the DoD. The experience was so different, but being present in the lab, learning and going through new experiences, made me both strong and resilient in every step," she said.

On April 5, Neff defended her research, "Role of Macrophages in Regression of Myocardial Fibrosis Following Alleviation of Left Ventricular Pressure Overload," successfully to Bradshaw and four dissertation committee members.

Aside from her time dedicated to research, Neff also focused her time on new outreach projects, such as South Carolina – Policy, Engagement, Advocacy and Research (SC-PEAR), a graduate-led organization aimed at expanding graduate student interest in science policy opportunities and promotion of science and science-based policy issues. As co-directors of SC-PEAR, Neff and Alexa Corker worked on recruiting students and providing other support. On April 28, the group hosted its third annual "Lab to Leaders" event, an afternoon program in which participating students were invited to lecture and practice explaining their research to scientific and lay audiences.

"It's really important that the lay public understands science and what really happens in a lab, and why we do our work. The COVID pandemic forced us as scientists to talk about research and science more to the public and instill trust in the science community," she said.

Upon graduation, Neff will return to Maryland to continue her biomedical and defense-related research through a

postdoctoral fellowship working full time at the Systems Biology for Diseases of Military Relevance Division at Walter Reed Army Institute of Research (WRAIR) in Silver Spring. This fellowship is awarded by the National Academies of Sciences, Engineering and Medicine (NASEM) on behalf of the federal research laboratories. For this fellowship, Neff wrote a 10-page proposal – choosing to connect her dissertation research in Bradshaw's lab with post-traumatic stress disorder project at WRAIR. She proposed investigating unique immune cell signatures and cardiac fibrosis biomarkers in samples from PTSD patients to develop new translational applications that one day can lead to clinical subtyping and more effective drug therapies.

After a year or more, she'll choose any of three government research scientist career paths – a bench research scientist, a scientist administrator or program director – to follow.

Ultimately, Neff's career goal is to become a program director, as she understands the big-picture scope of projects; is highly organized; and loves working, teaching and mentoring students of all educational levels. "It's always been natural for me to help others, and facilitating a good work environment while training the next generation of scientists is important to me," she said.

Her mentor strongly agrees. "I think Lily can do anything. She's smart, determined, caring and has great skills," Bradshaw said. "Whatever she puts her mind to, I have no doubt she'll accomplish it. Lily's a very special lady, and I feel very privileged to have mentored her in my lab. I think she's going to be a great reflection of MUSC as she goes forward in her career. We were really lucky to have her and benefited greatly from her being here."

Changes to MUSC parking garage, lots access starting May 19

MUSC's Office of Parking Management is upgrading the gated access systems within all parking garages and lots with a go-live date of May 19. The change features the launch of a new access system. For information, contact parkit@musc.edu or 843-792-3665.

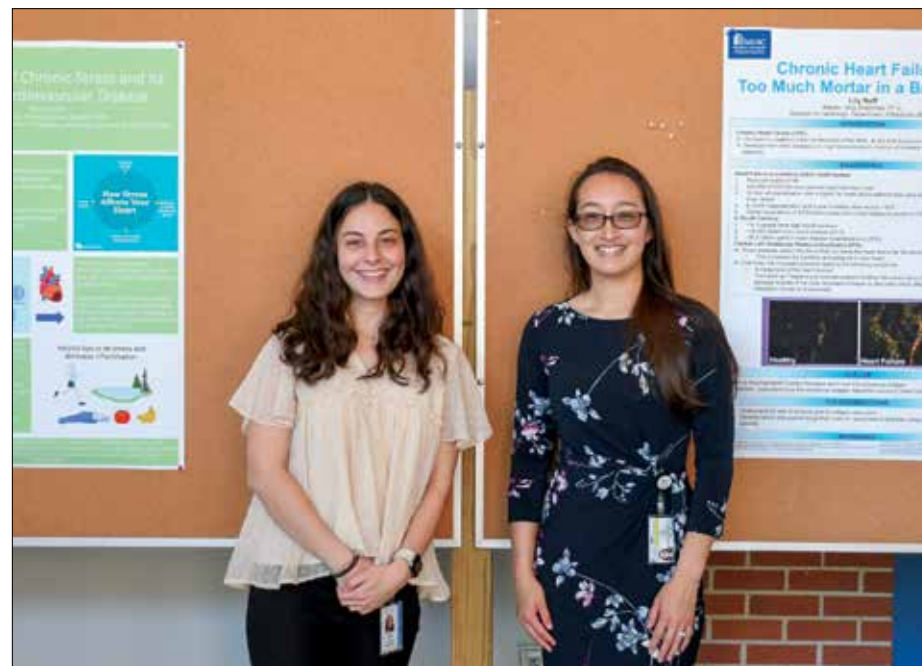


Photo Provided

Graduate student leaders Neff, right, and Alexa Corker founded SC-Policy, Engagement, Advocacy and Research. In late April, the group hosted its third "Labs to Leaders" event to help students communicate their research to the public.

MUSC HOLLINGS CANCER CENTER

LOWVELO23

WHAT IS LOWVELO?

LOWVELO is our fundraising bike ride event that rallies the entire community behind one amazing cause – lifesaving cancer research at MUSC Hollings Cancer Center. This year's ride will take place on Saturday, November 4 and participants can join us by choosing from four cycling routes or by selecting a virtual option. Following the ride, there will be a block party at the finish line with live music, food, drinks, and fun to celebrate cancer survivors and honor loved ones lost to the disease. We would love to see participation and support from every area of MUSC. We've all been touched by cancer in some way, and this event is a wonderful way we can all contribute and fight back, because 100 percent of funds raised by participants goes directly to cancer research at Hollings.

EARLY BIRD SPECIAL

Register during the first 24 hours – April 3, 12 a.m. to 11:59 p.m. to take advantage of our early bird rate! This includes FREE registration and the lowest fundraising commitment for ALL route lengths – just \$300.

[Register here](#)

THE ROUTES

NEW THIS YEAR- our longest route will now be 80 miles in an effort to allow all riders to celebrate together at our big finish line block party. There will also be 50-, 23- and 10-mile options, as well as a virtual "home team" option.

[More about the routes](#)

For questions, or to request photos, graphics or videos to help spread the word, please contact Kristin Lee at leekris@musc.edu.

End of public health emergency comes as some experts warn COVID could make a comeback

BY HELEN ADAMS

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Michael Sweat, Ph.D., was ready for the May 11 end of the COVID public health emergency. “I think it is the right decision and for one reason: Emergencies don't mean anything if they're just done too much or never end,” said the leader of MUSC's COVID-19 tracking team.

“And we are in a different place. There's just no question.”

Sweat, a former research scientist with the Centers for

Disease Control and Prevention, professor in the MUSC College of Medicine and adjunct professor for the Johns Hopkins Bloomberg School of Public Health, would know. He's been posting COVID data online, dating back to March 2020. That's the month the World Health Organization declared there was a pandemic.

“The case numbers are really low. We're at a historic low,”

Sweat said. But his team's work isn't finished. It will continue

tracking available data, such as wastewater testing for the next year, and post updates on its site.

Here's some of what will change with the end of the public health emergency, according to Sweat.

“There will be the loss of some funds and services.

There's a sort of a political dimension, too, that I think is important,” he said.

Regarding funds and services, here are a couple of examples. Some Medicare and Medicaid waivers and broad flexibilities for health care providers will end. And coverage for COVID testing will change.

Meanwhile, here's what Sweat means when he refers to the political dimension. “We have democratic processes to mediate civil freedoms. During emergencies, some civil freedoms can be taken away without going through the normal democratic processes. And that happened during COVID. I mean, there were lockdowns; there were mask mandates, vaccine mandates, all kinds of things that circumvented the normal democratic process. That's ended.”



Sweat



A sign from the early days of the pandemic no longer applies.

iStock Photo

“There's more immunity. People aren't dying like they were. The health system is functioning really fine for the most part. We're really in a way better place, and we need to recognize that.”

Michael Sweat, Ph.D.

Data reporting isn't mandatory anymore. “The legislation through the emergency act that got put into place required states to report data to the CDC, particularly data on COVID cases. So that's already been weakened enormously. States have gone to weekly reporting or no reporting in some cases. But even the CDC, now they don't have to report anything anymore. So that's a deficit,” he said, referring to the Centers for Disease Control and Prevention.

Money set aside for vaccine development may dry up. “That's not necessarily totally linked to the public health emergency, but it has to do with the budget processes that are going forward,” Sweat said of the current political battle in Washington.

The changes are coming against the backdrop of a report

by a group of prominent epidemiologists and virologists. “They were weighing in on the chances of another variant similar to Omicron. They projected that there was up to a 40% chance that by 2025, we were going to have another one of those,” Sweat said.

“That's the risk, you know, that we could have another big wave. If we kind of take everything apart, it would be harder to deal with it and track it and put things back together.”

He's also concerned that the end of the public health emergency will reinforce many people's impression that COVID is gone, and they'll quit paying any attention to it. “It's very reminiscent of what happened in the 1918 flu epidemic. Ken Burns did a documentary on that. One of the key things that I remember very vividly was how there was this collective amnesia after the epidemic because it had been so horrible.”

It's not surprising that people wanted — and want — to get back to normal, Sweat said. He just hopes people at higher risk of getting seriously sick from COVID will continue to be vigilant. “If we see spikes, they need to mask up and be cautious.”

But we are, as he said, in a different position. “There's just no question. There's more immunity. People aren't dying like they were. The health system is functioning really fine for the most part. We're really in a way better place, and we need to recognize that.”



Photos Provided

Mattie Hucks with her parents, Charles and Kathy Hucks, at her White Coat Ceremony in 2020.

PHARMACIST *Continued from Page Four*

experiences, which allowed her to explore more opportunities in this growing specialty. She worked on various types of projects and was able to apply her already honed skills in medical writing to focus on targeted therapeutic disease areas and patient audiences.

A favorite rotation was with Eli Lilly in Indianapolis, Indiana, where Hucks worked with the Value and Access Team on Value-Based Arrangement Strategy. This particular division of Eli Lilly works with specialized medications and explores methods to make these products accessible to patients who need them the most.

“I met so many people and learned so much about their professional journeys through this experience. It emphasized how flexible the industry space is for pharmacists, physicians or anyone with a clinical background today. There’s so much room for lateral movement and growth.”

Hucks credits College of Pharmacy faculty, preceptors and classmates for preparing her to branch out into the world. She also has particularly valued MUSC’s interdisciplinary approach to education and health care. She hopes to have a similarly positive

experience during her fellowship with the global biotechnology company Biogen in Cambridge, Massachusetts. During this two-year experience, Hucks will rotate through different functional areas within Medical Affairs, including medical publications, digital health, congress excellence, medical expert engagement and health outcomes research.

Hucks is particularly drawn to Alzheimer’s disease and neurodegenerative diseases, which are among some of Biogen’s many disease-space areas of research. With drug companies working to make headway in the discovery of drugs and treatments, she is particularly excited for the potential of the company’s new drug to treat Alzheimer’s, lecanemab, which was granted accelerated for approval by the FDA earlier this year.

Still, there is one significant milestone between now and her move to Cambridge. At MUSC’s May 20 graduation, Hucks will be joined by her family – her parents, brother, Collin, who is a rising second-year pharmacy student at MUSC, her grandparents and extended family.

“They’ve all been a strong support system, and I can’t wait to celebrate this moment with all of them,” she said.



Hucks completed an industrial pharmacy rotation with Eli Lilly working with specialized medications and developed strategies and information for various patient audiences.

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U.S. News & World Report ranks College of Medicine programs among best graduate schools

Staff Report

MUSC's College of Medicine (MUSC COM) is included in both the research and primary care rankings in the U.S. News & World Report's 2023-2024 rankings of the Best Graduate Schools.

MUSC COM ranks No. 56 for research and No. 58 for primary care on the USNWR list. The Best Graduate Schools rankings in these areas are based on two types of data: expert opinion about program excellence and statistical indicators that measure the quality of a school's faculty, research and students.

Lisa Saladin, PT, Ph.D., executive vice president for academic affairs and provost, said, "MUSC is honored to be recognized for its commitment to providing world-class academic education through innovative

curriculum and quality clinical training via award-winning faculty who are dedicated to excellence."

Terrence E. Steyer, M.D., COM dean and vice president for medical affairs, stressed the importance of being recognized in the areas of primary care and research. "Our research funding has consistently risen in recent years, a strong indicator of the quality and significance of the research being conducted at MUSC. Our focus on supporting excellence in primary care is reflective of our commitment to meeting the needs of all citizens of South Carolina."

Steyer reports that 90% of medical students at MUSC participate in research with a faculty member, ensuring that students explore the many opportunities involved in advancing medical science. About a third



Photo by Sarah Pack

College of Medicine students Alex Canova, from left, Danielle Marino and Jocelyn Hardy practice their skills at the MUSC Simulation Lab.

of MUSC medical school graduates go into primary care, an increasing area of need that

includes internal medicine, family medicine and pediatrics.



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