

Changing up the game plan

New chapter for Cullen Harper

BY BRYCE DONOVAN

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Most college football players try to take it easy the night before a big game. But Cullen Harper — the starting quarterback for the Clemson Tigers from 2007 to 2008 — wasn't most football players. He remembers spending countless hours on Friday nights drawing up every pass play the team had. He'd go through all the route trees. All his progressions. He'd draw until his hand hurt. Then he'd quiz himself.

Where is my protection? Is the defense going to blitz? Who's my hot read?

"It really was something I took pride in," he says, his bright orange jersey now replaced by dark blue scrubs. "I felt like I couldn't ever be too prepared. I always wanted to be one of the hardest workers and a guy people could depend on."

Harper's place in Clemson lore will forever be tied to a then little-known wide receivers coach. It was 2008, and Clemson, which was a preseason top 10 team, was underachieving massively. Midway through the season, Clemson brass felt a change at the top was needed. Head coach Tommy Bowden was out. Taking his place on an interim basis: the wide receivers coach. His name was Dabo Swinney.

Swinney told Harper and the group of seniors that he needed them to be "all in." Harper rewarded Swinney's faith by leading the Tigers to victories in four of their last five games — including the ever-important win over rival South Carolina — making them bowl eligible and quite possibly landing Swinney the head gig on a permanent basis.

"Obviously I didn't get a chance to coach him long," Swinney said from the recruiting trail, "but I'll always appreciate how hard he competed and fought to try to leave the program better and to support me and what we were



Photo by Clemson Athletics

Cullen Harper led the Atlantic Coast Conference in passing in 2008. That same season he would go on to lead the Tigers to wins in four of their last five games. Below photo: Harper in MUSC's dental clinic after his first extraction.



trying to build in the very infant stages of our program."

Building off Harper's leadership, Swinney has gone 116-30, leading the Tigers to two national championships in the past three years. In April, he signed a 10-year, \$93 million contract — a lifetime by college football standards.

Harper is ecstatic for the coach who gave him the chance to excel. For him, the experience he gained was life-changing — but maybe not quite in the way he expected at the time.

After graduation, he was signed by the Buffalo Bills. But after a year or so, he felt things weren't really working out the way he had hoped. Harper made the difficult decision to walk away from the sport he had been playing since he was a little kid.

"It wasn't easy to quit because football was everything to me. I had made plans. It was literally everything I had dreamed about. But I gave myself a deadline, and when it came and things weren't where I wanted them to be, that was it. I moved on," he says. So Harper went back to Clemson. Got his MBA. He took a job selling medical devices and made friends with doctors and dentists. Life was good. But something was missing.

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Sisters complete yet another program together.

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From wildlife rehabilitation to the neurosciences.

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10 New physician fulfills dream

From Moscow to MUSC, pharmacy standout loves to lean in

By HELEN ADAMS

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Alex Novgorodov has a problem, and he knows it. But it's the kind a lot of us wish we had. "It's kind of a struggle, because I'm the kind of guy who loves to raise his hand whenever there's an opportunity to help. Sometimes it's hard to stop and think about, 'Hey, do I have time in the day?'"

Usually, for this College of Pharmacy student who will graduate on May 18, the answer is yes. His can-do drive has led to multiple leadership positions at MUSC, a near-perfect grade point average and an upcoming residency at LifePoint Health in Nashville, Tennessee. To put that into perspective, only about half of all pharmacy students who apply for a residency get one.

"He is incredibly bright," says Cathy Worrall, Pharm.D., associate dean for student affairs and experiential education in the College of Pharmacy.

Novgorodov is the son of two MUSC researchers, Tatyana Gudzh and Sergei Novgorodov. The family moved to the U.S. from Moscow, Russia, when he was 3 years old.

"We lived in Columbus, Ohio, a little bit, then lived in Cleveland for about a decade, then moved down here. Both my parents are researchers, so they went where the grant money was. And I got to experience a lot of different kinds of schools, from underfunded schools to going to a private school on scholarship," he says.

Novgorodov went to the University of North Carolina at Chapel Hill and graduated in three years with a degree in biology. He then finished two years of medical school before deciding pharmacy was a better fit. "My classes on pharmacology were always my favorites."

So he backtracked, taking prerequisite courses required for pharmacy school and applying to MUSC's College of Pharmacy. "I started there and really loved it."

Novgorodov also helped his parents edit their research articles for publication in the Journal of Biological Chemistry and the Journal of Lipid Research — and managed to find time to serve as a campus leader.

"I thought I brought a different perspective to things, and I was really excited about the opportunities offered to me. I ended up running for student representative initially and



Photo by Sarah Pack

Alex Novgorodov will receive his Doctorate in Pharmacy.

getting that position in student government, and I tried to make the most of it."

He ran for other positions as well, at one point serving in six or seven leadership positions at the same time. "That may have been too many all at once," he says with a laugh. "But I always tried to do something new."

Trying new things is one of his strengths. So is his ability to analyze data. Novgorodov has specialized in pharmacy informatics at MUSC, a field that focuses on collecting and analyzing medication-related data to help doctors make the best decisions for their patients.

"I started a new internship position with our pharmacy information solutions group that does a lot with Epic. I volunteered with them." Epic is the electronic medical record system MUSC uses.

"It counted toward my pharmacy license. They actually offered me a job, which they'd never done before. I got Epic training. I don't think there are any other students in the country who have had Epic training. Another student came

behind me, and he got it too, through my proposal."

Novgorodov will use his informatics training during his residency in Nashville. LifePoint Health has about 90 hospitals in 35 states — just the kind of network he'd been hoping to become part of. "If I'm able to work with a team of people on big projects where we make an impact on a health care system, that's kind of my dream."

College of Pharmacy professor Kelly Ragucci, Pharm.D., says Novgorodov will stand out anywhere he works. "Alex is one of the most mature and thoughtful students that I have had the pleasure to teach. He is well on his way to a distinguished career in the profession of pharmacy."

He'll take with him fond memories of the campus where he started out thinking he'd go in one direction, medicine, then found his true professional calling in pharmacy. "I've loved it here. I just love the people more than anything else. I think the faculty, the culture surrounding education here is wonderful. Everyone's always there to help you out," Novgorodov says.



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MUSC Annual Hurricane Awareness Day

10 a.m. to 2 p.m., May 30, MUSC Horseshoe

The 19th annual Hurricane Awareness Day at MUSC will take place on Thursday, May 30 on the MUSC Horseshoe.

Topics include hurricane preparation and sharing of resources. Come see a diverse group of agencies and departments from around the

Tri-county area that will focus on hurricane preparedness. Featured are WCBD-TV meteorologist Rob Fowler, the National Weather Service, Joint Base Charleston, the S.C. Emergency Management Department, Charleston Fire Department and other organizations.

MEET LENDRUM



Lendrum Morrow

College

College of Medicine

Undergraduate school

Brigham Young University

How are you changing what's possible at MUSC

Being a part of the SGA for the last four years, it has given me the opportunity to get to know many students from different colleges and create interprofessional relationships.

Family

Wife, Christine; and daughters, Harper (2) and Hayden (7 mos.)

Hobbies and interests

Beach, kayaking, wakeboard, all sports

Favorite summertime memory

Sitting on a beach and eating boiled peanuts

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A family affair — faith, service, learning

Is there anything this dynamic duo can't do?

By MIKIE HAYES
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Best friends. Classmates. Authors. Sisters — in more ways than one. Since childhood, Roxanne Brown Johnson and Michelle Brown-Nelson have been close. And now, they graduate together, each having earned her Doctor of Health Administration degree — with the love and support of the other.

This, however, isn't the first degree they earned with one another at the College of Health Professions; it's their third, having completed their Bachelors of Health Science in 2008 and Masters of Healthcare Administration in 2010. In fact, their youngest sister, Sharee Brown Waring, also got her BHS at CHP. And well before any of that, even before the two earned their licensed practical nursing degrees, Roxanne and Michelle got their certified nursing assistant certificates together. They love to learn, they said, and the fruit of their labors bears that out.

Impeccably polished and decked out in matching Alpha Kappa Alpha-crested blazers, Michelle in salmon, Roxanne in crisp white, the ladies look like they are about to walk on stage to deliver the commencement address. That's not surprising; both are sought after

public speakers. As they talk about their latest endeavors, it's hard to imagine how they had time to earn their doctorates. But then they explain how their parents, family and faith got them through countless sleepless nights. Surgeries. Emergencies. Life.

The sisters grew up in West Ashley — part of a tight-knit family that focuses on faith, education and a strong work ethic. They lived next door to cousins, aunts and uncles and just up the road from plenty of other relatives. In fact, their neighborhood, Trotty Woods, is named for family.

The overachievers know exactly where their drive comes from. Their dad, Elijah Brown, owned a demanding plumbing business, and their mom, Rosie, was dedicated to their learning. Both pushed the girls to their fullest potentials, and at the same time, supported them in all their efforts.

But while other kids were playing outside after school, the sisters hit the books. They laugh when they explain that during summers, their mom would load up on math and science workbooks and drill them. When the girls would peer out the window, their cousins would be running around having fun — while they studied. "During summers!" they chimed in unison, giggling as sisters do. Many nights, they said, their mom held Bible



Photo by Sarah Pack

Roxanne Brown Johnson and Michelle Brown-Nelson are proud of their book, "It Takes Money Honey," just released in late April.

studies at the house. She would tell them they were welcome to invite their friends. "We would say, 'Mommy! Nobody wants to come to Bible study,'" Michelle explained.

Little did they know the impact this foundation would have on their lives. Friends and professors call them superwomen.

UNFATHOMABLE SCHEDULES

While working on their doctorates, both held down full-time jobs in the health care sector. Roxanne is the minimum data set coordinator at Heartland of West Ashley Rehabilitation & Nursing Center, a 125-bed skilled nursing community. As a member of the management team, she does patient assessments and creates their care plans, while ensuring compliance with federal and state regulations.

Michelle is the executive director of Ashley River Plantation, a 123-bed assisted living community. She credits MUSC with helping her build the skills necessary to excel in a leadership position.

"Certainly, having a community of that size, with 75 to 80 staff members, the leadership skills that I learned here at MUSC have provided a solid foundation — teamwork, cultural dynamics, diversity, strategic management. They all serve to help me on a day-to-day basis to be able to lead the community of residents and my staff there."

Oh, and add in one more job — wives/ moms. In addition to excelling in their

arduous masters and doctoral programs and full-time careers, they run non-stop households, managing homework and after-school activities and making sure there are nutritious hot meals and plenty of love to go around.

IT TAKES A LOT OF LOVE

Michelle, married to her husband, Theodore, for 20 years, has two busy teenage girls — 14 and 18. Last year, her youngest had spinal surgery at MUSC. She said it was a relief for her daughter to be at MUSC.

"Over the past 15 years, MUSC has given me so much. It truly is a world-renowned institution in every way. To be able to rely on everyone's expertise and caring in this situation — it meant the world."

Roxanne and husband, James Johnson, are parents to seven kids: three by birth, four by heart. When their next-door neighbor ended up in the hospital, they were there for him. The problem? He was raising his daughter's four kids alone — his wife had died about 18 months prior. Roxanne and James immediately offered to watch the 2-, 4-, 8-, and 11-year-olds. But when he never made it out of the hospital, there was no one to raise his four grandkids. Roxanne and James didn't hesitate to step in and make the brood part of their own, even when parts of the process were difficult. After 27 years of marriage, they have kids ranging from 7 to 26.



Photo provided

A cousin's birthday party brings five of the seven sisters, plus an aunt and cousin.

See SISTERS on page 7

A nurse stood up for her; Now she wants to do the same

By LESLIE CANTU

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Tindall McRae's palms itched.
A lot.

There are many odd and uncomfortable — and, yes, sometimes even humiliating — things that happen to a woman's body during pregnancy, but this itching seemed off.

The doctor chalked it up to pregnancy weirdness. But the nurse wasn't willing to let it go. She insisted on a blood test to check for a rare condition: intrahepatic cholestasis of pregnancy. It's a liver disorder in which bile builds up in the liver until it leaks into the bloodstream, and while it disappears upon delivery, it also can cause breathing problems for the new baby or even stillbirth.

The blood test showed McRae was one of those few women with the condition. She was induced the very next day, and her son Howell was delivered at 35 weeks. She's forever grateful to the nurse who spoke up.

"If it wasn't for that nurse taking the time to say, 'You know what? I think you're wrong. I think there's something seriously wrong with her,' I wouldn't have my 3-year-old today," McRae said.

Not only did the nurse save her baby's life, but she also inspired McRae to change the course of her career. A third-generation teacher, McRae decided she wanted to become a nurse.

This week, McRae joins 291 other men and women who graduate from the MUSC College of Nursing this academic year.

"I'm excited. I'm ready to start this new chapter," said McRae, who has already accepted a position at Beaufort Memorial Hospital on the total joint replacement medical/



Photo by Leslie Cantu

Walterboro native Tindall McRae earned a Bachelor of Science in Nursing through the College of Nursing's accelerated program.

surgical floor.

Born and raised in Walterboro, the "front porch of the Lowcountry," McRae attended the College of Charleston. While in college, she met her husband, Chase, a Mullins boy who was attending The Citadel. They settled in her hometown. She became a special education teacher, and he became a youth minister and high school science teacher.

McRae says she initially focused on special education because her mother and grandmother, both teachers, told her that special education teachers can always find a job. She soon found, though, that she had a knack for "loving on" people who are the most vulnerable.

"I realized quickly how much I loved caring for people who are not always cared for appropriately," she said.

Besides their special needs — such as learning and emotional disabilities — McRae's students generally came from low-income backgrounds and sometimes lacked family support.

"I clothed kids that didn't have clothes. I had food for them. I made sure they smelled good so people didn't make fun of them," she said.

On the home front, McRae and her husband soon started a family. Their first son, Mitchell, is now a 5-year-old kindergartener.

Then she got pregnant with Howell.

Along with the intense itching, which usually shows up in obstetric cholestasis patients late in the pregnancy, McRae was exhausted. She figured that came with the territory — being pregnant while chasing after a toddler.

"I had no clue. I had no medical experience at that time. I'm just thankful for that nurse," she said.

Although Howell was delivered early, he was healthy and didn't have to spend extra time in the hospital.

"He was fine. He was perfect. They said he wouldn't have

been if it had been another week," McRae said.

With her baby safely delivered, McRae found a new

See NURSE on page 12



Photo provided

Tindall McRae with fellow nursing students.



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The three Brown sisters — Roxanne, Michelle and Sharee — with six of Roxanne's seven kids and one of Michelle's two girls at a Black History Month program at Royal Missionary Baptist Church.

SISTERS *Continued from Page Four*

"Our lives are so filled with love and family and giving. Those principles are the cornerstones of our lives. We all pull together. We do what it takes. We stand up for what is right. That's what we saw from our parents and from our grandparents growing up, and that is what speaks to us. We rely on family."

"Family isn't just important," Roxanne said. "It's everything."

Last fall, Roxanne's daughter Faith — a college freshman — suffered two strokes while away at school. Doctors assessed her, and she was quickly transported to MUSC from St Francis. It was touch and go at times, but Faith, while still recovering is improving every day.

Faith — in addition to being a beautiful name — is the sisters' anchor, and it sustains them. Having children in the hospital, suffering serious conditions and undergoing major procedures, is stressful, but it's also when you know who and what you can count on, they said.

"Our Christian principles — the foundation of our faith — gets us through. We rely on it," Roxanne said.

"Yes. Philippians 4:13," Michelle added, referring to the well-known Bible verse. "Remember Mommy made us memorize it when we were little? 'I can do all things through Christ who strengthens me,'" she said, reciting the Scripture powerfully. "I can remember in elementary school, taking a math test, and I had that verse written on a piece paper. I don't think Mommy even knows about that."

But their sister bond surpasses even DNA. Roxanne and Michelle are members of AKA, the nation's first black sorority. Michelle is the chaplain of the Omicron Rho Omega chapter, and Roxanne serves as the chair of the Connection Committee and doorkeeper. The sisterhood is meaningful to them. All year, they are involved in fundraisers, drives and community service projects. They look forward to next year's regional conference and the numerous logistical assignments

they'll have. "You're going to see a lot of pink and green in Charleston," Michelle said with a laugh.

While their weeks are overscheduled, Sundays are reserved for church and fellowship. Michelle serves as a deaconess at Mount Moriah Missionary Baptist Church, and Roxanne has been involved in numerous ministries at Royal Missionary Baptist Church — both located in North Charleston.

ENOUGH IS NOT ENOUGH

In addition to school, jobs, families, sorority and church, Roxanne and Michelle manage to make time to fulfill yet another passion they share: motivational speaking and inspiring others. And while they do most things together, each sister has her own company and mission.

Michelle is the CEO of Deal Straight Leadership and Development Enterprises where she provides coaching, training and mentoring and does speaking engagements. She believes people are in real need of leadership development. She just recently conducted a leadership conference in Bethesda, Maryland, for federal employees, where she taught these principles.

"The leadership I teach to people is about being open, honest — dealing straight with people. You have to tell people the truth, whether it's good or bad," she said. "I love to motivate and inspire current leaders and future leaders. Leadership excellence — that's what motivates me."

Roxanne has applied for a 501 (c) (3) for New Horizons for Our Communities — a nonprofit she runs. She teaches adults and kids gun safety awareness around the state.

"We have such a high rate of gun violence in South Carolina, and we're trying to reduce that through education. It's critical that guns are locked up. Put them in a safe. If your kids are spending the night anywhere, ask the parents if they have guns in the home. If so, how do they secure them? Are they in a safe? These are your children: You need to know."

Both women credit these types of leadership qualities to the education they received at the College of Health Professions

and the faculty who equipped them, Michelle said.

"Our programs at MUSC made us think, broaden our horizons and step out of the box — critical thinking, building leadership, bringing teams together. When you think about it, we spend more hours a day working with our counterparts than our families. It's been extremely rewarding and valuable."

Michelle is also an adjunct professor at the College of Health Professions, teaching part time in the cardiovascular perfusion program. "I love teaching leadership, quality and information systems at the college. Health care is important, and it's really growing. People are living longer. There are more complex medical issues. It's exciting to teach future health care providers."

She credits Jami DelliFraine Jones, Ph.D., chair of the Department of HealthCare Leadership and Management, for her mentorship and Naomi Sampson, assistant dean for strategic initiatives, for her support. "I thank God for their help and persistence and for guiding me."

Roxanne's goal is to become a professor in health care policy — seeing it in action was key. "We went to D.C. to see how policy is made," she explained. "Congress was voting at the time to defeat Obamacare. It was also interesting to see the FDA and areas where health care policy is determined."

Community engagement is another subject that she has already set into motion through her advocacy work.

"At MUSC, we learned community engagement, which is important. Giving back to the community as a whole, trying to help people and educate them. MUSC molded us to become leaders in this area."

Roxanne is grateful to Annie Simpson, Ph.D., assistant professor in the Department of HealthCare Leadership and Management, for taking an active role in her education. "She was an inspiration for me," Roxanne said.

So how have they remained sane? "Faith and family," Roxanne said.

"And, the three of us talk on the phone every day," Michelle said of the sisters. They laughed and nodded.

"Seriously, though, we could not have made it without our parents," Roxanne said. "I had three surgeries during our programs and never would have made it without family. Our mom cooks meals and makes enough for the kids. She sends meals to us. Daddy picks the kids up from school and gets them if they call during the day. Sometimes I don't know they're sick until after work. We can't thank them enough."

Still, it was the sisters whose bond got them through.

"We needed each other. We supported each other. There's a lot of work to do," Michelle said. "When we went through each program, we had to pull on the strength of each other. We had to rely on our faith. We encouraged each other — 'We've got to get this done!' We had to push each other. It can be very overwhelming. Full-time jobs. Full-time families. Classes. Church. Up late. Cooking supper. Doing homework. Everyone else would be going to bed, and we'd just be hitting the books."

Maybe one day they'll write a book. Oh, wait. They did. "It Takes Money Honey," a collaboration with other women of faith, was just released on Amazon. The Amazon book is a 365-day devotional with proven tips for wealth creation, financial freedom and developing faith.

So what don't they do?

Sleep.

An outlier in his field

Two research graduates hit their strides.

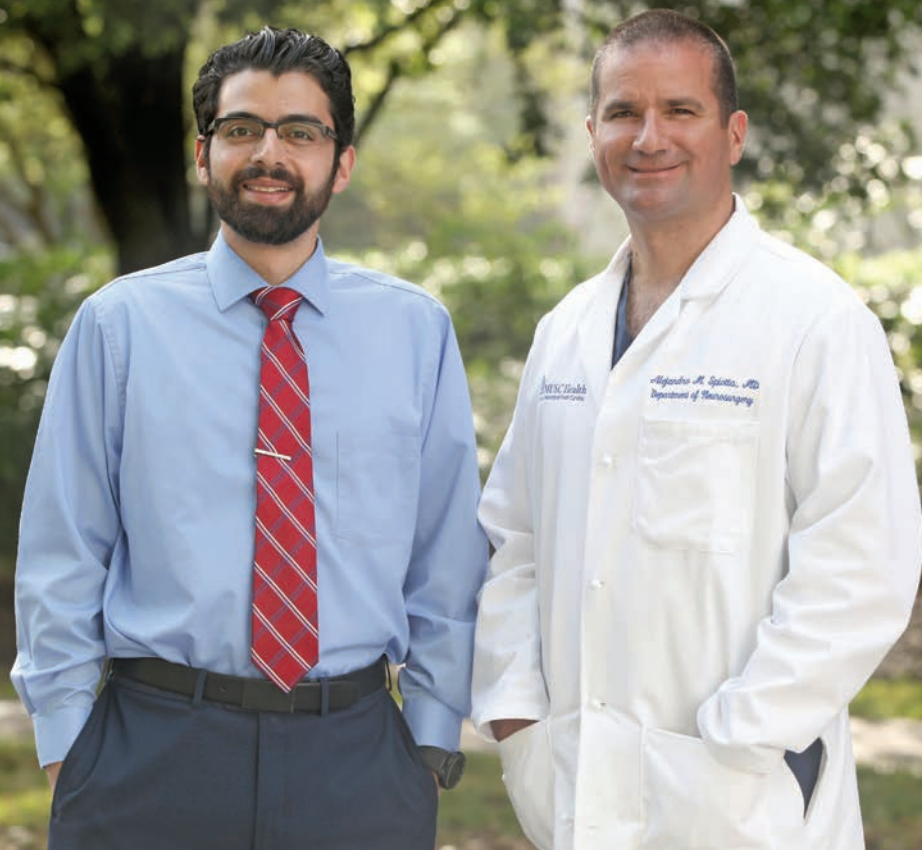


Photo by Sarah Pack

M.D.–Ph.D. graduate Ali Alawieh, left, is joined by his clinical mentor Dr. Alejandro Spiotta.

A clinician-scientist and an neuroimaging researcher are the co-recipients of the College of Graduate Studies' 2019 Distinguished Graduate of the Year Award. Ali Alawieh, a candidate in the Medical Scientist Training Program, and Logan Dowdle, a Ph.D. research candidate (Read his story, page 9), both share a love for the neurosciences and have a deeper understanding of the brain through their research.

Geographically, the two couldn't be from more opposite paths – Dowdle is from the congenial small town of Marion, North Carolina, located at the edge of the Blue Ridge Mountains, while Alawieh traveled more than 6,200 miles from his hometown in Beirut, Lebanon, to live and study in the Lowcountry.

The co-recipients of this award will each receive \$500 and an invitation to return to campus on Aug. 20 to present at the annual Liz Chesterman Memorial Lecture to incoming doctoral students.

BY CINDY ABOLE

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As a child growing up in Beirut, Lebanon, Ali Alawieh was gifted in math and science. Born into a family of engineers, he loved math so much he set up an area in the family home where he could focus on programming projects for himself and his friends. By the time he was entering college, he was still conflicted about choosing his major field of study.

"There's a lot of great things that I knew I could do in engineering, but I was seeking something that would provide the greatest impact utilizing my skills and knowledge. I then thought that medicine and health care could be that bridge that could align my gift and passion for math, programming and biology," Alawieh said.

He attended American University in Beirut (AUB) where he excelled as a biology major. He was able to conduct undergraduate work in engineering, biomedical research and neurosciences. He

was also interested in existential philosophy and led a student club that regularly held contemporary and philosophical discussions about metaphysics, philosophy of the mind and meta-ethics and their global impact on society and science. This experience helped guide him toward medicine with a strong motive.

"I learned how to get reward from motive rather than outcome, and discover what brings peace to my personal drive," said Alawieh. "It helped me accomplish what I wanted and helped me set my goals. It was my motivation to know that nothing was impossible."

Alawieh learned he could continue his studies at MUSC through the Medical Scientist Training Program in the College of Graduate Studies, a competitive academic partnership that was established 15 years ago between MUSC and AUB to develop the next generation of physician scientists.

In his first two years at AUB, Alawieh spent time familiarizing himself with various research fields. By the end of his second year and prior to starting his lab rotations at MUSC, he was interested in neuroscience, specifically traumatic brain injury and stroke.

His source of inspiration, he explained, was personal as several family members had either died or live with the after-effects of stroke. In pursuing answers, Alawieh's asked his own questions: How does the damage to the brain occur after stroke or traumatic brain injury (TBI) and can it be reversed? Can we expand the therapeutic options for TBI or stroke patients especially those not eligible for current treatments?

In a fortuitous way, Alawieh found himself working with Stephen Tomlinson, Ph.D., a professor in the Department of Microbiology and Immunology. Tomlinson is an immunologist conducting basic research in transplant and tumor studies using complement biology. Alawieh was able to blend his research interests of investigating the biomarkers of stroke in mice, neuronal plasticity and the inflammatory response with Tomlinson's work developing targeted complement inhibitors that would enhance stroke recovery. Together, they were able to create and develop innovative new studies and translational research in stroke care. Alawieh's work with his mentor on neuroprotection and neuroinflammation landed them with a translational research feature in the Science Translational Medicine, a publication of the American Association for the Advancement for Science, in May 2018. Today, Tomlinson's lab has more than \$2.5 million in total funding for stroke and TBI research.

"I could not have imagined a better experience," said Alawieh. "The progress we made in the lab was really rewarding. I was able to work on lab projects and conduct my work in neuroprotection and explore ways to improve a patient's recovery after stroke. The years between 2013 to 2015 has been considered 'prime time' for stroke-related research at MUSC and nationally due to the introduction of stroke thrombectomy procedures. It was especially exciting for me to be able to tailor my research around the forefront of this growth and see the research and clinical teams advance their knowledge and studies in stroke care while also contributing to this growth."

To complement his lab research successes, Alawieh continued to explore stroke for his clinical/translational experience by studying novel procedures used to treat stroke patients. He teamed up with neurosurgeon Alejandro Spiotta, M.D., director of MUSC's Division of Neuroendovascular Surgery in the Department of Neurosurgery, to study stroke intervention procedures. Through a series of projects, Alawieh studied the different factors that affect the recovery of patients after stroke. In a major study, Alawieh concluded, when it comes to stroke, one

See NEUROSCIENCE on page 15

Student braves many roads to achieve success

By CINDY ABOLE

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Logan Dowdle's path to MUSC was not so simple, but long and winding.

Like the determined Andalusian shepherd boy Santiago in writer Paulo Coelho's novel "The Alchemist," Dowdle is the protagonist of his life's journey. He attended Clemson University in 2005 and after changing majors several times, graduated with a degree in marketing with a minor in psychology. Responding to his love for travel, natural curiosity and an opportunity to repay his college loans, Dowdle took a job teaching English to preteens in the Buk District of Daegu, South Korea, through the government's English Program in Korea (EPIK). He knew he wanted to challenge himself by traveling abroad and soon discovered a love for teaching. After classes, he led after-school programs, English camps and other conversational practice activities with the students.

"It was a fun and rewarding experience," said Dowdle. "Mostly, I could help them by just being myself and having conversations."

Although teaching in the EPIK program was both an eye-opening and satisfying experience, Dowdle realized it wasn't a job he could see himself doing long-term. Prior to returning to the United States, he worked a month-long volunteer job at a wildlife refuge near Santa Maria, Bolivia.

The Comunidad Inti Wara Yassi-Parque Ambue Ari houses about 70 indigenous species of wildlife — jaguars, cougars, tapirs, primates and birds. Many have been rescued from abusive situations as well as animals seized in government raids or sold on the black market. At the private wildlife sanctuary, the animals were cared for and kept to rehabilitate or reintroduced to the wild. Dowdle loved playing with and caring for the preserve's howler monkeys and grew to enjoy afternoon walks with Rupi, a 260-pound male jaguar who also resided at the remote preserve.

It was during Dowdle's down time and at night that he would read science essays and books about neuroscience and neuropsychology written by V.S. Ramachandran, Oliver Sachs and other authors that he uploaded to his Kindle reader. He never thought his "ah-ha" moment would speak to him through their inspirational words, stories and concepts from his readings in the jungle.

"This was the inspiration that I've been searching for," he recalled thinking. He was ready to explore the detailed side of neuroscience, including research that would prove the concepts and explore the theories he'd read about.

Fast forward to 2010 and Charleston, where Dowdle had relocated. In the middle of his third semester catching up on core science courses, he was accepted into the College of Charleston's neuroscience minor program and quickly



Photo by Sarah Pack

Logan Dowdle had arrived at several crossroads in his life. Each led him to discover a passion that would turn into a career in neurosciences and neuroimaging.

looked for a job that would give him some much-needed lab experience. That fall, he interviewed as a part-time research technician with Jacqueline F. McGinty, Ph.D., professor in the Department of Neuroscience and director of the MUSC Neurosciences Institute. McGinty's research focuses on neurobiology of the brain and addiction science research with animals.

"Logan quickly became indispensable to all my lab members, because everyone learned that if you asked Logan to do something, he would not only follow through reliably but he'd do it better and more completely than anyone else. He would constantly surprise us by looking for ways to improve any technique or process he undertook," said McGinty.

But McGinty knew his interests would fit better with human research, so she encouraged him to apply to MUSC's Summer Undergraduate Research Program, which he completed in 2013. A year later, he was accepted into the Ph.D. program in the College of Graduate Studies. McGinty then introduced him to mentor Colleen Hanlon, Ph.D., who

conducts brain stimulation and addiction science research in the Department of Psychiatry and Behavioral Sciences' Division of Addiction Sciences Research. Hanlon's team looks at the brain's response to noninvasive forms of stimulation and cue-induced craving to develop new treatments.

"What's so amazing is that we have the ability to look at the human brain in unique ways — as it thinks, views things, as it feels — and capture an aspect of that, gather data and measure the outcomes," said Dowdle.

To accomplish this, Dowdle focused his interests on neuroimaging or brain imaging using functional MRI (fMRI). With the help of imaging scientists from Hanlon's lab and the MUSC Center for Biomedical Imaging leaders Jens Jensen, Ph.D., professor of neuroscience, and Truman R. Brown, Ph.D., professor of Radiology and the Stephen S. Schabel Endowed Chair in Radiology, Dowdle was able to get invaluable hand-on training using the Siemens 3T Prisma

*See **ROADS** on page 15*

During one leg of his journey, Dowdle spent a month volunteering to care for animals like Rupi, a 260-pound male jaguar, at a private wildlife sanctuary in Bolivia. His brief time in the jungle helped him discover the world of neuroscience.

Photo by Logan Dowdle



The dream that wouldn't go away

By **BRYCE DONOVAN**

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Things were on track for Melissa Koci. A junior pre-med major with perfect grades, she had been focused on becoming a doctor for as long as she could remember.

"I think I was around 7 or so, and I was way into these home health encyclopedias. I legit carried around one — you know, pre-internet — and I would just diagnose friends with anything. A scraped knee. A rash," she says, laughing about it while sitting outside MUSC's James W. Colbert Education Center. It's a rare moment of calm in the fourth- (and final) year College of Medicine student's schedule.

"If Google had existed back then, I would have been insufferable."

At the age of 20, she thought she was finally starting to make sense of the world. And that's when life threw her a symptom she couldn't diagnose.

'YOU'RE A FAKE'

As a bit of a throwaway, something to break up the monotony of all the science classes, Koci enrolled in a music class — "Echoes in Blues" the schedule said; "a fluffy elective" her mind read — and that's when the train derailed.

Her first assignment was to listen to a particular work of music and then write about how it made her feel.

"I got it back, and the professor had given me an F. I was shocked. I mean shocked! I had literally never failed anything in my life," she says. True story: Koci used to fib to her friends about her grades when she was in high school, because she was afraid of being labeled a nerd. She'd tell them she bombed a test when she'd actually gotten the highest grade in the class.

"So I go and talk to him, because I'm thinking, 'You're going to screw up my entire life!' And he tells me, 'You're a fake. Everything you wrote here, you could have read in a book somewhere. You gave me a breakdown of the music. I asked how it makes you feel,'" she recalls. It was harsh criticism, and it hurt to hear it, but it sparked something inside her. "I didn't quite know how or even why, but he had hit on something deep inside me," she says.

The professor gave her another chance. Give me something personal, he said. Look inside and listen.

The next paper she turned in got an A. After class, she went to up talk to him, and this time he smiled and said, "I can see a crack in the wall."

"That was the beginning for me realizing I have no idea who I am. I have no idea why I do the things I do. Why am I trying so hard to please all these people, get the A, check all the boxes? I felt like I had just started to figure out what was important to me in my life, and all of a sudden, it was just thrown out the window."

Things shifted. Her major went from pre-med to music. Organic chemistry lab was swapped out for African drumming. Life, as it seemed, was about to turn upside down.

She became "super hippie," she says. Dance, movement, spirituality. Those became her new guiding forces.

"All my life I had body issues, confidence issues, and I felt like finally I was starting to figure out who I was," she says, her light blue eyes watering ever so slightly behind her glasses.

After graduation — identity crisis or not, she still made the dean's list. The Ladson native got into African dancing and "actually made some money doing it." This continued for a couple of years. She was happy, she says, but she knew if she didn't make a substantive change, she was going to end up staying close to home her entire life. For somebody so hungry to effect change in the world, to learn all there is to learn about people, she knew she needed to go.

HEADED WEST

Koci's boyfriend at the time was a musician. He had just landed a gig in Santa Fe, New Mexico, and asked if she wanted to come with him. Koci didn't hesitate.

Her decision to tag along was validated the minute she stepped outside in the warm, dry air, some 1,600 miles away from the place she had spent the majority of her life.

"It is indescribable there," she says. "There's just no other way for me to put it. It's a magical land."

Not long before leaving South Carolina, Koci had gotten into yoga. So when she arrived in New Mexico, she figured the best



Photo provided

Melissa Koci will fulfill a lifelong dream on May 18 — becoming a doctor.

way to make new friends and venture out into this brand-new Southwestern world would be to take a yoga class. After a few false starts, Koci finally settled on an instructor who spoke to her soul. After class one day, she struck up a conversation, and the connection was immediate.

"When she talked to me, Koci recalls, I remember thinking, 'Have you been reading my journal? How do you know all this?'"

Koci would eventually take a job working for her — teaching yoga, planning outreach for her studios, doing domestic and international business travel for almost 10 years. She was completely at peace spiritually but felt as though she had, "gone about as far as I could into what I like to call 'woo-woo land' — the new age-y, airy-fairy side of things."

Through it all though — learning to love her body, her mind, her soul — Koci never lost sight of her overwhelming desire to connect with people. And that's when she heard it: the voice of that 7-year-old.

She realized she could use all she had learned in New Mexico and combine it with her love of medicine. She didn't have to pick

just one. In short, she could become the perfect hybrid doctor: science and spirit all in one.

Fate had pulled her across the country. Just as swiftly, it would bring her back.

A DREAM REIMAGINED

It was 2014, and Koci was back home in Ladson living with her mother. In no time, she was tapping back into her childhood dream of being a doctor. She started by reaching out to a guidance counselor from college to see how likely it was that somebody so far removed from college could be accepted to medical school.

Her mind said, "What are you doing, Melissa?" The guidance counselor said, "You have to do this."

Koci was 34. Most of her "competitors" were at least a dozen years her junior. This is an advantage, the counselor told her. They're just kids. You have life experience.

There wasn't much time before medical schools across the country would be taking

See DOCTOR on page 13

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NURSE *Continued from Page Five*

direction in life. She “pretty much immediately” decided to apply to the MUSC College of Nursing.

McRae credits Carolyn Page, assistant dean for students, with helping her prepare to apply. McRae needed some science courses, which she took at Trident Technical College and University of South Carolina Salkehatchie. Page also suggested she get a job as a patient care technician to get experience working on a floor alongside nursing staff. That’s an idea McRae never would have come up with on her own, she said, but it proved hugely beneficial.

For her part, Page said she was impressed with McRae from their first meeting.

“There are those rare times when an applicant walks into your office, and immediately you are captivated by their energy and compassion to serve others,” she said. “Tindall came with a heartfelt story and a strong desire to make her mark on humanity as a nurse. It has been my pleasure to watch this student dedicate her life and career to helping others, and to me this is the ultimate act of humility.”

McRae began working as a tech in MUSC’s infant care unit in May 2017. She might not have known anything about medicine, she said, but she did know about babies. As a tech, she took vital signs, fed and bathed the babies, alerted the nurses if anything seemed wrong and generally cared for the babies whose families couldn’t be there.

It was a great experience, she said, and it cemented her decision to attend nursing school. The nurses there were “incredible.” They were supportive of her going to school and some of them continue to be her best friends.

Working in the hospital alongside nurses, first as a tech and then as a nursing student, showed her how much nurses do and how they change lives.

She began the 16-month accelerated Bachelor of Science in Nursing program in January 2018. McRae said she can’t imagine studying anywhere but MUSC because of the supportive atmosphere of the college. In addition to Page, whom, she said, she thanks every day, McRae also credits Shelly Drake, undergraduate program coordinator, for her support during this journey.

Drake has nothing but praise for McRae. “She’ll be a great nurse, no question,” she said.

McRae is the type of person who will take any situation and turn it into a positive, she said.

“Tindall came with a heartfelt story and a strong desire to make her mark on humanity as a nurse.”

Carolyn Page

“I always appreciate those people who look at a problem in the world and say, ‘What can I do to fix it?’” Drake said.

But McRae would say she just doesn’t have time to sit and stew. Throughout her time in nursing school, she juggled being a wife, a mother, a tech, a student and even a teacher — she ended up back in the classroom teaching sixth grade math when the school was in a bind. And not only was she a student, but her husband was too, working toward his doctorate in education. Together they parceled their hours so each had time for study and work while also making sure the kids were fed, bathed and in bed on time.

McRae said her boys don’t quite get the significance of her accomplishment yet.

“They call me a nurse-doctor because they don’t know the difference. They say, ‘Mommy, are you going to nurse-doctor school today?’ I think they’re ready for me to become a nurse-doctor,” she said with a laugh.

McRae is ready too. After her tech job at MUSC, she took a tech job in the Emergency Department at Colleton Medical Center, closer to her home. ED techs are entrusted with more responsibility, she said, so in that job, she got to practice more nursing skills like starting IVs. It was good experience, but the Emergency Department isn’t her passion. Ultimately, she’d like to work in labor and delivery, but for now she’s excited to join the joint replacement floor at Beaufort Memorial.

She’s already started working there through an internship program that allows nursing graduates to work as assistants until they take their licensing exams. McRae said she chose the position not because of the medical specialty, but because of the people she’ll be working with.

“I promised myself I would choose a floor based on morale and how they treated people,” she said.

And, she hopes that maybe one day, she can do for someone what that obstetrics nurse did for her. She looks forward to a long and fruitful career in nursing.

“It’s an honor to have been chosen to attend this school, and it’s an honor to be a nurse for the rest of my life,” McRae said.

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ATHLETE *Continued from Page One*

“I realized pretty quickly that I wanted to be in on the action and get back to using my hands,” he says.

And that’s when his old work ethic — the one that led him to break 28 Clemson records — kicked in and led him to the MUSC James B. Edwards College of Dental Medicine. In 2015, he was accepted as a first-year dental student.

He told himself he’d treat dental school the same way he treated being a quarterback. Meticulous preparation. He’d break things down from every angle. Leave no stone unturned.

“And then I got my first histology test back and I was like, ‘Well, that didn’t work.’ My study habits had served me well in football, but I learned pretty quickly that if I wanted to excel while taking 30 hours of classes I couldn’t draw up everything.”

But like always, Harper — or “No. 10” as people often call him when they see him out in public — adjusted and found his footing, first navigating his way through the classroom and then with manikins in the simulation lab. Eventually, he was treating real-life people in the dental clinic.

Sitting in the waiting room just outside the patient exam room, he recalls the first patient he ever worked on. “So I sit down, and I’m nervous. I’m thinking, once you put a drill to someone’s tooth, you kind of start to do things that are irreversible and a mistake could cause significant damage. It’s totally different than the sim lab. With a person, there’s a tongue. Cheeks. Everything’s wet. It’s tough to see.” He laughs. “Plus, a manakin doesn’t ever need to get up and go to the bathroom.”

But instead of panicking, that’s when his gridiron experience kicked in.

“I just took a few breaths and thought, I’ve played in front of 90,000 screaming fans in hostile environments where everyone is hoping to see me fail. If I can do that, I’ve totally got this.”

It was at that moment that Harper relaxed. Though the next two years at the clinic were mostly smooth sailing, Harper laughs when he recalls his first immediate denture, a procedure when a complete or partial denture is put in on the same day that natural teeth are removed.

“I extracted 10 teeth on the upper arch, and the first immediate denture I made was — and keep in mind in dentistry a couple of millimeters is, like, a mile — and I was at least five off. I was concerned he was going to have to leave with no teeth. But I took it out, made



Photo Provided

Harper with wife Jordan, daughter Charlie and pup Henry.

some modifications, and by the time we were done, he was thrilled with his new smile.”

Over the next several years, in addition to all his work at MUSC, Harper did oral and maxillofacial (OMFS) surgery externships at Vanderbilt, the University of North Carolina, Emory, and two weeks with the OMFS team at MUSC, learning more and more each time, observing and assisting with wisdom teeth extractions, implants, jaw surgeries, and

trauma calls.

“Sitting down with the actual patients ... that’s when you really find out what you’re made of,” he says.

Harper’s mentor, M. Kinon Lecholop, D.M.D., director of MUSC’s Oral and Maxillofacial Surgery Residency Program, said Harper is just a great kid. “He’s hard working, he’s driven. He always asks the perfect questions. Students who listen — who actually do what you tell them — you don’t always get those. It’s been a treat working with Cullen.”

Lecholop, who is a college football fan himself, knew exactly who Harper was the first day he walked into the program. However, not once, Lecholop says, did Harper ever mention his background.

“He’s just a humble dude,” he said. “He has every reason to have a big head, and he doesn’t present himself that way at all. I think that speaks volumes about who the guy is.”

Lecholop also thinks Harper’s accomplishments on the football field have served him well and will continue to guide him in the field of dental medicine.

“With his unique background, he has become a natural leader,” he said. “I truly think he has the upper hand to motivate people to do the things a little easier than

somebody else because he’s been there before.”

On May 18, Harper — along with 80 other MUSC College of Dental Medicine students — will get his degree during MUSC’s commencement ceremony. Just two weeks later, No. 10 and his family — his wife, Jordan, a nurse practitioner; 6-month old daughter, Charlie; and miniature Goldendoodle, Henry — will pack up and head to Augusta, Georgia. Harper is beginning his oral and maxillofacial surgery training at Augusta University’s Oral and Maxillofacial Surgery program. After that, he hopes to return to Charleston to complete his residency training.

For now though, Harper is one step closer to his ultimate goal, something that his college coach has been keeping an eye on.

“It’s been awesome to see him go on and really grow as a man,” Swinney said. “And now to become a dentist! I’m really proud of him and all of his accomplishments.”

Finally, after all the preparation, all the practice, his future is about to hold nothing but game days.

“I am ready for the next chapter,” Harper says. “I’ve put in a lot of work to prepare for this next step but I’ve still got a lot of work left to do.”

DOCTOR *Continued from Page Ten*

applications. First things first, Koci would need to take — and do well on — the Medical College Admission Test (MCAT), a daylong standardized exam designed to assess the taker’s problem solving and written analysis abilities, critical thinking and knowledge of scientific concepts and principles. Even though her calling had changed a few times over the years, at her core, Koci was still that driven hard worker.

“Once I decide to do something, I am relentless,” she says. “I have to see it through.”

So she enrolled in a preparation class and poured herself into studying with every spare minute she had. At the same time, she also got a job working as a medical technician at MUSC.

Her MCAT scores were solid. Her work ethic and attitude admired by her peers. All that was left was to fill out her applications. Initial submissions led to secondary submissions — “it’s kind of like getting a second interview for a job opening,” she says. Then things got quiet.

One day, during a break at work, she glanced down at her phone. She had a new email from MUSC. Its first paragraph left her speechless.

She was in.

SURGICAL LOVE

Not long after starting medical school, Koci remembers being on a first date with a guy. Things seemed to be going fine until he said, “Do you realize you’ll be 40 by the time you’re done with medical school?”

Koci didn’t miss a beat.

“Actually, I’ll be 39,” she said. “And a doctor.”

It’s this combination of fire, drive and tenacity that explains why Koci has thrived at MUSC. Just a sampling of her achievements prove her mettle. She served as editor in chief of the editorial board of Humanitas, a literary journal comprised of works presented by MUSC students, staff and faculty; she served as student coordinator for the College of Medicine Cup, an annual competition that gets students some much-needed outdoor activity; and she collaborated several times with President David J. Cole, M.D., FACS, on campuswide wellness activities. It also explains why she chose to specialize in cardiothoracic surgery, a field — like many in surgery — dominated by men.

During her third year, when most med-school students start to do their rotations, Koci chose surgery first, thinking it wasn’t her thing. But it as it turned out, surgery was very much her thing.

“I just fell in love,” she says.

Earlier this year, during Match Day — which marks the end of a months-long process that pairs graduating medical students with hospitals for their residencies — Koci found out she’d be doing a 5-year stint with Baylor College of Medicine’s General Surgery program. She couldn’t have been happier.

She doesn’t have a ton of friends in Houston, she says, but she’s confident she’ll find her people. Even in high school, she never had trouble making friends. But this time around — after a soul — searching journey that has physically and spiritually taken her across the globe — she’s ready to begin a life that is distinctly hers.

“I am so ready for whatever comes next,” she says. “Sure, I’m a little bit nervous, who wouldn’t be? But no matter what lies out there waiting for me, I’m going to go after it head-on.”

And this time, she’ll be armed with Google.

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Colleges and Universities - Davidson College, College of Charleston, Tuskegee University, Florida State University, The Citadel, USC Honors College, Vanderbilt University, USC School of Law, Auburn University - **Houses of Worship** - Mother Emanuel AME, Hibben United Methodist Church, Seacoast Church, Central Mosque of Charleston, Stella Maris Roman Catholic Church, St. Matthew's Lutheran Church, Sri Ganesha Hindu Temple, Mount Pleasant Presbyterian Church, Creek Orthodox Church of the Holy Trinity - **Military** - USMC Recruit Depot Parris Island Graduation Ceremony, USS Whidbey Island, USS Arleigh Burke, USS Ralph Johnson, Joint Base Charleston, USS Charleston, SPAWAR, Pre-Positioned Stocks Afloat Program, Battleship Alabama Memorial, Patriots Point, Pearl Harbor Memorial Ceremony on the Yorktown, National Naval Aviation Museum, NAS Pensacola, Mighty 8th Air Force Museum, Fort Jackson Army Graduation Ceremony **Arts Exploration** - Gaillard Center including: Alvin Ailey American Dance Theatre, The Edgar Allen Poe Project, Buffalo Soldier, Shakespeare's Othello, Mayhem Poets, Harriet Tubman, Jazz Through the Ages with Charlton Singleton, Shakespeare's Twelfth Night, Dance Theatre of Harlem and I Have a Dream - Dock Street Theater (2 programs per year) including Number the Stars, Of Mice and Men, Shakespeare in Love, To Kill a Mockingbird and The Miracle Worker - 4-5 shows each year that we host and share with the community, including Taiko Charleston, The Plantation Singers, Fabulous Chinese Acrobats, Mrudani Indian Classical Dance, Senegalese Drum and Dance Troupe, Walhalla Bavarian Dancers, Gibbes Museum of Art, Brookgreen Gardens, C of C's Halsey Institute of Art, **Election Day Exit Polling & Learning About Candidates** - Meet with candidates from 3-4 political parties each year and interview voters on Election Day, Interview voters on Election Day and make informed predictions: **Middle School Trip ('18-'19)** Eastern Band of Cherokee Indians, Manhattan Project National Historic Park at Oak Ridge, The Lost Sea cavern, Memphis Zoo, Elvis' Graceland, National Historic Park at Oak Ridge, The Lost Sea cavern, Memphis Zoo, Elvis' Graceland, National Civil Rights Museum at the Lorraine Motel, Nashville's Parthenon (New year-long adventures each year!) **And MORE** - Dig South Tech Summit, YALLFEST, McLeod Plantation, College of Charleston's Classics Day, Pearl Fryar's Topiary Garden, Middleton Place, USDA Vegetable Lab, Cypress Gardens, Keegan-Filion Farm, MUSC Annual Exploration of 4 Departments, Reconstruction Era National Monument, Trident United Way's Day of Caring (13+ sites, 500 hours of service!), Spring Service Day, Drayton Hall, Music in Motion Roller Skating, Southeastern Wildlife Expo (SEWE), Gullah Tour of Charleston*

*All of our 3rd-8th graders have experienced all of this and more in the last three years alone!



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NEUROSCIENCE *Continued from Page Eight*

constant that seems to affect all stroke patients is time.

In studying ischemic stroke intervention therapies and surgical response when treating a stroke, Alawieh showed that longer delay to receiving thrombectomy and also longer duration of the procedure contribute to less favorable patient recovery. He described a golden one hour for stroke treatment defined as the time it takes to open a brain vessel. Alawieh concluded that a procedure time cut-off for thrombectomies should be integrated into the current standard of care for stroke. This work was a product of a multicenter collaboration that Alawieh is coordinating under the guidance of Spiotta. The ongoing collaboration, named the Stroke Thrombectomy and Aneurysm Registry (STAR) connects more than 20 stroke centers in the U.S. and internationally, allowing them to monitor and share data about stroke patient outcomes.

Alawieh and Spiotta's report was featured in April in the Journal of the American College of Cardiology.

"Ali has been great to work with," said Spiotta. "He was able to define the projects he wanted to accomplish working with me in the stroke clinic. This was a warm up to a flurry of dozens of other new and exciting projects and ideas. There's nothing I believe he can't handle."

AN OUTLIER IN HIS FIELD

Looking back, Alawieh's mentors couldn't be more pleased with their student.

Tomlinson is quick to praise his mentee for his strong neuroscience knowledge, intellect, dedication and ambitious drive.

"Working with Ali has been nothing short of inspirational," said Tomlinson. "He's helped me discover and connect concepts in the areas of brain injury research and neurosciences that I had never considered before. What evolved for us was a mutual respect and understanding to explore research interests and possibilities in the fields of neurosciences and immunology."

Spiotta agrees.

"Ali is that once-in-a-lifetime student that one rarely comes across. He's extremely bright, grasps concepts quickly in clinical work, is driven, talented and razor focused. He's an outlier in his field," Spiotta said.

In addition to his research and clinical success, Alawieh has won numerous awards and accolades for presenting his research locally — at the MUSC Perry V. Halushka Annual Research Day — and nationally at several professional science organizations



Photo by Jonathan Coultas

Ali Alawieh will receive dual doctorate degrees at MUSC's May 18 ceremony.

meetings and competitions.

In his six years at MUSC, Alawieh has been published in more than 40 scientific publications, contributed to 16 abstracts and conducted more than 20 poster presentations. He's received six awards for funded research and holds two provisional patents on interventions.

In July, he will begin a seven-year neurological surgery residency in the Department of Neurosurgery at Emory University School of Medicine. In addition to completing a challenging comprehensive training program, Alawieh will continue to expand his clinical and research through collaborative work and mentoring. Emory's neurosurgery program is among a group of elite residency programs in the country to be awarded a Research Education (R25) Grant from the National Institute of Neurological Disorders and Stroke to develop the next generation clinician-investigators in neurosurgery and neuroscience.

Alawieh plans to continue his research collaborations with Tomlinson and Spiotta through ongoing research projects on neuroinflammation and response to stroke reperfusion therapy. He hopes his work will contribute to strengthening MUSC in the areas of neuroprotection and stroke thrombectomy and lead to MUSC-based trials on novel stroke treatments.

For the May 18 commencement ceremony, Alawieh will not be the only family member celebrating big accomplishments. His wife, Zahraa Sabra, who already holds a master's degree in electrical and computer engineering from AUB, will receive her doctorate with an emphasis on computational neuroscience also from the College of Graduate Studies.

ROADS *Continued from Page Nine*

MRI scanner to conduct human imaging research.

Using transcranial magnetic stimulation (TMS), researchers like Hanlon, Dowdle and others can use brain stimulation to change the brain's response to pain, alcohol, opioid use and other substances.

"Logan is uniquely gifted as a student — intellectually facile, with an insatiable thirst for knowledge, and fearless when it comes to navigating a new frontier," said Hanlon. "In his time in our lab, he has transformed our entire workflow associated with acquiring and analyzing large neuroimaging datasets. He has also enhanced the experimental rigor and reliability of TMS-MRI techniques worldwide though his development of a novel sham control condition."

COMING FULL CIRCLE

On April 16, Dowdle successfully defended his doctoral research on "Developing a Brain-Based, Non-Invasive Treatment for Pain." The next stop on his journey has him traveling 1,300 miles north to the University of Minnesota's Center for Magnetic Resonance Research (CMRR), where he will establish a new TMS-MRI interface for continued brain imaging research — eventually expanding his research to a multi-site trial. He will join fellow Ph.D. graduate Daniel Lench who will conduct brain stimulation research also

at the CMRR.

Never in his plans did Dowdle think he would reach his dream shot at the CMRR. As he sought more brain imaging experience, he started to believe that his dream was not far from his grasp.

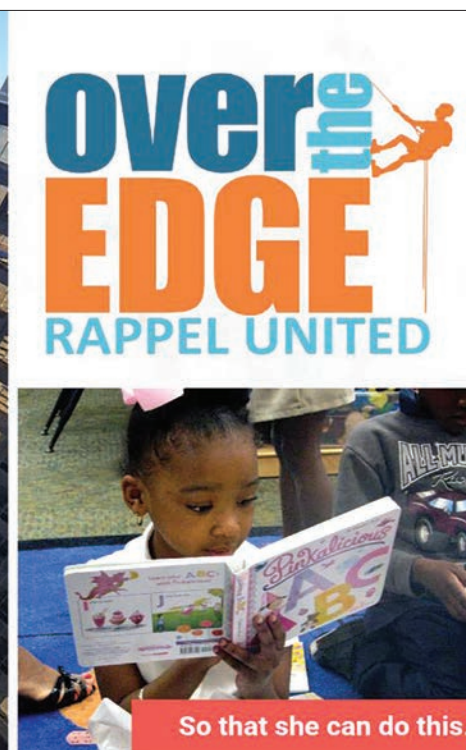
Today, he sees his odyssey coming full circle in both experience and opportunities. Looking back, he credits the encouragement of mentors, imaging research faculty, colleagues, friends and family along the way who help to build and sustain him on what's been an arduous but gratifying adventure.

"I think the richness of Logan's journey thus far — from a small town in North Carolina to schools in Korea, the jungles in Bolivia and cutting-edge research labs at MUSC — reflects something greater about the way that his mind works," said Hanlon. "Some graduate students, for example, start on one experimental path and pursue that specific path with a strong focus. Logan, on the other hand, thinks broader and with more flexibility. He seems to enjoy the process of discovery even more than arriving at the final destination."

Hanlon compares her mentee's journey with the words written by American poet Robert Frost in "The Road Not Taken."

"Two roads diverged in a wood, and I — I took the one less traveled by, And that has made all the difference."

"It has been a pleasure to be by his side as we walked this part of his journey together," she said.



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