

Toddler with birth defect charms doctors

By DAWN BRAZELL

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Rhett Bausmith freezes, stone still, as his surgeons walk in the door.

He knows he's busted as only a boy, almost 2 and brimming with curiosity, can know. He just doesn't know how busted he might be. With a fine pitching arm, Rhett had – just seconds before – hurled a ball through his examining room at MUSC. As the surgeons gaze at him, Rhett remains like a statue, as if his immobility might somehow make him invisible.

There's slim chance of that. Plastic surgeon Jason Ulm walks closer. Rhett's eyes grow larger, but then he sees how happy Ulm is as he crouches down and explores around Rhett's skull and eye sockets. All the tension drains from the little boy's face. He's not busted. This is just life as usual for him.

Rhett has had doctors poking and probing his skull since his birth May 1, 2015, when he was born with a misshapen head. He had craniosynostosis, a birth defect that causes the bones in a baby's skull to fuse too early. His parents, Timothy and Crystal Bausmith, were referred to MUSC Health, where they consulted with Ulm and pediatric neurosurgeon Ramin Eskandari. The surgeons joined forces to tackle what was one of the more complicated cases they had seen. Weighing it on a scale from 1 to 10, with 10 being the worst, Ulm stops to consider.

"It was a 9."

They decided to treat him in two surgeries, spaced apart, and have MUSC's bioprinting labs create 3-D skulls for both operations that surgeons could use to map out the procedure.

One of the skulls from the first surgery is quite the conversation piece in its glass box in the Bausmiths' living room. Crystal says she shows everybody because it's amazing how much progress they've made. It's progress that has included not only the two operations



Photo by Sarah Pack

Rhett Bausmith enjoys a snack while he waits on his checkup. He's undergone two surgeries and extensive therapy to treat his craniosynostosis.

but also Rhett having to wear a helmet to shape his head. The first surgery, August 21, 2015, focused on relieving pressure on Rhett's brain and included a barrel stave osteotomy, where cuts in a crisscross pattern are made in the skull. The second surgery, August 22, 2016, targeted removing the frontal bone and reconstructing the forehead and eye area.

Parents and doctors both are pleased with how Rhett is doing and the fact that he seems to have no developmental delays. Crystal says she and Timothy have become "baby head" experts, noticing when there may be something off with a child.

Timothy says it's one of the main reasons they don't mind sharing their story. "We met this lady once whose child's head was kind of strange shaped, and she said, 'Oh, it's fine.' But about a year or so later she found that her baby was so far behind developmentally that

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MUSC accreditation visit set for March 7–9

MUSC will host on-site reviewers representing the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). Below is a brief Q&A to help provide information about the purpose of the visit.

Q: What is SACSCOC, and why is it important?

A: SACSCOC is the university's regional accrediting body, which determines, among other things, whether MUSC is authorized to offer federal financial aid to students.

Q. How often does reaffirmation of accreditation occur, and who is the MUSC contact?

A. Reaffirmation of MUSC's accreditation by SACSCOC occurs every 10 years. Suzanne Thomas, Ph.D., is the MUSC liaison to SACSCOC.

Q: What is the purpose of the visit?

A: The on-site visit – March 7 to 9 – serves two purposes. First, reviewers will determine whether the university meets each of SACSCOC's 103 standards through interviews with MUSC executive leadership, faculty, staff and students.

The reviewers have received substantial written documentation of MUSC's compliance with these standards; the on-site visit rounds out this information with personal interactions. The reviewers will determine by the end of their visit whether MUSC is in compliance with all standards.

SACSCOC standards reflect a broad range of expectations for institutions of higher education – including effective governance, appropriate stewardship of financial and physical resources,

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she said, 'I wish I would have recognized this earlier.'

Crystal says she's on a Facebook page where many parents are seeking help on whether something may be wrong with their child and if they should get a computerized tomography scan. "Once you've been through this, you see the telltale signs, but many of these parents are saying, 'It's nothing,' and our opinion is: Get a CT. Do it."

That's why Ulm and Eskandari are open to consults. Sometimes the cases aren't clear cut and the defects can show up as a child matures. The doctors hope to offer telemedicine consults later this year to help pediatricians determine if a child needs to be referred to a specialist. Eskandari says there are proactive pediatricians and parents who don't think some things are right, but then there are others who want to do the wait-and-watch approach. If pressure is building up on the brain, that can be the wrong choice.

"Those are the cases when using telemedicine, we instantaneously can take a look. There are features, where if you've seen a lot of these, you can just pick them out right away and say that person needs to come here, they need a scan or more evaluation," says Eskandari. "There's a line of pediatric offices that already have telemedicine, so we can piggyback on what they already have."

Both Ulm and Eskandari say having the bioprinted, 3-D skulls greatly augments treatment. Eskandari sees a growing role for bioprinting, particularly with the creation of an

MUSC collaborative craniofacial surgery 3-D technology team. The team's able to consult and treat many conditions, including: positional plagiocephaly; craniosynostosis; congenital and acquired cranial defects; fibrous dysplasia; pert syndrome; and crouzon syndrome.

The surgeons will be speaking at an upcoming joint conference of the American Society of Pediatric Neurosurgery and the American Society of Craniofacial Surgeons about the advantages of mapping out pediatric surgeries with 3-D skulls. The bioprinted skulls slice in a way that's similar to bone, so surgeons can practice on a replica of a patient's skull created using his or her scans.

Having this resource also helps the neurosurgeon and plastic surgeon collaborate. Both are critically important in the process of handling such cases. Ulm says Eskandari brings the neurosurgical component, given his expertise in working with the brain, while Ulm is looking more at the shape of the face and forehead.

Eskandari agrees both perspectives are needed. "I don't really think about how things look after you put the scalp back together because most of the time after we're done with surgery, everything goes back the way it came. In this case, you're physically changing the properties of the skull, but yet the scalp is away. So you have to be able to visualize all the soft tissues and having to change the underneath bone structure."

In Ulm's field of plastic surgery, where he does this on a daily basis, he can see the nuances. For example, if they expand the skull, he knows the tips of the skull

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SACSCOC standards reflect a range of expectations for institutions of higher education, including effective governance, appropriate stewardship of financial and physical resources, adequate faculty and staff (all with appropriate qualifications), protection of academic freedom, sufficient faculty development opportunities, progress in MUSC's research mission, evaluation of all employees, effective student support services, sufficient library resources and indications that the institution engages in continuous quality improvement through systematic evaluation of performance toward its mission.

The second role of the on-site reviewers is as consultants to MUSC regarding our Quality Enhancement Plan (QEP), which is "Team Up for Better Health." The QEP is a required element of SACSCOC accreditation. Still, even without this requirement for accreditation,

MUSC would embrace the QEP initiative since it aligns perfectly with the goals of Imagine MUSC 2020, our institution's strategy for the future. Team Up for Better Health is a set of activities and initiatives that will improve students' practical, applied teamwork skills and thereby help our graduates be even more marketable to employers and more competitive for prestigious residencies and fellowships. Team Up for Better Health will also help improve the practice of effective teamwork across the clinical and research missions. The QEP reflects on MUSC's values of collaboration and innovation, and advances the institution toward a shared vision of leading health innovation for the lives we touch.

The campus welcomes nine on-site reviewers on March 7. For more about the MUSC's accreditation and to view the winning student videos promoting MUSC's QEP: Team Up for Better Health, visit <http://ip-v.mdc.musc.edu/qep/>.

bones are going to be protruding and what amount of bone may need to be shaved off. Ulm says the techniques are constantly evolving, and it's great that groups that used to work somewhat independently are collaborating and improving techniques together.

In the end, it means boys such as Rhett can do what they are born to do, without being ridiculed for a misshapen face, or even worse, having developmental delays. Eskandari says the staged surgery allowed them to work with Rhett's natural

growth to provide more correction from the first reconstruction. They've been able to get the head shape they wanted and better eye alignment, and best of all, brain growth has not been impaired. Developmentally, Rhett's right on track.

The main concern now for the Bausmiths, who have four children, is the normal kind of fare they are used to handling. Crystal is concerned about keeping Rhett, whom she describes as her CrossFit kid, from damaging his nicely-repaired skull. Rhett likes to climb and flip over things.

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Medical student wins neurosurgery research award

By ALYSSA FRANCHAK

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Avni Patel, a second-year medical student, received the Student-Resident Research Award at the 2016 annual South Carolina Association of Neurological Surgeons conference.

"It was such an honor," Patel said. "In some sense it feels like you don't even deserve something like that when you're a medical student, and you're surrounded by people who work so hard."

Patel worked under the guidance of Ramin Eskandari, M.D., assistant professor of pediatric neurosurgery, and Maria Vittoria Spampinato, M.D., division chief of neuroradiology, to research the utilization of fast-brain MRI for non-hydrocephalus diagnostic brain imaging.

Fast-brain MRI is an imaging technique used primarily on children as it eliminates the radiation risks from CTs and need for anesthesia or sedation that is typically required with a standard MRI.

Patel said if a child has a congenital condition, he or she will undergo multiple CTs per year, and that can increase his or her risk for developing a fatal cancer. If they opt to do a standard MRI rather than a CT, they have to be put under, which comes with inherent risks.

"It is a short exam," Patel said. "The one here is approximately three minutes and 40 seconds from start to finish."

Few studies have looked at what fast-brain MRI can diagnose other than hydrocephalus, which was the initial inspiration for Patel and Eskandari's study. They have since used fast-brain MRI to identify numerous diagnoses.

Eskandari credits Patel's diligence and work ethic with the project's success and could not think of anyone more deserving of the award. "There was never a hesitation on achieving milestones when putting the presentation together. I did not do a lot, I just gave her the audience to present in front of."



Photo provided

College of Medicine student Avni Patel was recognized by the S.C. Association of Neurological Surgeons.

Patel, however, said this project was a team effort, and she would not have been successful without the help of those around her. "I want to thank Dr. Ramin Eskandari and Dr. Maria Vittoria Spampinato, as well as Dr. Gustavo Cervantes, a neuroradiology fellow, and Dr. Milad Yazdani, assistant professor of radiology in diagnostic neuroradiology. Also, the College of Medicine, which generously gave me the funding for the project this summer."

Christina Bourne, associate dean for Student Affairs and Career Advising, was complimentary of Patel's contributions to the study. "We at the College of Medicine could not be more proud of her stunning accomplishments but also of her future noteworthy achievements, which are sure to come."

The success of this project did not end with Patel's award. It has turned into an IRB-approved prospective study to move the field forward, and Patel is excited to see the potential benefits of this project.

"I think we had a total of 122 diagnoses for 94 patients," recalled Patel. "If we can show that it is useful for certain indications, we can eliminate the current radiation and sedation risks."

MUSC's 'Train in Maine' has left the station

BY MIKIE HAYES

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With temperatures so mild this winter they've rarely dipped below the 40-degree mark, Charlestonians are elated not to have had to dig out scarves, gloves or parkas – that is, if they even own them. But for one young woman and five Charleston men who decided to go north and brave Maine's sub-zero freezes, it's all for a good cause: learning trades that will equip them to make a difference for some of the Lowcountry's most vulnerable patients – children at the MUSC's Shawn Jenkins Children's Hospital.

The opportunity for them to train in Maine came as a result of an innovative partnership between MUSC and New England Tech Air, a successful sheet metal engineering and manufacturing company located in Scarborough, Maine. Over the last year, the company has added to its workforce with trainees from the Charleston area who have moved temporarily to Maine to learn the business. When the training is complete, they will return to Charleston to work on the MUSC project.

NETA specializes in designing and building heating, ventilation and air conditioning systems and manufacturing and installing exhaust and ventilation systems. And while the company conducts business predominantly in the Northeast region of the U.S., it has also branched out to handle specific projects in other areas of the U.S., like the new children's hospital, where it is playing a major role.

According to Whit Jackson, lead project engineer, hospital projects are its specialty. So much so that 80 percent of the company's volume over the last five years has been in the health care sector. NETA was awarded the bid to design and install the HVAC system and fabricate and install all the duct work. Jackson characterized the project as huge. "Essentially, we are in charge of all the

air in the hospital," he said.

In reality, that is no small undertaking. Hospitals require specialized attention so the quality of the air patients and staff are exposed to in operating rooms, laboratories, isolation areas and clean rooms is healthy and pure and not involved in spreading infections.

Infections in hospitals, in fact, are a very big problem throughout the U.S., and poor ventilation, lack of proper air filtration and inadequate HVAC systems can often be the culprits. Without the appropriate system, bacteria can flourish and airborne contaminants can spread and infect, possibly even kill, patients.

Airborne microbes are spread by moisture and can cling to ducts and vents and spread throughout the hospital via the HVAC system. According to the Centers for Disease Control and Prevention, nearly three quarters of a million people in the U.S. will develop a hospital-acquired infection each year: 75,000 of them will die.

NETA's substantial hospital experience allows its engineers to design, and its work force to properly build and install a highly-customized system to address challenges that could arise when a hospital is caring for the most complicated of pregnancies and neonatal cases.

To do so will take a significant number of skilled laborers. Due to the high business volume NETA currently has in the Northeast, its existing workforce was already committed to other projects. Last year, leadership brainstormed ways to expand their workforce.

Jackson's colleague, Kevin Robinson, NETA's general manager, explained the challenge they faced. "We talked a lot about the MUSC project, knowing the schedule was going to be crazy beginning in spring 2017. We wondered how we were ever going to find 60 guys to come onto this project because everyone involved in hiring would be looking for people during our same time frame," he said.



Photo provided

Nick Cave, from left, William Beaufort, Graylin Richardson and Chip Cox work in one of NETA's pre-assembly stations.

Jackson nodded. "About a year ago, we were at an oyster roast. Kevin and I were talking." They wanted to come up with a way to solve the timing issue. "What would be the chance of finding guys down here if we said to them, 'We'd love to hire you, but we're going to have to hire you next June?' Probably not good. But what if we hired guys from Charleston, brought them to Maine and trained them in our program? We could use help in the Northeast, and they would be part of the workforce while they trained."

There was also another consideration. In keeping with its commitment to diversity and inclusion, MUSC required the construction management team to submit a comprehensive diversity and local participation plan for the project. The plan calls for a 30 percent spend goal targeting small-, minority- and women-owned business enterprises (SMWBE) and 65 to 70 percent participation of a local workforce comprised exclusively of South Carolina residents.

Jackson said that although they were under a contractual obligation to work with these numbers, that didn't impact

how they conduct business. "We're not bringing on locals or minorities because of contract obligations, we're doing it because that's our company's philosophy – to give people a chance to succeed and grow in our corporate culture."

So they devised a plan to offer an intensive training program to people from the Lowcountry and take them to Maine to train them, with the understanding they would return to Charleston as an integral part of the children's hospital project. It's called Train in Maine.

"When we first floated it, we thought it would be pie in the sky," Jackson said. We didn't think it would ever catch on, considering Maine is so far away, and they would be working through the freezing winter months." Robinson nodded, "But we also knew that if we came down to Charleston and hired 30 guys at a time, it would be an overwhelming training process. By taking teams up to Maine and training them in our corporate culture, safety and lift training and fall protection and learning our processes in the field, we could bring them back down, and not only will they

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MEET CHANNING



Channing Sherman

Department; How long at MUSC
Web Resources & Digital Strategy; One month

How you are changing what's possible at MUSC

I'd like to change how patients and students get information from us. I want to make sure they can find the information they need online with as much ease as possible.

Who in history would you like to meet and why

A tie between Richard Pryor and George Carlin. The world is too serious right now, so if I'm going to meet someone from history, I'd like it to be someone who can make me laugh.

Favorite family meal

My mom makes a mean gumbo. Honestly, I'm not sure if I'm related to half the people who show up for a bowl.

Favorite quote

"Shepherd Book once said to me, 'If you can't do something smart, do something right.'" - Jayne Cobb, from the movie, "Serenity"



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MUSC retired faculty members are invited to join us for the 2017 Retired Faculty Brunch with special guest, President David Cole, M.D., FACS.

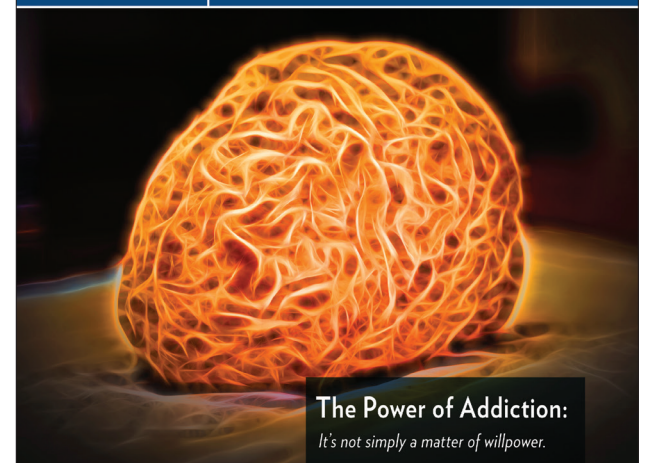
Thursday, March 2nd
 at ten in the morning

Harbour Club
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RSVP by February 21st
 to Haley Sulka at 843-792-5252 or sulka@musc.edu



science café



Peter Kalivas, Ph.D., professor and chair of the Department of Neuroscience, specializes in addiction neuroscience.

Susan King, M.S.W., is a social worker in the child and adolescent division of the Department of Psychiatry and Behavioral Sciences at the Institute of Psychiatry



People are addicted to drugs because using them changes the brain. How does this happen, especially when adolescents use drugs? What can be done to protect adolescents from drugs, and how can we help addicts fix their brain and regain control of their lives? Join this month's Science Café where a researcher and social worker, a dynamic husband-and-wife duo, join forces to explore the neurobiology of addiction and what the community can do with this understanding to better protect our children.

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MUSC's Science Café is a series of presentations offering entertaining talks on scientific subjects in a fun, non-technical way in a pleasant social environment. To learn more, contact Tara Abbott at 843-792-2926 or abbott@musc.edu.

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Further details: www.musc.edu/chp/MHI

Researcher uses social networking, AI to fight cancer

By J. RYNE DANIELSON

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“Will I get cancer?” It’s not the kind of question one typically asks Google or Siri – but maybe it should be, says Brandon Welch, Ph.D., a biomedical informatics researcher with MUSC’s Department of Public Health Sciences.

Last year Welch received an \$867,000 grant from the National Cancer Institute – part of the National Institutes of Health and the nation’s leading cancer research organization – to continue his exciting work with social networking and artificial intelligence. His goal is to create a simple tool that will allow patients to crowdsource their family health histories, something he hopes will give doctors important insights into the risks their patients face when it comes to heritable diseases like cancer or heart disease.

Welch’s background is in genetics. When he realized that doctors were lacking simple ways to understand and use genetic information, he decided to

do something about it. “Family history is almost like a simple and free genetic test,” he said. “By knowing what diseases run in a family, doctors can help patients identify risks and get the treatments or preventions they need, often before they experience any symptoms.”

The problem, he explained, is that few doctors have the time to collect detailed family histories. “Doctors only collect family histories from about half of their new patients and from less than a quarter of their returning patients,” he said. “It takes 20 to 30 minutes to collect a good family history, but on average doctors only spend 2 1/2 minutes with their patients. It’s just not enough time.”

Welch said that doctors often don’t know what to ask, and their questions aren’t detailed enough. “A patient’s record might say ‘family history of cancer.’ Okay, but, how many relatives have had cancer? Was the cancer on your mother’s side or your father’s side? It’s very different having a grandfather in his 90s who had cancer versus a brother

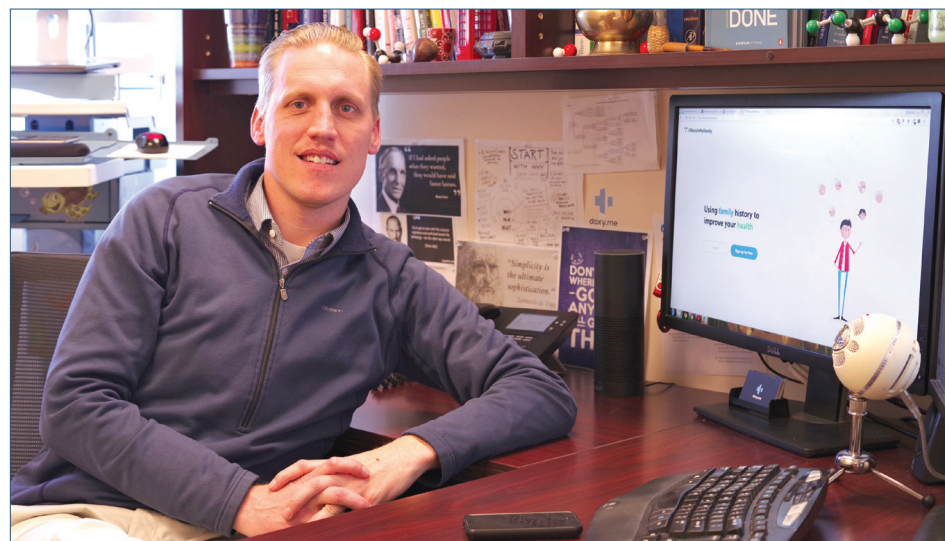


Photo by J. Ryne Danielson

Dr. Brandon Welch shows off the interface of his new family health history collection tool, ItRunsInMyFamily.com. He hopes to use social networking and artificial intelligence to revolutionize the way doctors collect information to assess risks for cancer and other diseases.

in his 40s. Those are the questions that need to be asked.”

Another problem is that patients often report inaccurate family histories.

Altogether, less than 4 percent of family histories are detailed enough

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be experienced and valued members of the team, they could also help us train the next group that will already be in place."

Both men were surprised the project got legs as quickly as it did. Jackson said, "I don't think we thought people involved would be quite as excited as they are. The people here at MUSC, Bobby Teachey and Jean-Marc Villain, are supportive and helpful, as is the mayor's office."

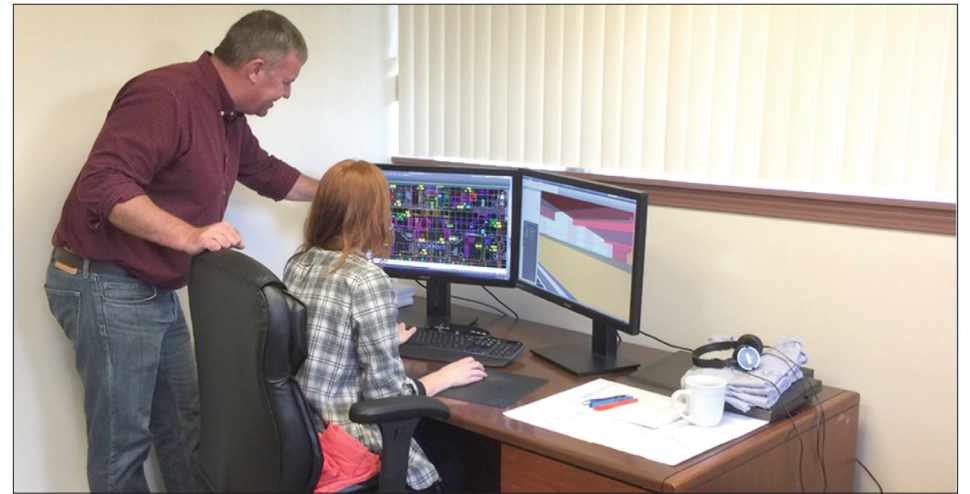
Villain, MUSC's director of Supplier Diversity, sees great merit in the program. "The Train in Maine concept is a win-win initiative for all parties involved in the project. By investing in these young men and women's futures, NETA ensures that its local workforce will be armed with the skills and high standards that the company is known for while being compliant with its contractual obligations. MUSC benefits from having an able pool of professionals that it can call on for future projects. The trainees acquire a set of high-demand skills in a health care sector

poised for more infrastructure growth going forward, and it means more taxes for the State of South Carolina as they ramp up the salary scale."

Teachey, a lead project manager with the construction management team, was equally complimentary. "The Robins & Morton, Cumming and Brownstone team recognizes and commends the outreach of New England Tech Air to search out minority sheet metal companies and work toward filling that void with their Train in Maine program. While they work also toward the construction project's small, women-, minority-owned business goals, hopefully their program continues to offer new opportunities for the minority community in Charleston and the state of South Carolina."

IDENTIFYING POTENTIAL WORKERS

Jackson said they didn't do any advertising to find interested workers. Instead, they went knocking on doors. It was actually the Charleston SMWBE list that led them to a local entrepreneur, Frank Ancrum of Hard Hat Transportation, who ultimately



Photos provided

NETA building information modeling manager talks with recruit Sarah Falt, a recent college graduate who was happy to be working as a drafter.

introduced them to people he knew. Between Ancrum's contacts and a recommendation from a faculty member at Trident Tech, they hired the initial cadre of six people — five African-American men who would be trained as sheet metal workers, and one woman, a recent college grad who was interested in a career in drafting — and flew them to Maine to begin their training.

The NETA team worked hand-

in-hand with the group in the manufacturing facility for the first four to five weeks. Some, Jackson said, had pretty good previous experience; others were fairly green. "We were surprised at how enthusiastic they were and how they picked it up fairly quickly and fit in wonderfully. It's worked out really well, and they have adapted to the culture. They even attended our daily meetings.

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Former fireman, college grad join ‘Train in Maine’ team

BY MIKIE HAYES

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New England Tech Air brought six trainees to Maine from Charleston to learn the skills they'll need to work on the drafting, heating, ventilation, air conditioning and duct work in the MUSC Shawn Jenkins Children's Hospital. Here, two trainees share the stories that took them from the Battery to blizzards.

□ Nick Cave

Thirteen years spent running into burning buildings or arriving first on the scene of tragic accidents would take its toll on anyone. So when a friend mentioned a unique opportunity that would change not only his career path, but where he would live and work, Nick Cave gave it a shot. And he's glad he did. He learned an entirely new trade as a sheet metal mechanic and ultimately will be part of the massive MUSC Shawn Jenkins Children's Hospital project back in Charleston, his hometown.

The former firefighter and paramedic, who has also worked as a welder, said the experience he's gained through the Train in Maine program is preparing him to work on the MUSC project. He wants his work to be



Mike Barnes installs ductwork, a skill he'll use in construction of the MUSC Shawn Jenkins Children's Hospital.

flawless by the time he returns. For him, it's personal. Today, Cave is in Boston installing ductwork – in charge of the entire set up. He no longer needs the oversight of his NETA supervisors to properly complete a job. This installation requires him to call upon every bit of the training he received, but he enjoys the challenge and the way this new line of work has helped him hone his critical thinking abilities. “I’ve got this,” he said confidently, “I’ve learned from the best.”

When he started, he had zero experience, and that was a strange feeling. “I was kind of lost,” Cave

admitted. “I didn’t know how to read blueprints. It’s easy to me now. Give me the prints, and I go on my way,” he said.

Life is easier on a personal level, too. Cave breathes easier without the stress he felt as a firefighter and paramedic. The work was grueling and the gravity of constantly dealing with life and death was wearing on him.

“I needed a break,” he said. “I was starting to feel the burnout, and I didn’t want to be ‘that person’ – the person who becomes negative. This opportunity came at the perfect time and has given me a new direction – one I wouldn’t have thought to look into. I’m very thankful this came my way.”

Had it not been for a call from a friend who introduced him to the representatives of New England Tech Air, he probably wouldn’t have looked into sheet metal work. After interviewing for the program, he was one of five men selected for the training program in Maine. He actually knew the others. “I grew up with J.R. and Graylon and met John through them,” he said. “Later in life, I met Mike, and we became the best of friends.”

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Former White House advisor speaks at Black History event

By J. RYNE DANIELSON

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David Johns, former executive director of the White House Initiative on Educational Excellence for African-Americans and senior education policy advisor to the Senate Committee on Health, Education, Labor and Pensions, spoke at MUSC's Black History Month noonday event Feb. 8.

His talk, titled "Are We Worthy of Our Children?" drew on his work with the Senate and White House, identifying evidence-based best practices to improve African-American student achievement "from cradle to career."

"Often when adults seek to solve problems for young people, we gather in rooms with other adults, we think about what it was like when we were in school way back when, and we design solutions based on what we think we would need without ever asking young people what they need," Johns said.

When he took the reins of the White House Initiative, which President Obama created in 2012 and tasked him to lead, Johns said he sought out the real education experts — students.

"I've never met a child who was not a genius," he said, quoting educational psychologist Asa Hilliard. "There is no

such thing as a problem child. All of our children are born wanting to learn, and it is the responsibility of us, as caring and concerned adults, to support them."

Many African-American students, he said, do not have that kind of support. "The collusion of race and racism in public education means black students get punished more often and have access to educational support less often than their white peers," he said. "There are physiological responses to race-based stressors, and when we have conversations about education, there is often an over-emphasis on cognitive development to the neglect of children's social and emotional well-being."

Johns said when children of any color receive the support they need, they thrive, explaining the importance of being able to identify role models that look like them. That's often a problem, he said, in the STEAM fields. "If you ask a lot of African-American students to name a STEAM professional of color, they draw a blank. So, it's important for us to highlight diversity in terms of the application of science, technology, engineering, the arts, agriculture and mathematics to help kids make the connections that no one else is going to make for them."

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Photo by J. Ryne Danielson

David Johns, a former education policy advisor, spoke at MUSC for Black History Month. He highlighted several African-American role models in the science and technology fields, and advocated for open discussions about race and racism with children.

IMAGINE NATION

A MESSAGE FROM Darlene Shaw, Ph.D., Chief Instit. Strategy Officer

On Jan. 31, MUSC took part in the official launch of the Healthy Tri-County initiative. While many of our Imagine MUSC 2020 goals come to fruition on our own campus or in our labs and patient care settings, this tangible example of our Imagine MUSC 2020 goal to Build Healthy Communities is a direct result of working in concert with our community partners – and even competitors.



This collaborative project will develop a regional health improvement plan through the integration of organizations. The launch also included the release of the Tri-County Community Health Landscape: Community Health Needs Assessment Report — a joint effort by the Trident United Way, Roper St. Francis and MUSC. Data from the survey will help health care providers and community organizations improve the health and wellness of our community, identify needs, establish priorities for programs and services to address gaps between critical needs and health disparities. Visit muschealth.org/chna.

IMAGINE WIN

MUSC Health Medical Video Center Debuts (Goal: Foster Innovative Teaching and Learning) — The MUSC Health Medical Video Center launched last week and features videos with our clinical faculty and staff. Designed to build MUSC's national reputation by highlighting our clinical and research innovation with a health care audience, the site is intended for professionals and contains explicit surgical photography and videos. It is available online at musc.bcst.md.

IMAGINE CONNECTION

Miles to Change (Goal: Healthy Communities)

This MUSC Wellness-supported program includes a running-walking group and biking group. The program, housed in the Office of Health Promotion, is aimed at improving employee wellness and supporting an overall culture of health at MUSC. Members receive a Miles to Change T-shirt when signing up for any event – wear them on race day to promote the group. Participation in local races leads to improved health for participants and aligns with the Imagine MUSC 2020 goal of Build Healthy Communities. For more information, visit the Miles to Change Facebook page at <https://www.facebook.com/groups/117223825293366/> or email milestochange@musc.edu.

IMAGINE MINUTE

This month's Imagine Minute with President Cole features the HOT FitGym, serving 400 MUSC employees in the Harborview Office Tower. This grass-roots effort is now a resource for stress reduction and getting started in fitness in a comfortable environment. It's a flexible way to maintain fitness levels during busy times. Watch the video at <http://bit.ly/HOTfitgym>.

UPCOMING EVENTS

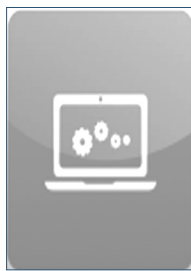
- ☐ Feb 21 — Science Cafe: "The Power of Addiction: It's not simply a matter of willpower," by Dr. Peter Kalivas and Susan King. Free event. 5:30 p.m., Charleston Beer Works (Goal: Innovative Learning, Scientific Discovery)
- ☐ Feb 22 — "Quotas" presented by Dr. Michael de Arellano on the importance of diversity in medical education, 12 to 12:35 p.m., BSB 355 (Goal: Diversity & Inclusion)

New Chief Information Security Officer named

Matt Klein recently joined MUSC as the new chief information security officer for Information Solutions. He brings 20 years of experience to our organization, having served as an IT and information security professional and leader covering operations and architecture for areas that include end-user support and data centers. He assumed the role held previously by John Rasmussen and reports directly to me.

Holding the industry standard CISSP certification, Klein has developed leadership skills specifically in areas of network security, vulnerability management and application security. He is proficient at creating high-performing organizations by focusing on three elements of success: people, process and technology.

Prior to MUSC, Klein spent 10 years working for Anthem, Inc., the nation's leading health benefits provider, where he led Information Security strategic projects and teams. Having joined Anthem in 2006, he had progressively taken on more responsibility for technology support and strategy. During 2015 and 2016, Klein's focus was responding to a data breach that Anthem suffered in late January 2015. His initial role was to help lead the reaction to the incident to minimize the impact of the breach. However, his role quickly



Making IT Great

Megan Fink

turned to one of strategy in helping to develop a massive breach response project plan. In addition, he was directly responsible for building and developing a new strategy and solution delivery area to foster the accelerated delivery of technology and services investments. His leadership played a significant part in making Anthem's Information Security program a leader in the health care payer space. Recognized as a top talent at Anthem, he successfully completed the Anthem

Winning Leader Development program.

Klein brings a collaborative and customer-focused leadership approach to managing his organization, programs and partnerships. He has successfully built and transformed large teams and programs by focusing on purpose, goals, relationships and an unwavering commitment to execution. An ability to establish rapport with customers and demonstrate leadership, as well as communicate up through the senior-most levels of the organization, are assets Klein brings to MUSC.

A native of Philadelphia, he received his bachelor's degree in accounting from La Salle University. Matt resides in Mount Pleasant with his spouse and two children who keep him active with coaching youth sports and other extracurricular activities.

LECTURE *Continued from Page Ten*

He gave an example, citing 11-year-old Mikaila Ulmer, who used her grandmother's flaxseed oil recipe to produce nutritious honey-sweetened lemonade and founded a company called Me & the Bees to sell it nationwide. "Mikaila's grandmother is not someone we would ever celebrate traditionally as a STEAM entrepreneur. But she is. She doesn't have a credential. She's not certified by any post-secondary institution. But she used her ingenuity and understanding of science to create something."

Johns said it is important to foster positive narratives about African-Americans, such as that of Mikaila and her grandmother, rather than allowing stereotypes and negative media portrayals to dictate one's perceptions.

"It's a sad reality today that a child's access to opportunity is still predicted by a code — his or her genetic code or zip code," he said, paraphrasing something former first lady Michelle Obama said. "So much of that has to do with how we perceive our children and how we teach them to perceive themselves."

Citing Department of Education statistics, Johns said the rates of students suspended or expelled from school at the kindergarten through 12th-grade levels were three times higher for black boys and six times higher for black girls when compared to their white peers.

"The toughest job I had in my life was teaching kindergarten. It's what prepared me to work with Congress," he said, encouraging everyone in his audience to visit an elementary school

classroom firsthand. "Anyone who has not spent time sitting with a group of 5 year olds, listening to them grappling with the same things we grapple with, it's both sobering and affirming. Among the things I miss about being a kindergarten teacher is the clarity with which young people make sense of the world."

"The most fundamental questions we can ask about the world revolve around a three-letter word: why. And the reality is that we as adults side step, obfuscate and dance around that question, especially when the answers might be uncomfortable."

As an example, Johns pointed to Michael Brown, who was shot by police in Ferguson, Missouri, in 2014, leading to waves of protest and unrest in the St. Louis suburb over the weeks that followed. "Michael Brown was killed on a Saturday, and the district canceled school for the following week," he said. "And, when they came back to school the following Monday, teachers were told, 'Do not talk about what happened.' What do you think kids were talking about that whole week? We do ourselves, our children and our communities a disservice when we don't sit in that discomfort and figure out how to answer their questions."

Johns said he makes a point, whenever he talks to students, to ask what they need to feel safe and to thrive. The most frequent answer he hears is love. "Love both affirms and challenges," he said. "It can be uncomfortable, and it can be a risk. But we need to show up, even for the kids we sometimes want to shake. Because, that's the kind of love that matters most."

SOCIAL *Continued from Page Six*

to accurately assess a patient's risk for heritable diseases, according to the Centers for Disease Control and Prevention.

"I was pondering this problem right when Facebook was first getting big," Welch said. "And I thought, 'Gosh, people spend so much time and effort uploading pictures, commenting and engaging with their friends and family. Why can't we use social networking to engage families to collect family health history information? Can we build a family history tool that functions as a social network that allows individuals to enter what they know about their health, and also invite family members to enter what they know — effectively crowdsourcing and creating more complete and more accurate family histories?'"

The answer seemed to be yes. The tool Welch created, *ItRunsInMyFamily.com*, is now in beta testing — the pre-release stage where software developers iron out all the kinks.

Online family history tools aren't completely new; there is the surgeon general's *My Family Health Portrait*, for example. But they're typically complicated and time consuming, their user interfaces cumbersome, and they don't solve the problem of inaccurate or incomplete information.

What sets *ItRunsInMyFamily* apart, besides its social features, is its user interface. Rather than filling out a form, patients have a conversation with "dokbot," a sophisticated computer program that walks users through the family history collection process much like a real doctor or genetic counselor would.

"I wanted to make it easier and more intuitive than filling out a form," Welch said. "Nowadays, we have Siri, Alexa or Ok Google on our phones, and we talk to them, they ask us questions and we respond. It's a much more natural way of exchanging information. 'So,' I thought, 'what if we could build some sort of natural dialogue into our system to make it easier to collect information from users? If we can turn the collection process into a conversation, patients can

engage with the website like they would with a real person.'"

Welch said dokbot guides users through the family health history collection process much like a video game. "Users seem to love this sort of dialogue and interaction," he said. "As a website designer, you want it to be fun and intuitive. You don't want it to be a chore."

The website is fully compliant with the Health Insurance Portability and Accountability Act (HIPAA), which protects patient privacy, and Welch hopes that as users invite their brothers, sisters, parents, aunts and uncles, those family members will be more likely to add their information since the process is intuitive, and they are being invited by someone they already trust.

"Later on — in two to three months — we'll add privacy settings so that patients can hide sensitive information," Welch said. "Right now, the system deals only with cancer history, but we'll expand it to include heart and vascular disease, diabetes and others as we go."

He hopes the system will also one day have the ability to provide personalized recommendations for users with a strong family history of cancer to mitigate their risks, such as encouraging users to quit smoking or get more frequent cancer screenings at a younger age. "We also want to integrate our family history information with electronic health records systems like Epic and create interfaces for clinicians to access patients' family histories and more easily gather data for their own research."

Putting this valuable new method of collecting family health information into the hands of big data researchers and combining it with large scale genomic sequencing data might also hold the potential to radically transform the health care industry, leading to more value-driven, patient-centered care, he said.

Welch and his team started recruiting beta users in February and are working hard to find and fix any bugs in the code. He hopes to add the first patients by March.

If you have a family history of cancer and would like to be a beta user, contact Brandon Welch at welchbm@muscc.edu.

NETA *Continued from Page Eight*

They really had a voice.”

Providing tickets to fly home to visit their families every four weeks was just one of the benefits NETA provided to the team. When Hurricane Matthew made landfall in the Charleston area in October, Jackson and Robinson flew them home to take care of business, as some had damage to their homes. Not only did the NETA team make it a priority to get them back to their families, they also made arrangements to help them get through the aftermath of the storm.

Team members worked first as apprentices and now work as sheet metal installers without the need for supervision, Robinson said. He attributes their rapid growth to the intensity of the training.

“They definitely get a huge experience in working on a construction site,” he continued. The sites they were on had 300 to 400 workers, and they were exposed to multiple trades. Trainees get safety training. They hang duct work, measure duct work, test duct work — they will get a lot of experience in those five months. It allows them to market themselves as experienced sheet metal workers.”

Jackson and Robinson will be back in Charleston this month to hire another cadre of people. Then again in April, they will concentrate on another group of 10 to 15. Numbers will continue to grow until they reach between 60 and 70, feeding the pipeline of experienced workers who will aid them in the future, as they are opening a NETA branch in Charleston.

“This helps our company be able to better service our clients, like the MUSCs of the world, by having crews outside of New England, Jackson explained. We, companywide, have a commitment to taking people with various levels of experience and raising them up in the company, so people can grow their careers with us.”

Robinson said there is no better feeling than when they work on a children’s hospital, and by hiring locally, there is more buy-in. “When you finish it,” he said, “you see the children and families going into it. “You feel you were a special part of it. I had the experience of doing that in Maine. One of the greatest things about hiring local people is that it’s

their home, their kids, their families and grandparents. It’s their friends’ kids, and nieces and nephews using this facility. Their passion to be a part of it is greatly enhanced. They are going to be that much more proud of it. It’s just a different level when it’s in your home town. And when we complete it, it’s a great feeling to have been a part of it. There will be a lot of pride and respect that will be put in that building.”

PARTNERS, NOT COMPETITORS

At the same time NETA is involved in Train in Maine, the team also is involved in another novel program it launched to mentor South Carolina businesses that fall under the SMWBE category that subcontract under them — companies that

do what they do on a much smaller scale. These programs, Villain said, are setting the standard for collaborative business practices and greatly benefit MUSC and the Charleston community.

Robinson explained the philosophy. “The goal is to help every company that works with us improve the processes of their company. In the end, it will help them gain work on their own,” he said. “Contractors tend to stay in their own little silos, and historically, they don’t share secrets,” he added. “Our owners went the opposite direction — they wanted to share secrets and help others learn.”

Five years ago, they initiated corporatewide a Lean journey, which is a system that aims to improve processes, quality and value for the customer. One

of the principles they adopted was sharing trade secrets. “With that,” Jackson said, “if you have partnerships with others, that’s much different than being a competitor with everyone. If seven years from now we’ve helped three small companies, we can call them and rely on them for help, so, if we need assistance, we can provide better service for our customers. We make them partners, not competitors.”

Robinson agreed. “We all know there’s not enough young people loving the construction world — they all want to be in computers. Not a lot of people are entering it. As companies, and with respect to our commitment to our customers, we have to have the ability to perform — by networking with other companies. This has been a huge step.”

PROFILES *Continued from Page Nine*

He characterizes the experience as “a good thing.”

“I actually like sheet metal,” he said. “I never would have thought that I would. It was actually a lot harder than I thought it would be. But in the shop in Maine, I learned about the process from start to finish. They put me on one project — it took critical thinking for me. We had to figure out problems. But once I got it, I was floating and flying. By me working with these guys who have been doing this a long time, I am learning something new every day. They are showing me better and safer and quicker ways to do things. I’m constantly watching them. Throughout this whole experience, I’ve learned so much and met so many people. It’s cool.”

A different kind of “cool” is something he knows a lot more about now, too. “I was working in a building that was minus 2 degrees. Minus 2 degrees. I can’t tell you how cold that is.” Cave looks forward to returning to Charleston’s milder weather and working on the new Shawn Jenkins Children’s Hospital. NETA has flown him home once a month since he’s been in the training program. Last month, he flew instead to Texas to meet his new nephew, C.J. His sister had given birth the month before, and he’d not been able to meet the newest member of the family. It meant a lot to him, he said, that they ensured he got that chance.

□ Sarah Falt

A program like New England Tech Air’s can make all the difference in the world in a person’s life. When Sarah Falt got the call in 2016 from the drafting manager at NETA, she was both elated and relieved. The timing was perfect for her to go to Maine and train and work as a draftsman, she said. Having graduated from college in 2013, she was struggling to find what she called a legitimate job, so she decided just months before to

enroll in an adult education program and take night classes at Trident Tech to improve her knowledge and skills.

“I had gotten a liberal arts degree in historic preservation from the College of Charleston, which is perfect for Charleston, but without a master’s, I was working in furniture stores and as a personal assistant. I wasn’t able to make ends meet, and I wasn’t doing what I wanted to be doing, which was drafting. My dream was to be an architectural draftsman working in interior design, but I didn’t have a skill, so I thought adding some additional courses would help make me more attractive to employers.”

Her plan was right on the money. Having completed three of the five requisite courses, one of her professors recognized her talent and connected her with a representative of NETA, who was looking for entry-level draftsmen and willing to pay a good wage.

“This opportunity was awesome for me after struggling for so long. Mike Smith, the manager of the CAD Department, told me I’d be training at the office with the whole team in southern Maine. The starting wage was a lot higher than anything I’d seen in Charleston, and I would be doing only simple drafting, which is what I went to school to do.”

During the rigorous three-month period, not only did she thrive, she found her passion. And while her training is over, she continues to work with the team in Maine. “The entire experience has been so helpful,” she said. “I knew nothing of sheet metal or HVAC systems. The training went really well.”

She and the others will move back down in late spring, and she plans to stay in Charleston. Funny enough, Falt hails from Mount Desert Island, Maine, which is only 3 ½ hours away from Scarborough.

It’s an industry she thinks she will stay with. “I work on the Children’s Hospital project every day. It’s an awesome project, and I am just honored to be part of it, especially as a woman. When I started, there were no other women in the drafting department at NETA. It’s a very male-oriented field. I am glad they were willing to give me a chance. I really like the people I work with a lot. Thanks to them, I now have a tangible skill.”

February means Go Red month for Good Health

❑ Go Red for Good Health

February has been designated Go Red month by the American Heart Association to raise awareness and support to combat heart disease among women. One in three deaths among women each year is attributable to heart disease and stroke — more than all cancers combined. It is estimated that 8 percent of cardiac events can be prevented with education and lifestyle changes. Each February, the Office of Health Promotion, along with Sodexo, aims to raise awareness of these staggering statistics and provide opportunities, with activities all month, to help improve these numbers.

❑ Sodexo's Got Heart

Each week during heart month, the Main and ART cafeterias help support the health of employees by offering tasty, baked sweet potato fries and other heart-healthy side items on Fried-Free Fridays. Red hearts posted throughout

the cafeteria point the way to better choices. Look for the new Mindful Meal of the Day. It features the chef's selection of an entree, two sides — all of which meet Mindful criteria — plus a 20-ounce bottle of water all for \$4.99. The selections change daily, but the price stays the same. Check out the menus on Sodexo's convenient BITE app to plan healthy meals all week at work. Mindful items have met specified criteria for calories, sodium, fat and other nutrients and are just one more way to support a healthy heart.

❑ Step it Up for Heart Health

February is the last month before the Step it up MUSC finale. Over 60 teams have walked or run their way to better health over the nine-month program. Next month, qualifying teams will compete for prizes and ultimate bragging rights. Teams must have participated in two of the three rounds and have six to 12 team members to be eligible. For more information on

the March Madness Step Finale, email musc-empwell@musc.edu.

❑ Sweet Treats for the Heart

What else is red this month? Valentine's Day. Many of us celebrated the holiday this week with red roses, red wine and lots of chocolate. Believe it or not, indulging in these types of treats can actually support heart health. Red wine contains compounds that protect the heart and arteries against the effects of saturated fat. The alcohol in red wine, when consumed in moderation, raises levels of "good" HDL cholesterol and can help protect arteries from the damage caused by "bad" LDL cholesterol. And that box of chocolates? Make sure to pick the dark pieces. Studies show that dark chocolate with higher percentages of cocoa can lower blood pressure and increase blood flow to the brain and heart. For an added healthy treat, add berries to the mix. Strawberries, raspberries and blueberries are a plentiful source of lutein, carotene,

MUSC Health & Well-Being

By Susan L. Johnson,
Ph.D., MUSC Office of
Health Promotion



vitamin C, fiber and potassium and boast anti-aging properties.

❑ We Heart Yoga in the Park

Yoga is about bringing the mind, body and spirit into such harmony that one's natural rhythm can be felt and followed. The focus is on warm up, stretching, breathing and postures, teaching you to trust in your body's wisdom and bringing a sense of peace and renewed vitality.

Join Gail Corvette this Saturday, Feb. 18 at 9 a.m. in the Hampton Park gazebo to enjoy this free Adventure Out class. Namaste.

Dental Medicine's first black male graduate remembered

BY CINDY ABOLE

aboleca@muscd.edu

Charleston resident and dental advocate George C. McTeer Sr., DMD, a 1974 alumnus of the College of Dental Medicine and first African-American dentist to graduate from MUSC, died Dec. 27. He was 78.

Patricia L. Blanton, DDS, Ph.D., interim dean of the James B. Edwards College of Dental Medicine, commented on the legacy left by Dr. McTeer to the dental school and MUSC. "Although I didn't have the privilege of knowing Dr. McTeer, I have learned about the tremendous contributions he made as a great ambassador for dentistry and MUSC in the community. His efforts led to helping many minority dental students matriculate successfully through our dental program and become successful practitioners. Dr. McTeer was a role model and influenced many with his positivity and professional attitude."

Prior to attending MUSC, Dr. McTeer was a math and science teacher who taught at several Lowcountry high schools and adult education programs before switching to dentistry as a career. He ran a general dentistry practice on the Charleston peninsula and prided himself on being an educator for good oral health among his patients and advocate for access of

care, especially for underserved populations.

MUSC alumna Gwendolyn Brown, DMD, director of diversity for the James B. Edwards College of Dental Medicine, remembers Dr. McTeer as her seventh grade teacher at Rhett Elementary School in downtown Charleston. She recalled how encouraging and supportive he was to his students. Later, he became more of a mentor to Brown as she entered and completed dental school and started her own private practice. "He gave wise counsel and was always supportive," she said.

Tariq Javed, DMD, vice dean for the college and associate dean for academic and student affairs, also shared thoughts of his colleague and friend. "I knew Dr. McTeer and his family well and was proud of his contributions as a role model to students who chose to pursue dentistry. He was accessible to any student who wanted to shadow with him at his practice."

The scholarship was first established by faculty and the dental school's Office of Diversity in 2002 to provide support to minority students studying dental



McTeer

medicine at MUSC. In 2011, the James B. Edwards College of Dental Medicine helped permanently endow the Dr. George C. McTeer Sr. Scholarship, which honors Dr. McTeer's many valuable contributions to MUSC.

Stephanie Oberempts, director of development and alumni relations for the college, worked closely with Dr. McTeer and dental faculty and staff in coordinating the scholarship. "I was saddened to hear of the passing of Dr. McTeer. He was a groundbreaking icon to us and will be greatly missed by the dental faculty, staff and College of Dental Medicine alumni. My deepest sympathies go to his family," she said.

Dr. McTeers' peers are involved in the Palmetto Medical Dental Pharmaceutical Association were also instrumental in establishing the scholarship. The group represents African-American health professionals across the state. Dr. McTeer believed students should have the ability to access resources like scholarships and financial aid in their pursuit dentistry.

Dr. McTeer is survived by his wife Norma J.E. McTeer; daughters Sonja N. McTeer and Dr. Arlene McTeer; and son George McTeer Jr. For information about the College of Dental Medicine's George C. McTeer Sr. scholarship, visit academicdepartments.musc.edu/giving/dental.