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*Photos by Sarah Pack*

A young visitor gets a design on the arm just outside the MUSC Shawn Jenkins Children's Hospital and Pearl Tourville Women's Pavilion.

## Families get chance to 'peek and play' at new high-tech hospital

BY HELEN ADAMS

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Faith Smith is due to have a baby in late December, and after touring the labor and delivery unit in the brand-new hospital where she'll give birth, she's ready. "My twin sister just had a baby in July, on the 29th, and I get to brag to her how much better mine is going to be. It was really pretty."

Smith was among about 400 people who visited the MUSC Shawn Jenkins Children's Hospital and Pearl Tourville Women's Pavilion on Sept. 14 for an event

billed as a chance to "peek and play." The hospital is scheduled to open in October.

Shawn Jenkins himself was on hand, quietly talking with people and watching as tour group after tour group headed in to check out the hospital. "It's just the joy of a lifetime to see this building and meet all the people we've been able to meet. Today, watching expectant moms and dads and kids coming through — it's been fantastic."

He said the hospital, which stands near the intersection of Calhoun Street and Courtenay Drive in Charleston, is bigger than he imagined. "It's hard to

relate to 625,000 square feet. When you walk around it, it's massive. It's a full city block. It's spectacular."

The kids at the event were more focused on fun than hospital tours. There was face painting, arm painting, a "dunk a doctor" tank, a place for kids to try bike riding, a kissing booth featuring pet therapy dogs, bubbles, jugglers, people on stilts and more.

"Yea, I did it," said 3-year-old Adeline Pack after a dunk tank ball toss that hit the target, plunging a medical resident into the water.

But the employee-led tours were the draw for a lot of adults.

"We're so excited to have you all come in and look around," said Katy Decker, RN, nurse manager of the mother-baby unit, to a group of about a dozen women and men. Some of the women were visibly pregnant.

"We'll go through the nursery area where your baby might be but hopefully your baby will stay with you," Decker said as they walked through a hall and arrived at a labor and delivery room.

"There's an iPad outside every room that will automatically flow from our electronic medical records. It will show your name, if you have any dietary restrictions, any kind of allergy or isolation you have to be on; it will all be here."

Inside each room, a large screen shows the patient which doctors and nurses are coming in, reading their information off employees' badges and displaying it to make their names and roles easier to keep track of.

*See PLAY on page 2*



**Mom-to-be Faith Smith has fun with bubbles.**

**2**

It's flu shot time  
Don't be caught  
unprotected.

**3**

Beloved faculty member  
leaves legacy  
Pioneer touched many lives.

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Meet Bea Heaman

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# Roll up your sleeve — it's time for flu shots

*Flu already circulating around the Palmetto state*

BY LESLIE CANTU

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It's that time of year again — pumpkin spice is everywhere, the temperature is almost bearable and flu season is right around the corner.

In fact, says Elizabeth Mack, M.D., "the flu is already circulating in South Carolina."

Mack is chief of the Division of Pediatric Critical Care at MUSC Children's Health as well as a spokeswoman for the American Academy of Pediatrics.

She said that it's important for everyone 6 months of age and older to get the flu shot, and that includes children, adults, pregnant women and breastfeeding mothers. It's particularly important for people who are around babies under 6 months old, because infants that young can't get the shot, and people who have immunocompromised family members.

"The flu can be deadly," she said. The Centers for Disease Control and Prevention reported 134 confirmed cases of children dying of influenza during the 2018–2019 flu season.

This year's shot protects against four strains of the flu and includes two strains that weren't in last year's formulation, Mack said.

Although it is possible to get the flu

even if you've been vaccinated, you'll likely come down with a much milder case, Mack said.

And, she stressed, the flu shot will not give you the flu.

"That's not possible," she said.

The flu shot uses an inactivated virus — in other words, the virus is dead. The nasal spray does use a live virus, but it's been weakened. Theoretically, it's possible to get the flu from the nasal spray, so for that reason, the spray isn't recommended for pregnant women, children under 2 years old, adults over 49 years old or people with weakened immune systems.

Young children who've never gotten a flu shot or who have only ever had one shot need to get two doses to build up their immunity, according to AAP recommendations.

The flu vaccine is "incredibly safe," Mack said, adding that it makes so much more sense to get the vaccine than to roll the dice and think, "Oh, I'll just take Tamiflu if I get sick."

Antivirals, including Tamiflu, are not substitutes for being vaccinated, Mack said. Antivirals have side effects, they're expensive and they're often in short supply.

To ensure that immunization lasts through the worst of the flu season, it's best to be vaccinated by the end of October, Mack said.



*Photo by Heather Hazzan, SELF Magazine*

**The CDC reports that 134 children died because of influenza in the 2018-19 flu season. Doctors recommend that everyone older than 6 months get the flu shot.**

## PLAY Continued from Page One

The hospital also features:

- ❑ Twenty percent more patient beds than the current hospital.
- ❑ An advanced fetal care unit and the largest neonatal intensive care unit in the state.
- ❑ Floors dedicated to children with cancer and heart problems.
- ❑ A rooftop helicopter landing pad

designed to accommodate the Coast Guard's new Jayhawk helicopter for emergency and disaster situations.

❑ Access to kitchens, laundry facilities and showers for families staying at the hospital for an extended time.

❑ Multiple play spaces for kids.

Smith, hoping to have her baby before the end of the year, said she loved it all. "I can't wait."

## MUSC CATALYST news

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# A caring mentor: A life well lived

*Endocrinologist made contributions in 57-year career*

BY CINDY ABOLE

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**I**nvestigator, educator, physician, mentor and friend. These words best describe the life and career of longtime MUSC clinical scientist Maria Gordon Buse, M.D. Dr. Buse died peacefully at her home surrounded by her family on Aug. 25. She was 92 years old.

Dr. Buse long kept a childhood pledge that she made as a 16-year old World War II survivor interned in a Russian labor camp in wartime Europe. She committed to support an intolerance of fascism and prejudice in an effort to appreciate life through knowledge, beauty and nature. She embraced this concept throughout her life and a career of 50-plus years as a dedicated scientist and practicing endocrinologist. Through her work, Dr. Buse would make substantial contributions toward the understanding and treatment of diabetes, insulin resistance, insulin receptor regulation and various topics related to endocrinology.

Her research led to notable contributions with respect to the understanding of diabetes mellitus. Dr. Buse devoted her career to discovery and research.

Dr. Buse was born July 17, 1927 in Budapest, Hungary. She attended the Pazmany Peter Catholic University School of Medicine in Budapest and University of Basel in Basel, Switzerland, from 1945 to 1948 and completed her medical school education in 1952 at the University of Buenos Aires. Her research career began shortly afterward as she worked under physiology Nobel laureate Bernardo Houssay and his team in 1956. In 1957, she met and married John Buse, M.D. Later that year, the Buses joined MUSC as faculty members in the College of Medicine.

They published their first research article together on action sulfonylureas in animal models (*Diabetes*, 1957). She helped co-found the Department of Endocrinology with her husband and was co-director of the Division of

Nuclear Medicine laboratory until 1983.

In 1960, the Buses had the distinction of being awarded the first National Institutes of Health (NIH) grant in South Carolina for their scientific project, "Factors that Modify Insulin." After her husband's death in 2001, Dr. Buse maintained the NIH RO-1 grant for a total of 54 years — considered to be among the longest continuous grants awarded by the NIH — for 10 competitive renewals (1960 to 2014).

Dr. Buse was a member of several professional organizations, including the Endocrine Society, American Diabetes Association, the American Society of Nuclear Medicine and American Federation of Clinical Research. She wrote and co-authored numerous publications throughout her career and received many honors and awards that include the 2003 American Diabetes Association's Albert Renold Award, South Carolina Governor's Award for Excellence in Science and MUSC Distinguished University Professor.

MUSC President David J. Cole, M.D., FACS, praised Dr. Buse for leaving such a notable legacy. "Maria Buse was a leader in academic medicine, and her legacy for medicine and research funding is remarkable. MUSC was fortunate to be graced by her presence and service for so many years."

Jerry Reves, M.D., dean emeritus of the College of Medicine (2001-2009), has fond memories of Dr. Buse, going back to his days as a medical student at MUSC from 1965 to 1969. "At the time, there were very few women in medicine — in our class of 75 medical students, just two were women — so by gender alone, Dr. Maria Buse stood out to young medical students," he said. "But she was much more than a rare female physician. She stood as an academician of the highest order. Then I was dean of the College of Medicine in 2001, Dr. Buse was a role model that I often referred our students to — today's medical school class is about 50 percent women — as an aspiring female academic physician and an example of how 'you can have it all' —



*Photo Courtesy of MUSC Waring Historical Library*

## Dr. Maria G. Buse in her lab.

a distinguished career, a devoted spouse and beloved family. It wasn't easy, but it surely was great. Put simply, Dr. Buse was an inspiration to us all — students, faculty and staff. It was a privilege to work with her. She is greatly missed."

Cardiology professor and Gazes Cardiac Research Institute director Donald R. Menick, Ph.D., remembers Dr. Buse's collaborative spirit and professionalism. "Maria was an inspiration to me and to so many of us at MUSC. When I arrived in the late 1980s, we started a collaboration, which quickly turned into a wonderful mentoring experience for this newly minted assistant professor. I learned so much from her. I loved sitting down with her over breakfast in the cafeteria or for coffee later in the day and talking science. She was an outstanding scientist and dear friend. Her enthusiasm for biomedical research touched the lives of so many faculty and trainees at MUSC. She is held in the greatest esteem by so many and is sorely missed."

Among those touched by her mentorship were her colleagues and students. Medical Scientist Training Program graduate Charles Burant, M.D., Ph.D., and his wife, Mary Treutelaar, got to know Dr. Buse in and out of the lab.

"Maria Buse was truly one of the most important people in my life. As an

M.D./Ph.D. student in her lab, Maria provided me with training in cutting-edge science. I learned how to design experiments, critically evaluate data and how to read the literature... all those things that a mentor should do. More importantly, Maria became my role model, my 'mom' and a lifelong friend. She was one of the most adventurous people that I've known and a fearless traveler," he said.

Burant was able to travel with Dr. Buse, first as a student, and in subsequent years as they attended scientific meetings together and shared in world cultural experiences.

"But the memories that I treasure more than any other are the many nights that Mary and I, Marie and John would spend together at their home on Bennett Street grilling steaks, drinking wine and talking about science, politics, culture and MUSC gossip until late at night. I still have the simple wine pull that Maria and John gave me when I graduated. It sits mounted by my desk. At this time, Mary and I will grill a steak, use the wine pull and toast a very special woman."

Her husband, John F. Buse, M.D., precedes Dr. Buse in death. Her three children, John B. Buse, M.D., (Mary Beth Cassely) of Chapel Hill, North Carolina; Paul Edward Buse, M.D.,

*See PIONEER on page 11*



Photos by Sarah Pack

**Chris Long, R.N. says his sleep apnea used to leave him dragging at work. Now he gets a full night's rest and is ready for his shift prepping patients for surgery.**

## New surgery promises full night of rest for sleep apnea sufferers

BY LESLIE CANTU

*cantul@musc.edu*

A simple outpatient surgery is making a huge difference for one MUSC Health nurse's quality of life.

Chris Long, R.N., didn't realize he had sleep apnea until he switched to the day shift five years ago. But after starting each shift at 5:15 a.m., he found himself ready for a nap by 9. Visits with various doctors and a sleep study revealed he had sleep apnea, and he began using a continuous positive airway pressure machine, better known as a CPAP, to help him breathe at night.

After years of being tethered to the CPAP each night, Long was ready for a change. Luckily, he was already under the care of ear, nose and throat doctor Eric Lentsch, M.D., the only

doctor in Charleston who implants the Inspire sleep therapy device.

"It's essentially a pacemaker for patients with sleep apnea in an effort to open their airway during sleep," Lentsch said.

Sleep apnea is a sleep disorder in which a person's upper airway becomes blocked, reducing or stopping airflow. It interrupts the person's sleep, but it can also increase

the risk of a heart attack, stroke, certain cancers and diabetes.

MUSC was one of the study sites for the Inspire device trial. The initial one-year results showed a 78% reduction in sleep apnea events per hour, according to Inspire Medical Systems, a medical technology company that spun out of medical device leader Medtronic.

**The Inspire device is based on pacemaker technology.**



Lentsch



"It's far and away the best surgical treatment we have for sleep apnea. CPAP remains the gold standard, and we all recognize that. But for people who can't tolerate CPAP — those patients can be very well served by the use of this device," Lentsch said.

Long was one of them. Although the CPAP did help, it was also kind of an annoyance. The hoses have to be cleaned — either manually or with an expensive after-market system; there's no such thing as an impromptu Saturday afternoon nap on the couch; and you have to lug the machine with you when you travel.

"I went on a cruise with it one time, and it was awful. Awful!" Long said.

And most importantly, the user might subconsciously remove the breathing mask in the middle of the night and not reap the machine's benefits. Long estimated he would wear it for only four or five hours each night before taking it off in a sleepy daze.

The Inspire device, on the other hand, is permanently implanted in the user. During surgery, the doctor makes three 1-inch incisions — one below the jawline, another below the collarbone and the final between the ribs. The surgeon places a stimulation lead around the hypoglossal nerve, which controls tongue movements, then implants the generator below the collarbone and finally, places a sensing lead between the ribs.

The sensing lead senses when the user is about to take a breath and signals the stimulation lead to stimulate the hypoglossal nerve, which moves the tongue forward, forcing open the airway and allowing the user to breathe properly. "This happens within a split second," Lentsch notes.

The patient can go home the same day. Thirty days after surgery, once the patient has fully healed, the device is activated, and the patient can begin using it at night. Just before bed, the patient turns the device on with a remote control. Inspire begins its work after a preset interval of time to allow the user to fall asleep — in Long's case, that's 20 minutes. His girlfriend has told him that now, his snoring stops as soon he hits that 20-minute mark. He's even recorded himself and heard his snoring cut off mid-snore.

*See SLEEP on page 10*

## MEET BEA



**Beatrice 'Bea' Heaman**

**Department:** How long at MUSC  
MUSC Children's Health—Pediatric Specialties Clinics at Summey Medical Pavilion; 5-1/2 years

### How are you changing what's possible at MUSC

*I hope to help anyone in any way that I can whether it is an employee, patient or family member. I hope to bring smiles to their face(s) and a peace of mind, no matter how difficult it may seem.*

### Family and pets

Husband, Jeff (21 years); son, Adam, 20; and daughter, Heather, 18

### A special talent I have

Baking for people — I decorate cakes and cookies and can bake anything. It keeps me sane and relaxes me.

### Your idea of a dream vacation

California wine country, San Francisco, Seattle and end it with an Alaskan cruise

### Words of advice

"God will never give you more than you can handle."



### Annual Benefits & Wellness Fair

Library Portico  
September 27th  
8:30 am - 2:00 pm

The University and Medical Center Human Resources Departments will be hosting the annual Benefits and Wellness Fair from 8:30 a.m. to 2:00 p.m. on Friday, September 27<sup>th</sup> at the Portico around the Colbert Education Center and Library.

The fair will kick off the 2019 Open Enrollment period that lasts from October 1<sup>st</sup> to October 31<sup>st</sup>.

Employees are encouraged to attend the fair to learn about plan changes effective January 1, while discovering wellness initiatives that improve the health of the MUSC community.

HR • Benefit plans • Insurance reps • Wellness programs • Raffles  
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### Perry V Halushka 2019 MUSC Research Day

will be held

Friday, NOVEMBER 1, 2019



Keynote Speaker:

Suzanne Topalian, MD

12:00 PM, DD 110

#### ABSTRACT DEADLINE:

Friday, September 27, 2019 @ 11:59 PM

NO ABSTRACTS will be accepted after this date

8:00-11:30 AM	Poster Session	Harper Center Gym
12:00 - 1:00 PM	Keynote Presentation	DD 110
1:30 - 4:30 PM	Oral Sessions	Education Library Rooms
5:00 - 6:00 PM	Awards Ceremony	DD 110

Links to submit an abstract as well as information about poster and oral presentations can be found by following the Research Day link on the [College of Graduate Studies home page](#). Or copy/paste: <https://education.musc.edu/colleges/graduate-studies>

MUSC Research Day 2019 is open to all students, postdocs, residents, fellows, and research specialists at MUSC and students, postdocs, residents, and fellows at other institutions who have participated this past year in programs of research at MUSC.

One abstract per presenter is allowed and team presentations are NOT allowed. Oral and poster formats are available.

Please direct any questions regarding MUSC Research Day 2019 to Dr. Steven Kubala at: [kubalaks@musc.edu](mailto:kubalaks@musc.edu)



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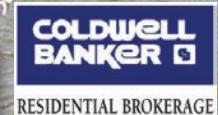
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# 'There was a town, but it was all gone.'

*MUSC photographer helps deliver supplies to devastated Bahamas in aftermath of Dorian*

By HELEN ADAMS

adamshel@musc.edu

Brennan Wesley's first impression of the Bahamian town of Marsh Harbour was bleak.

"There's nothing there," he remembers of his view from a plane carrying relief supplies last week in the aftermath of Hurricane Dorian.

"I could see out of the window. There was a town, but it was all gone. It was just boards. There was an airport tower, but the structure next to it was gone. The hangars were gone. There was a runway and pine trees that were just snapped in half."

Wesley, a photographer with MUSC

and an Army veteran, was there to help deliver 10,000 pairs of shoes from the Charleston-based fishing apparel company Huk and capture it all on film and video.

"They need shoes desperately because people are getting tetanus because of all the debris on the ground," he says.

A friend asked Wesley to join the Sept. 9 mission, and the photographer didn't hesitate once he got the OK to take off from work at MUSC. Saying "yes" to people in need is part of Wesley's professional and personal code.

"We work in a hospital. That's what we do. We don't work in a bank or whatever other profession. You're around people who do this all the time. This should be



*Photo by Brennan Wesley*

**The Bahamas' beautiful blue water remains, but not much else in this view of Marsh Harbour.**

your first nature — Yes, go."

Hurricane Dorian struck the Bahamas on Sept. 1 and didn't leave for two days, causing at least 50 deaths. In Marsh Harbour, a town of about 6,000 in the Abaco Islands, Bahamas, Dorian

destroyed most of the homes.

Wesley's journey there began in a Charleston warehouse, where he helped load the shoes onto two trucks. One went to Stuart, Florida, and the other

**See BAHAMAS on page 7**



This charming three bedroom Charleston home sits on high ground overlooking the Cathedral cemetery in the heart of historic Radcliffeborough, convenient to College of Charleston, MUSC, shopping and restaurants. This well-maintained home features an eat-in kitchen complete with a fireplace, exposed brick and quartz countertops and a bright and sunny living and dining room. The second floor includes a master suite with a spacious bathroom and two additional bedrooms with a shared hall bathroom as well. The large landscaped backyard and double porches are perfect for entertaining and enjoying Charleston's fabulous weather year round!

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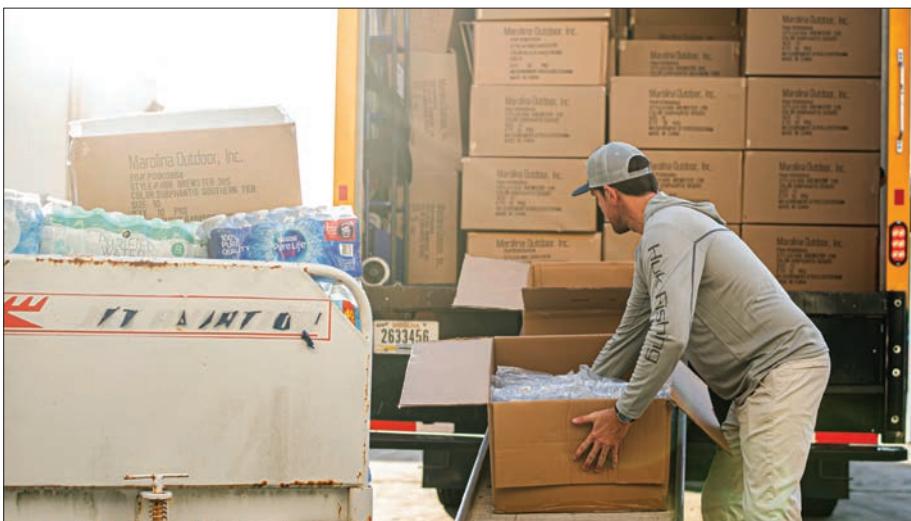
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## BAHAMAS *Continued from Page Six*

to West Palm Beach. Both are departure points for Dorian relief supplies headed to the Bahamas. Wesley's truck went to the airport in West Palm Beach.

"We left Charleston at 4:30 that afternoon and got to West Palm at 2:30 in the morning. We stayed at a hotel from 2:30 to 6. Then we got up, went to the airport, unloaded everything, and from 7 to about 8:30, we shrink-wrapped pallets of shoes." Each pallet would go to a different area in the Bahamas based on need.

They weren't alone — other people were delivering supplies there, too. "Shoes, tools and ice. A certain amount of each product goes on each of these shipments. We were going to Marsh Harbour. They evacuated the whole island except for a few stragglers. So we needed shoes for the people coming in to do relief work if they were local. They also needed tools and tarps. Biggest thing they needed was ice. We had three 300-pound coolers of ice on the plane

we flew in."

Wesley says the plane was packed. He sat wedged in the back while the pilot got ready for takeoff. "He was on the runway going, 'This is the heaviest this plane has ever been. I've never taken off with this much weight in this plane.' And I'm like..." Wesley trails off with a smile.

The plane took off safely, but the pilot's challenges didn't end there. "It's a 45-minute flight from West Palm to Marsh Harbour," Wesley says. "And there's people who aren't on radar so you have to keep your eyes out. All over the place. From the U.S. to the Bahamas, you have to file a flight plan but people flying from island to island are just doing whatever. There are airplanes all over the place."

When they finally got to Marsh Harbour, Wesley and another passenger jumped off to unload their cargo. It joined a pile of donated goods. "There was a cinder block building, I guess where there used to be Customs. Most of the stuff was stacked next to that."

There were also body bags, Wesley says — a reminder of how devastating Dorian



was.

Then his team got back on the plane. The pilot had deadlines to meet.

As a native Floridian who lived through Hurricane Andrew, and now a resident of Charleston, which sees its share of storms, Wesley tries to imagine what the people of the Bahamas

endured.

"All the anxiety you feel going through a hurricane. Imagine if everything got wiped out and you stayed, where would you go to get water? Where would you go for help? You feel bad for people. It's horrible. But people will rebuild. You can't stop these things."



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**Left photo:**  
Ten-thousand pairs of Huk shoes are loaded to ship to the Bahamas.  
**Right photo:**  
Hurricane relief supplies fill a cargo plane headed to the Bahamas, including shoes from a Charleston-based company.

*Photos by Brennan Wesley*

# Drug Discovery chair joins Medicinal Chemistry Hall of Fame

BY BRANDON YOUNG

brazell@musc.edu

Patrick M. Woster, Ph.D., SmartState Chair in Drug Discovery and chair of the Department of Drug Discovery and Biomedical Sciences at the MUSC College of Pharmacy, was inducted into the Medicinal Chemistry Hall of Fame on Aug. 27 at the National Meeting of the American Chemical Society (ACS) in San Diego, California. Woster was one of only four researchers worldwide to be inducted this year. He joins fewer than 100 elite scientists, three of them Nobel laureates, who were previously honored with Hall of Fame membership for their significant contributions to the field of Medicinal Chemistry and the training of future medicinal chemists.

The field of Medicinal Chemistry uses a combination of chemistry and biology techniques to discover new pharmaceuticals for the betterment of human health.

"It is a great honor to be inducted

into this group of eminent scientists, many of whom have been mentors and researchers that I have admired throughout the years," Woster said.

Induction into the Medicinal Chemistry Hall of Fame requires nomination by two ACS division members and selection by the Executive Committee. Receipt of this award validates a successful career for Woster, who came to MUSC in 2011, after stops at Wayne State University, University of Michigan, and University of Nebraska Medical Center, where he attained his doctoral degree. Throughout his academic career, Woster has been committed to the field of chemistry, evidenced by his 25 years of service on the executive committee of the ACS Division of Medicinal Chemistry.

The work of medicinal chemists is crucial to the development of new drugs, according to Woster.

"Medicinal chemists are the first step in the drug discovery pipeline," explained Woster. "They optimize



*Photo by Sarah Pack*

## Dr. Patrick Woster in his lab.

chemical structure to maximize potency and efficacy, but also to make compounds orally active and to ensure they can reach their target in a human patient."

Woster is the first to acknowledge that

great science can't be done in isolation. His own work has benefited from a 30-year collaboration with Robert Casero, Ph.D. at Johns Hopkins University. They were the first to produce small-molecule

*See AWARD on page 10*

## David Kent and Charlotte Lemon

### Experience Matters

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# Third quarter MUSC innovator awards celebrate employees

*Individuals, teams inspire innovative ideas, solutions*

Staff Report

Sponsored by the Office of Innovation, the “I am an MUSC Innovator” campaign is designed to raise awareness of the many forms that innovation can take, to inspire others and to publicly recognize individuals/teams that are making an impact. For additional information, contact Jesse Goodwin, Chief Innovation Officer (goodwijs@musc.edu).

**B. DaNine Fleming, Ed.D.**, faculty director of training and intercultural education in the Department of Diversity, Equity and Inclusion.

**Problem** — Creating a comprehensive learning and training curriculum that can meet our diverse enterprise on an individual level is one way that I continue to turn what some may define as pain into pleasure. I am keenly aware of the intent and the impact of this work, so I make a concerted effort to adjust and modify the curriculum, so it can represent the strategic goals and objectives of our evolving enterprise. It is my pleasure to serve the MUSC enterprise.

**Impact** — Creating the team skills/appreciating diversity and inclusion experience for first year students, working on innovative ways to relay some difficult concepts that include, but are not limited to: identifying and addressing unconscious bias, recognizing microaggressions in the classroom/workplace, and refining skills to effectively deal with difficult people,

**Recognition** — Willette Burnham-Williams, Ph.D.; Paula Sutton; Ronnie Chatterjee; Tamatha Psenka, M.D.; Lisa Montgomery; and David Cole, M.D., FACS.

**Sherine Chan, Ph.D., and C. James Chou, Ph.D.**, associate professors, Department of Drug Discovery and Biomedical Sciences.

**Problem** — Routinely finding that many drugs on the market for neurological disease don’t work for many patients, in part because these drugs target the symptoms rather than the underlying causes.

**Impact** — We have discovered a new class of mitochondrial modulator compounds based on Vitamin K that improve mitochondrial health in multiple animal models of difficult to treat neurological diseases such as medication-resistant epilepsy, Parkinson’s disease and mitochondrial DNA depletion syndrome.

**Recognition** — Small Business Technology Transfer and Small Business Innovation Research grants from the National Institute of Neurological Disorders and Stroke

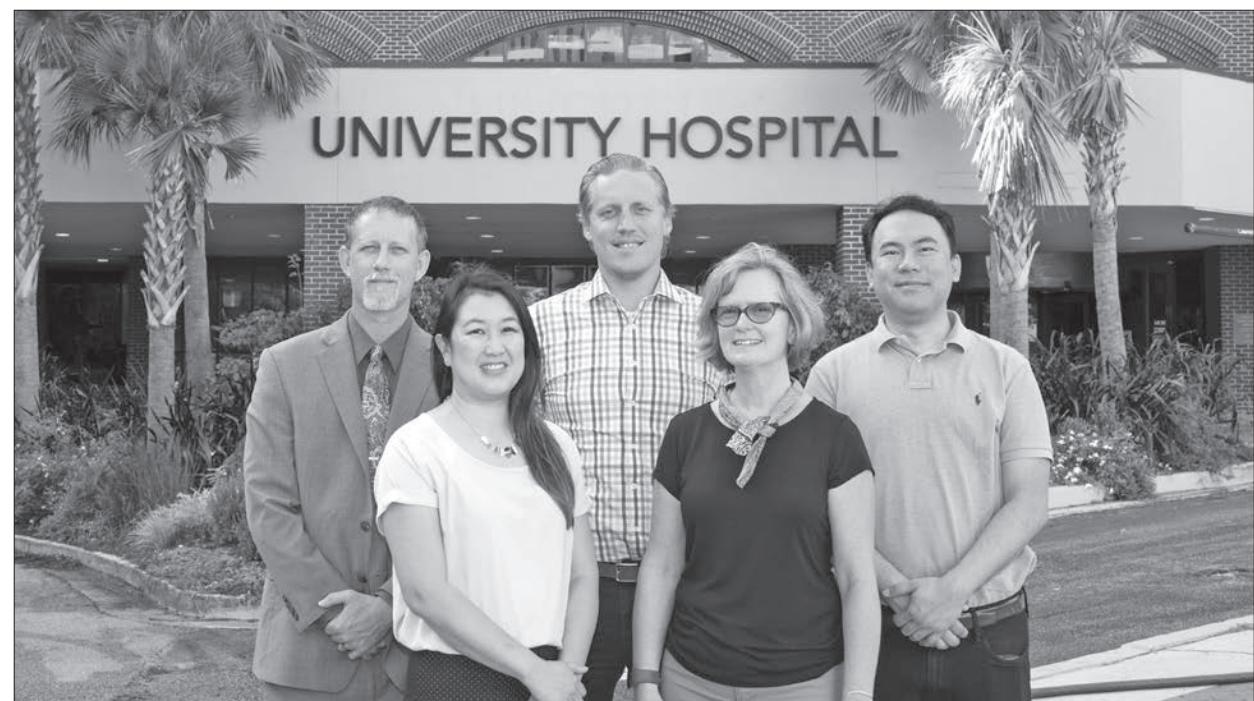


Photo by Anne Thompson

**Third quarter MUSC innovators are Dr. Jeff Borckardt, from left, Dr. Sherine Chan, Dr. Brandon Welch, Ellen Debenham and Dr. James Chou. Not pictured: Dr. DaNine Fleming.**

and the National Institutes of Health. Grants from the South Carolina Research Authority, South Carolina Clinical & Translational Research Institute and the MUSC Foundation for Research Development.

**Jeff Borckardt, Ph.D.**, assistant provost, Interprofessional Initiatives and director of the Division of BioBehavioral Medicine.

**Problem** — After developing the Sloppy Mountain Medical Center activity, there was a challenge in effectively marketing it and driving adoption.

**Impact** — We spawned the launch of a start-up company (Palmetto Innovative Education, LLC) that licenses the software from MUSC for sale and distribution to other institutions around the country. The software has already been implemented in large-scale team-building events at over six academic medical institutions, professional organizations, and universities.

**Recognition** — Dusti Annan-Coultas, Ed.D., and Mary Mauldin, Ed.D.

**Brandon M. Welch, Ph.D.**, assistant professor, Center for Biomedical Informatics, Department of Public Health Informatics.

**Problem** — The industry was lacking several solutions for patient needs, including the ability for them to meet providers by video, the need for gathering family health

history to assess hereditary cancer risk, the need for collecting clinical or research data directly from patients and, finally, the need for patients to receive reminders of things to do between appointments.

**Impact** — I developed Doxy.me, a telemedicine solution used by over 60,000 health care professionals to conduct over 5,000 telemedicine sessions per day. I developed ItRunsInMyFamily.com as an effective way to collect family cancer history and identify patients at risk for hereditary cancer. We launched Dokbot, a new chatbot platform focused on collecting patient-reported health data for clinical care or research. Finally, I am developing Adhere.ly to help mental health providers remind their patients to complete their assignments between session activities.

**Recognition** — Dylan Turner; Heath Morrison; Joshua Schiffman, M.D.; Caitlyn Allen; Jordon Ritchie; Brian Bunnell, Ph.D.; Doxy.me team; ItRunsInMyFamily team; Dokbot team; and Adhere.ly team.

**Ellen Debenham** — R.N., director of Business Development, MUSC Center for Telehealth.

**Problem** — Prior to the development of the South Carolina telestroke networks, less than 40% of the state’s population lived within a 60-minute drive time from expert stroke care. Now, greater than 96% of the state’s population has access to this time-sensitive treatment.

*See INNOVATORS on page 12*

**SLEEP** *Continued from Page Four*

when the device turns on.

Lentsch said Inspire works very well for most users. "We've had very high success rates, maybe even surpassing the company's."

Part of the reason for the high success rate is the screening that happens before surgery. Nurse practitioner Claire O'Bryan, part of the ENT team that handles Inspire surgeries, does an extensive workup of patients to determine if they would be good candidates for the surgery.

First, she said, the patient should have moderate to severe apnea. Second, the patient should have a body mass index of 35 or lower. Then, she talks to the patient about why he or she wants the surgery.

"We don't want to implant anybody that is there just because they don't like their CPAP. We don't want to implant people that have unrealistic expectations," she said.

Next, the surgical team looks at the patient's throat anatomy in action to

determine the pattern of how the airway collapses — the Inspire device works for a specific type of collapse, so patients must undergo a drug-induced sleep endoscopy to determine their suitability for the surgery, O'Bryan said.

The final step is getting insurance approval, which is getting easier.

"We've had a dramatic change in insurance coverage in the last six months," O'Bryan said.

Long was watching the insurance situation closely. Eager for the surgery, he called everyone he could think of to encourage insurers to cover it — from human resources at MUSC to U.S. Sen. Lindsey Graham. In March, Blue Cross Blue Shield of South Carolina began covering the surgery, and on May 6, Lentsch implanted the Inspire device in Long.

Long is glad he had the surgery. He recommends it to anyone struggling with sleep apnea.

"It's a totally different ballgame. I feel great during the day," Long said. "I get a full night's sleep, and I feel rested when I wake up."

**AWARD** *Continued from Page Eight*

inhibitors of lysine-specific demethylase 1 and to show that they help to re-express tumor suppression factors.

"I've enjoyed the collaborative nature of this type of work and science cannot be done alone," said Woster. "You must have great collaborators like Bob to be successful."

Woster has also been an inspirational mentor for the next generation of medicinal chemists.

"I've really enjoyed working with graduate students, seeing them mature as scientists, watching them go out and succeed," said Woster. "They are kind of like your kids in a way, and it's extremely gratifying to see them do well."

Woster's commitment to science and training are also held in high esteem at MUSC.

"Pat is an outstanding role model in the College of Pharmacy," said Phillip D. Hall, Pharm.D., dean of the College of Pharmacy. "His tremendous success as a research scientist illustrates the pairing of hard work with a profound and curious

"His tremendous success as a research scientist illustrates the pairing of hard work with a profound and curious mind, which is an inspiration for the students he teaches and faculty he mentors."

**Phillip D. Hall, Pharm.D.**

mind, which is an inspiration for the students he teaches and the faculty he mentors. His wit and warmth brighten the lab and the classroom, and we are blessed to have him as a leader. We're very gratified he is getting this richly deserved recognition."

Induction into the ACS Medicinal Chemistry Hall of Fame acknowledges on a national stage Woster's outstanding career not only as a scientist but as a colleague, collaborator and mentor.

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## PIONEER *Continued from Page Three*

(Susan Buse) of St. Louis, Missouri; and Elizabeth Buse King (Charles King) of Atlanta, Georgia; and other family survive her.

### Reflections on the life and impact of Dr. Buse

Dr. Buse was a great woman in many ways. I first knew her in the 1960s when I was a medical student. We perceived her as a kind and wise person. She was that same person in all of my contacts with her over the years. When I was dean, we would visit occasionally. I always felt enriched by those conversations. I will miss her.

*—Layton McCurdy M.D.,  
Dean Emeritus, College of Medicine,  
Distinguished University Professor*

Dr. Maria Buse was such an inspiration. She was dedicated, focused and had such a passion for research. Dr. Maria Buse was a well-renowned researcher in the field of diabetes. I am fortunate to have known her husband, Dr. John Buse; her children, John, Paul and Elizabeth; and her. Dr. Maria Buse was a true trailblazer in diabetes research and was a woman who was well-respected and admired. Her spirit will live on in all the lives she touched!

*—Kathie Hermayer, M.D.,  
Division of Endocrinology, Diabetes and Medical Genetics*

Dr. Maria Buse was a brilliant scientist who broke down barriers for women choosing to follow in her footsteps. She was an inspiration to all who met her, and her legacy will live on through the many individuals that she personally mentored throughout her career. I know that I will never forget her and the tremendous impact she made on science and health care during her career.

*—Lisa K. Saladin, P.T., Ph.D.,  
Executive vice president for Academic Affairs and provost*

Maria was a friend as well as a scientific colleague and collaborator. Among the things we shared were graduate students, co-authored papers, grants and family dinners. She

was an important part of my personal and professional life, and she gave me courage in navigating the challenging fields as a female academic. I miss her.

*—Rosalie Crouch, Ph.D.,  
Provost Emeritus, Distinguished University Professor, Department of Ophthalmology*

Dr. Maria Buse was a great mentor to not only students but also junior faculty. Maria was always held in the highest regard by all that knew her. She had one of the most prolific research careers in the history of MUSC and had the record for the longest continuous NIH RO1 grant. She may have been short in physical stature, but she was a giant in stature on our campus. She will long be remembered for all she did for so many and the university.

*—Perry V. Halushka, M.D., Ph.D.,  
Dean Emeritus, College of Graduate Studies,  
Distinguished University Professor*

Dr. Maria Buse was a true original, and it was my privilege to work for 28 years in her research lab. She was a brilliant and dedicated scientist and clinician. As an investigator, her thirst for knowledge and truth was unquenchable. She initiated collaborations with faculty across the university and researchers around the world and inspired others with her enthusiasm for discovery. Thanks to her passion for research, she was an excellent mentor to the many students, post docs and technicians who trained in her lab. Their careers and scientific contributions are a testament to everything they learned from her and her tenacious advocacy on their behalf. I consider myself fortunate to have known such an intelligent, kind, humble and inspiring woman. Dr. Maria Buse will always be remembered as a pillar of MUSC and the greater scientific community.

*—Katherine A. Robinson, Division of Endocrinology, Diabetes and Medical Genetics, College of Medicine*

I had the joy and honor of working along with Dr. Maria (our name for

In lieu of flowers, memorials may be made to the Maria G. Buse, M.D. Endowed Chair in Medical Research, a fund established as a tribute to Dr. Buse in 2010. Send contributions to the MUSC Foundation, 18 Bee Street, MSC 450, Charleston, South Carolina, 29425.

her to distinguish her from Dr. John Buse, her lifelong partner) in the Endocrine Division for over 25 years). Of the very few people that indelibly impacted my career from the time I was a fellow and as faculty, she was at top of the list. Although I didn't work directly under her leadership, she always took interest in what I was working on and was unbelievably generous in providing her counsel and review of grants and papers I was writing. Her only stake was encouraging and helping those of us who were "chasing the prize" — knowledge!

*—Ronald K. Mayfield, M.D.,  
Mountain View Clinical Research*

One day at an MUSC teaching clinic, Dr. Buse was seeing a patient newly diagnosed with Addison's disease (adrenal insufficiency). Seeking to comfort the man, she reassured him. "You'll be fine. In fact, many great people had the same disease, and they did fine. President Kennedy [John F. Kennedy] had it." Surprised, the patient asked, "Really?" Buse replied, "Yes, and don't worry. That's not what killed him."

For those of us who have been privileged to know Dr. Buse and to learn from her teaching and example, this story, as many others, is representative of the mixture of kindness, compassion and humor that endeared her to the thousands of scientists and clinicians fortunate enough to have crossed her path. Many things will be said about the accomplishments, awards and acknowledgments achieved by this brilliant scientist. Many stories will be shared about her gentleness, integrity and compassion. Yet, to me, one aspect of her amazing life sets her apart, beyond even the greatest of scientists: the passionate inquisitiveness of her brilliant mind.

I remember one day asking her what attribute she thought was most important in a scientist. She reflected on the story of Alexander Fleming, who saved millions of lives by his discovery of penicillin in 1928. Fleming was studying the influenza virus, not antibiotics. Upon returning from vacation, he found that some of the culture plates were contaminated by mold, and that mold had killed bacteria. Dr. Buse went on to say, "Most scientists would just ignore the finding, or even fire the lab technician, but [Fleming] saw something interesting, and he pursued it. And here we are." I will be forever grateful to Dr. Buse for many things, but most of all, for how she helped me see the beauty of an open, eager mind. I hope that now, free of all physical limitations, she is in the presence of God, discovering all the secrets of the universe, and that with her characteristic smile, she is saying, "Huh, how interesting."

*—Sherif Yacoub, M.D.,  
Charleston area endocrinologist*

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## INNOVATORS *Continued from Page Nine*

**Impact** —Today, we have 28 providers in our call pool covering over 35 locations. These providers respond within 5 minutes and exceed national time benchmarks for stroke treatment. We expect to perform over 7,000 telestroke consults in South Carolina this year. We also offer a scheduled in-patient neuro consult service to enable rural hospitals to treat and keep patients locally.

**Recognition** — Robert J. Adams, M.D.,

for his vision and mentorship and Christine Holmstedt, D.O., for her leadership and dedication to growing the program and improving access to care and outcomes for the citizens of South Carolina. I also want to acknowledge all of the providers, the MUSC Admit Transfer Center staff and especially the telehealth nurse coordinators, who make it all happen 24/7/365.

Please save the date for Innovation Week 2020 to be held May 4–8, 2020.

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