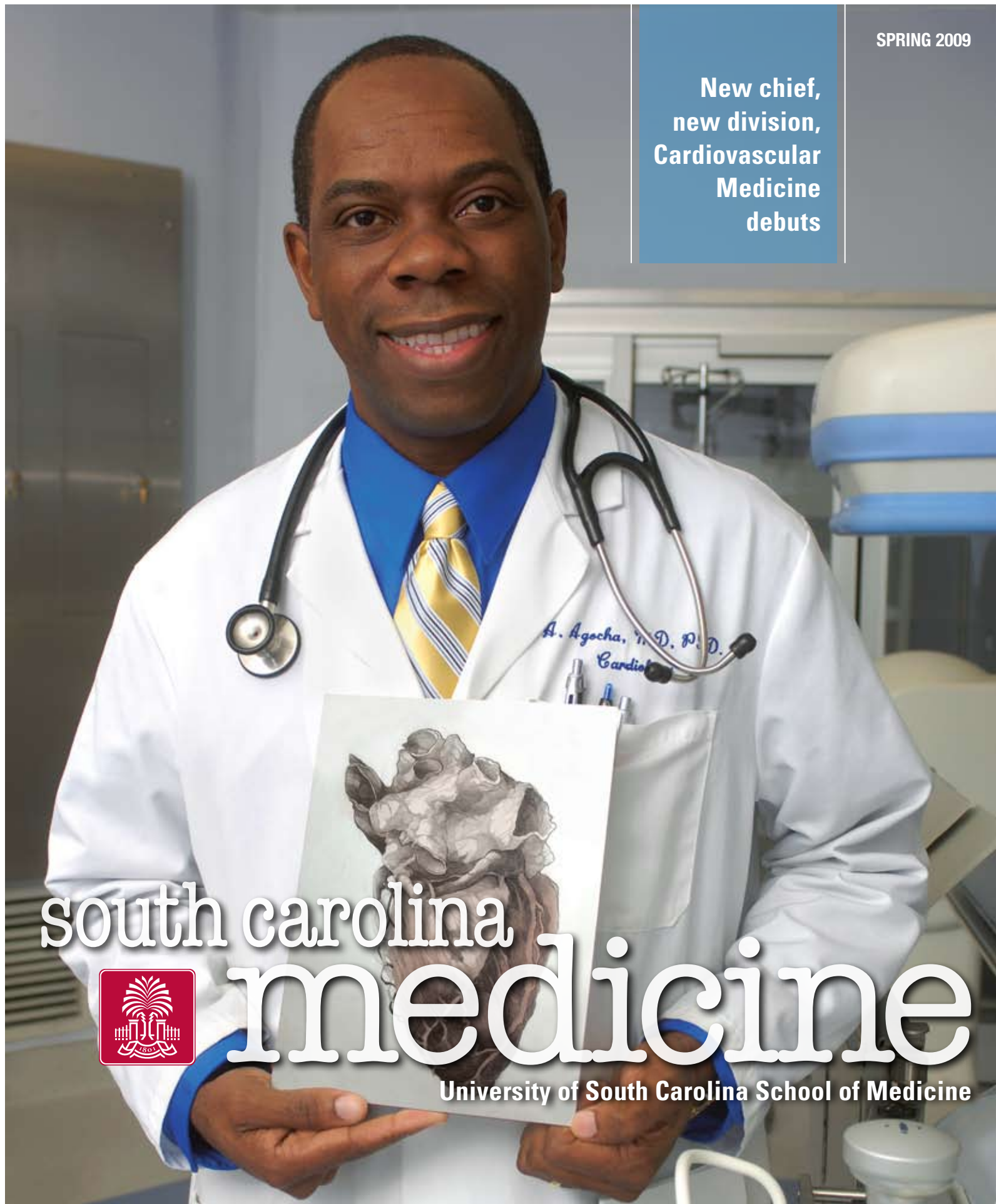


SPRING 2009

New chief,
new division,
Cardiovascular
Medicine
debuts



A. Agocha, M.D., Ph.D.
Cardiology

south carolina
medicine



University of South Carolina School of Medicine

DEAN'S MESSAGE

A STRONG COMMITMENT TO MEDICAL EDUCATION CONTINUES TO THRIVE

Donald DiPette, MD | Dean, School of Medicine | Vice President for Medical Affairs | Health Sciences Distinguished Professor



These days, no matter where you are, it is difficult to escape conversations about the state of the economy. Even with the uncertainty facing our nation and University, our commitment to the medical profession has never wavered. Our sights are on how we will continue to educate the best and brightest health care professionals, conduct groundbreaking research, and care for patients in a compassionate, quality manner. Despite the significant reductions in our state budget, we can take great pride in our efforts in all these areas.

Graduates of the USC School of Medicine are prepared to be highly competitive, competent, and compassionate scientists and medical professionals. Our medical students have consistently met or surpassed the national average on national boards, with pass rates as high as 100 percent. And more than 96 percent of our graduates have earned board certification in their chosen specialties. This is a testament to both the level of education we provide and the strength of our students.

The same tradition of excellence exists within our research programs, as peer-reviewed, competitive funding has dramatically increased in recent years. School of Medicine researchers are discovering new ways to combat diseases that plague our community such as cervical cancer and diabetes, among others. Findings from transplantation research are being used to treat health conditions such as sleep apnea and post-traumatic stress disorder.

We also operate University Specialty Clinics, the largest integrated health care group in the Midlands, with more than 200 physicians. The School of Medicine's physicians provide comprehensive patient care to more than 175,000 South Carolinians each year. Experts in multiple subspecialty disciplines can be found right here at home within University Specialty Clinics.

The future of our students drives our decisions every day. That's why we see the hardship caused by the troubled economy as a learning opportunity—making us continue to commit our resources to our educational mission.

Enjoy this issue of *South Carolina Medicine*. And share in the pride we feel as faculty, staff, alumni, students, and friends of the University of South Carolina School of Medicine.

Donald J. DiPette, MD
Dean and Vice President for Medical Affairs

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**Gus Agocha, MD, Ph.D.,
MBA heads the School of
Medicine's new Division
of Cardiovascular Medicine.**

Heart of the matter

School of Medicine's new Division of Cardiovascular Medicine to focus on heart failure prevention and treatment

When Donald DiPette, MD, joined the School of Medicine as dean, he made a commitment to address several critical areas of need, including cardiology.

"We have a responsibility as an academic medical institution to provide health care services and research that address the needs of our community," DiPette said. "Our vision is to discover innovative treatment methods and heighten awareness and prevention of cardiovascular disease. The focus of our doctors and scientists will complement the services currently offered; not duplicate them."

DiPette's hopes for a new academic division of cardiovascular medicine took a giant step forward with the appointment this past November of Gus Agocha, MD, Ph.D., MBA, who holds the dual posts of chief of the Division of Cardiovascular Medicine at the School of Medicine and director of cardiology services at Dorn VA Medical Center.

"One of the things that brought me here is the dean's commitment and enthusiasm," Agocha said. "The School of Medicine is incomplete without an academic cardiology division, and in a state where heart disease is the No. 1 killer it would be remiss not to have a dynamic cardiology division focused on research and therapeutic advances."

Agocha studied cardiovascular diseases at SUNY-Buffalo and completed his residency and cardiology fellowship at Yale. He has served as chief of cardiology in several institutions, and his research is widely published.

The Division of Cardiology is the first major academic program to be completely integrated with the Dorn VA Hospital, the School of Medicine, and with Columbia-area hospitals. In addition to holding complete responsibility for cardiology services at the VA, the division will provide treatment services at University Specialty Clinics on the Palmetto Health Richland campus.

The VA Hospital, partnering with the School of Medicine, has a new cardiovascular catheterization lab with advanced monitoring and patient management systems.

"All cardiovascular services are on one floor," Agocha said. "The VA hospital has identified heart disease care as one of its key service areas. We're strengthening our relationship with them; it's a nice combination of things that are going on."

Stephen Hawes, MD, director of subspecialty medicine at the VA, has been one of the drivers behind these advances and the closer clinical relationship with the School of Medicine. Reorganization of cardiology services at the VA has also included recruitment of Elene Kelleher, RN, as clinical manager as well as relocating the department to a new Heart and Vascular Center on the hospital's third floor.

Recruitment of new cardiologists is a key to successfully implementing the new division. "There is an abundance of good cardiologists in this area," Agocha said. "What we're doing is targeting specific areas that are underserved and bringing in those types of cardiology

specialists. We want to focus on heart failure, diabetic heart and vascular diseases, and hypertensive heart disease to start with."

The division will also conduct basic research as well as clinical care trials.

A NEW TYPE OF CARDIOVASCULAR DIVISION

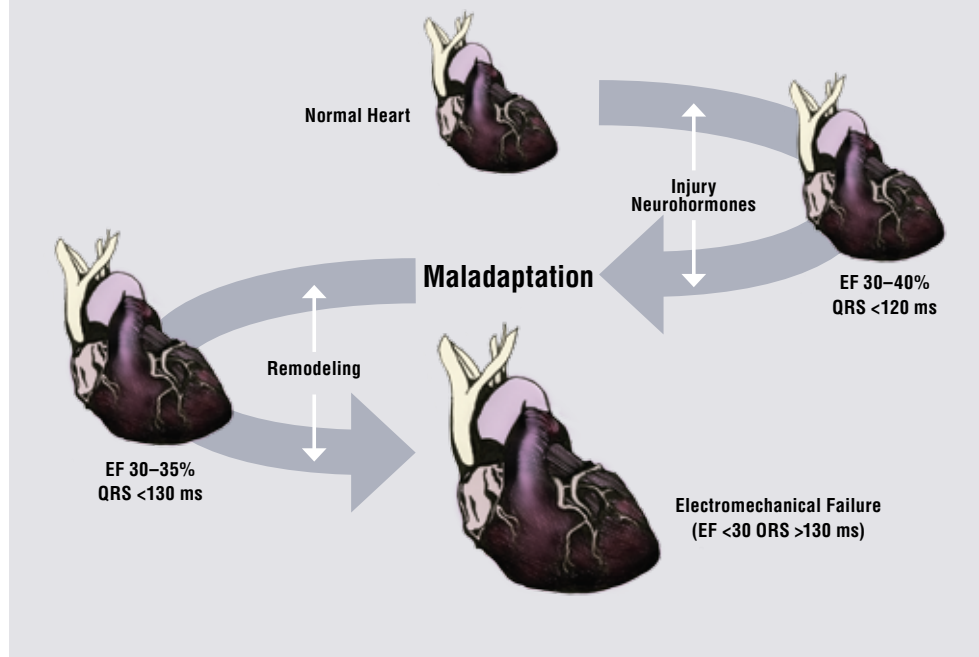
"One of the most attractive things about my new position here is the opportunity to create a new type of cardiovascular division at a major academic university," Agocha said. "Most major academic institutions already have a cardiovascular medicine division that is the product of decades of evolution and are often encumbered by legacy issues.

"Carolina has the unique opportunity to design a new division from the ground up that meets the needs of all stakeholders from patients to faculty. We know what works and what doesn't."

The division is recruiting top researchers and specialists from around the country. "We're not duplicating what is already here, but are hiring special people with special expertise and talent," he said.

There's also tremendous research on heart disease already being done at a number of labs throughout the University. "We're looking for cardiology faculty who will complement this exciting work by searching for opportunities to apply this research in a clinical setting," Agocha said.

HEART FAILURE PROGRESSION: THE DOWNWARD SPIRAL



manage critically ill and end-stage heart failure patients. Faculty will have close relationships with other academic medical centers and will help coordinate availability of advanced care such as heart transplants and artificial assist devices offered by those facilities.

“We know who’s at risk,” Agocha said. “It’s people with a family history of heart failure, diabetics, patients with uncontrolled high blood pressure and high cholesterol, and the overweight with a sedentary lifestyle.”

Ideally, people in these categories would make lifestyle changes and follow treatments prescribed by their physicians to keep their hearts healthy. However, many people already in the early stages of heart failure don’t even know it.

“There are people walking around with their hearts pumping only at a 40 percent rate or less, which puts them into the second stage of heart failure—and they don’t know it,” he said. “Of the people who are known to have heart failure, less than 70 percent of them are being appropriately treated. Yet we’ve known for 25 years how to treat most of the risk factors that lead to this condition. We have the proper medications—and they’re affordable.”

Heart failure starts with an injury to the heart—usually a heart attack and usually in the left ventricle. Other causes of heart injury include viruses and excessive drinking. Ultimately both ventricles will fail because of the extra load put on them.

As the heart tries to heal itself, a downward spiral of progressive heart failure begins. The injured heart grows larger, yet its ability to pump blood declines. Cardiologists can intervene in many ways along this downward spiral to stop, slow, or even reverse the heart’s downward spiral. Without treatment, the heart will eventually fail completely.

“The whole idea is to determine where the patient is in this progression of heart failure and to try to stop it or reverse it,” Agocha said. “People are eating worse; exercising less; and are under more stress than ever. Public education is an important part of this work.” ■

COSTS OF HEART FAILURE

“Heart failure is very expensive for taxpayers,” Agocha said. “No other disease comes close to the amount of money expended for heart failure hospitalizations and direct and indirect care. It far exceeds cancer.

“In the over-65 population, heart failure is the No. 1 reason for ER visits, and the No. 1 disease by expenditure for Medicaid and Medicare services. There is also a very high 30-day readmission rate; a real drain on the health care system.”

The good news is that many types of cardiovascular disease are preventable with aggressive management of hypertension and diabetes in at-risk patients, and that’s where the School of Medicine will focus its attention.

“We have developed a system that will get patients with heart failure out of the hospital more quickly, reduce their length of stay, and keep them from returning to the hospital after discharge,” Agocha said.

While there have been dramatic gains in the treatment of many cardiovascular diseases, heart failure continues to exact a heavy toll on the health of Americans. For this reason, the division’s first priority will be establishing a center for heart failure evaluation and management.

“It will be a very comprehensive approach to the care of patients with heart failure,” Agocha said.

The School of Medicine’s heart failure program is focused on quality of life, returning patients to full function, and preventing the need for readmittance to the hospital. In addition, the center will serve as a resource for the community’s health care providers.

“Much of what we’ll do is inform primary care providers and nurse practitioners about new developments and guidelines on preventing heart failure, and after the injury to the heart occurs, to prevent the downward spiral of heart failure,” he said.

“The current health care system expects too much of primary care providers who are already burdened with large volumes of patients. We need to provide collaborative systems of care to relieve their load with these especially difficult heart failure patients,” Agocha said. The proposed center would also serve as a resource for community cardiologists by helping

Keeping top talent

Dargan Scholarship will help keep
top talent in South Carolina

A scholarship named for one of the School of Medicine's first African American faculty members will help to attract under-represented minority students to the school once it is fully funded.

The Dargan Scholarship for Under-represented Minority Students will help the school attract “minority students who could go anywhere,” said Carol McMahan, MD, director of minority affairs at the school and a faculty member in the Department of Pathology, Microbiology and Immunology.

“It’s a very competitive situation for the School of Medicine to go after these students,” she said. “The Dargan Scholarship will help us attract and retain these top-ranked students, and our hope is that when they graduate, they will stay in South Carolina.”

The scholarship is named in honor of Everett L. Dargan, MD, FACS, a now-retired surgeon and Columbia native. At the age of 15, Dargan won a scholarship to Morehouse College in Atlanta.

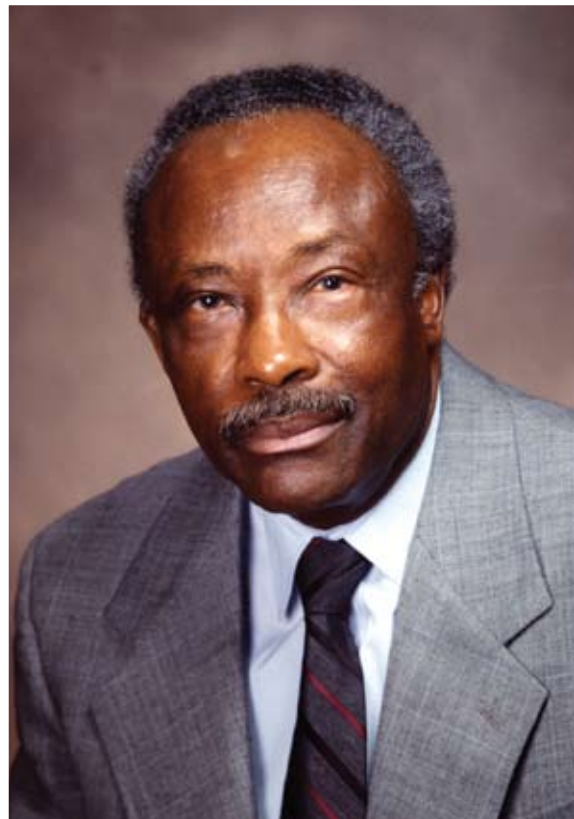
“Attending Morehouse was a pivotal point in my life,” Dargan said. “That is where I discovered my interest in medical sciences.”

Even with the scholarship, Dargan was unable to afford college and was forced to withdraw from Morehouse after two years. Fortunately, one of his aunts in Buffalo, N.Y., allowed him to live with her while he attended the University of Buffalo, where he earned a bachelor’s degree in biology in 1949.

Dargan continued his education at Howard University’s College of Medicine where he earned his medical degree. From there, his accomplishments and credentials grew. Among other achievements, before returning to South Carolina in 1978 to begin a private practice in thoracic, vascular, and general surgery, he was an associate professor of surgery at the Albert Einstein College of Medicine and chief of surgery at Lincoln Hospital in New York.

“I understand first-hand how dreams of a college education could be shattered because the cost of education is too high for some students and their families to afford,” Dargan said. “I was fortunate. That’s why this scholarship is so important to me. It’s a way to make it possible for future doctors to fulfill their dream.”

Dargan has given his support to the School of Medicine over the years both as a faculty member and donor. He provided the seed money for the scholarship bearing his name. Once the scholarship



is fully endowed, it will provide 80 percent of the cost of medical school to an under-represented minority student in each class.

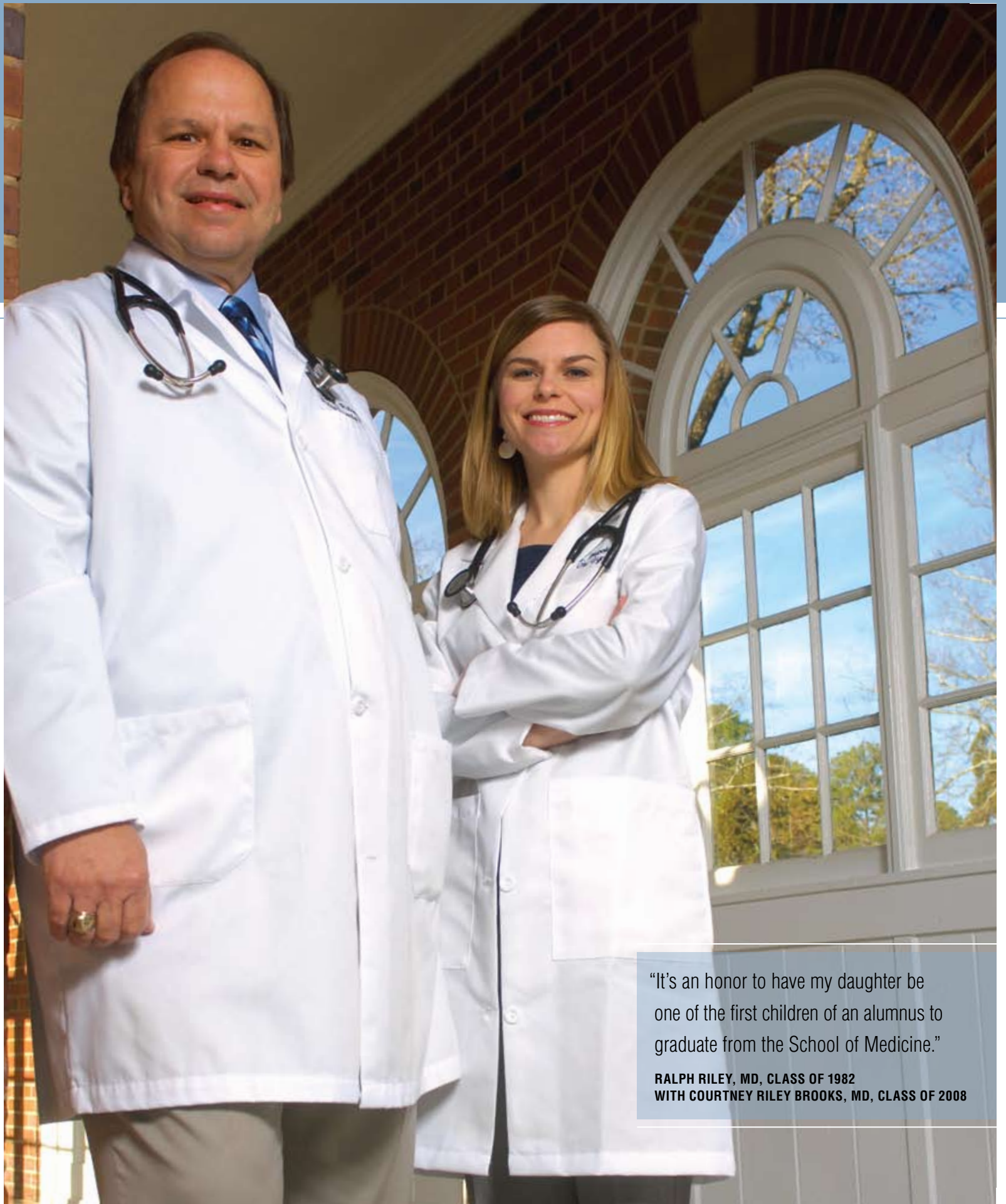
“Dr. Dargan has touched many lives with his surgical skills. He reaches out to people and the community, mentoring young physicians, and encouraging people to achieve their dreams,” McMahan said.

Cultivating a larger supply of minority doctors in South Carolina—only six percent of all physicians in the state are African American, while, according to the 2008 census, 28.7 percent of the population is African American—could help to better address health disparities such as these:

- African-American infants are more than twice as likely as white babies to die before their first birthdays
- African-American women are nearly twice as likely to die of breast cancer
- African Americans and other minority groups suffer higher incidences, complications, and death rates from diabetes
- African Americans are more likely than any other racial or ethnic group to die from heart disease
- African Americans are nine-times as likely as whites to be diagnosed with HIV/AIDS.

“It is so important to invest in medical students because we will all be patients one day,” Dargan said. “The doctor you get is the doctor you make.”

To learn more about the Dargan Scholarship and opportunities to support it, contact the Office of Minority Affairs at 803-733-3319. ■



“It’s an honor to have my daughter be one of the first children of an alumnus to graduate from the School of Medicine.”

**RALPH RILEY, MD, CLASS OF 1982
WITH COURTNEY RILEY BROOKS, MD, CLASS OF 2008**

In her father's footsteps

Courtney Riley Brooks followed her father's example in attending the School of Medicine and choosing to practice primary care in South Carolina.



In a small town like Saluda, S.C., it's not unusual for patients to get to see their doctor when they need him, even after hours or on weekends.

But it might have been a little unusual to get to see the doctor—with his young daughter by his side. Not many years ago, when Ralph Riley, MD, Class of '82, was called in after hours to see a patient, his daughter Courtney often tagged along. Riley has been a family practice physician in Saluda for 23 years.

"I was always the child who wanted to go with him to the office after hours to sew people up or to visit the nursing homes," said Courtney Riley Brooks, MD, Class of '08. "We were from a small town so I knew most of the patients. I admired and wanted to be like my father, and I think that's a large part of why I wanted to be a doctor."

"I think every father would be proud to think that their children would want to follow in their profession," Riley said. "I'd be less than honest if I said that I didn't, but more than that, it is important to encourage your children to go into something that they love.

"I'm fortunate that I've been in a profession where I love what I'm doing," he said. "I want all my children to do what they love doing because whatever it is, they'll be doing a lot of it."

Riley and his wife, Sheree, have four children; Courtney is the oldest. Sheree Riley was an obstetrical nurse but is now her husband's office manager.

Riley was in the second class to graduate from Carolina's School of Medicine.

"It's an honor to have my daughter be one of the first children of an alumnus to graduate from the School of Medicine," he said. "Even though I'm a Clemson grad, I was fortunate to go to Carolina's School of Medicine.

"I came along at a very good time. We had a bunch of young, energetic passionate professors and got to see a tremendous number of patients because there was only one class ahead of us. It was a very good experience."

"Several professors remembered my dad," Riley Brooks said. "It was really neat."

Though there were many clues in Riley Brook's childhood that she might follow her dad's footsteps into medicine, her father believes it was accompanying him on a medical mission trip to Zimbabwe that made the difference.

"She helped me there, and that's when I saw the sparkle," Riley said. "I came back from that trip and told my wife that I thought Courtney was hooked.

"When you go on a medical mission trip, it's a shot of adrenaline that lasts for a long time. All the people are so appreciative of what you're doing for them and hold you in awe. And you don't have to worry about the financial aspects of practicing medicine. The children and people of Africa treat you like you walk on water.

"We help them all that we can. But we almost do more for ourselves in going. I come back rejuvenated."

While Riley is in a rural family practice, his daughter has chosen gynecology and obstetrics and is completing her residency at Palmetto Health Richland. "He never pushed me to go to medical school, or to go to Carolina, or to go into family practice," she said.

Riley Brooks, a graduate of the College of Charleston, applied to the Medical University of South Carolina and to Carolina's School of Medicine. But before she even received MUSC's acceptance letter, she had already chosen Carolina for its strong sense of community and collegial atmosphere.

While the supportive environment and high standards of the school are still the same as they were when he attended, Riley said, some things have changed.

"I do believe that the culture of medicine has changed," he said. "There were only four women in my class. Now the ratio of males to females is 50/50. That brings good things, but it also brings changes."

Riley notes how the changing role of women makes a difference in families.

"It used to be that fathers would work 60 to 70 hour weeks, and the mother took care of everything," he said. "Now, couples must find a balance. This balancing act is changing the face of medicine."

Riley Brooks is married to Tim Brooks, a second-year School of Medicine student.

"I always thought I'd be Dr. Riley, like my dad," she said. "But I'm Dr. Brooks. The important thing is that I'm a doctor."

"I'm extremely proud of Courtney," her father said. "She's a lot smarter than me, and she has her mother in her, which means she's a lot more organized than I could ever be. She will make a better physician. I'm proud of all of my children." ■

Biomedical science Ph.D. students, Kandy Velazquez and Alvin McKelvy working in the lab.



It's not surprising that neuroscientists in the School of Medicine are conducting research on epilepsy, Alzheimer's disease, neuropathic pain, cognition, mood disorders, and other nervous system-related conditions.

But it is extraordinary that all of them are using a similar gene therapy technique to blaze new trails of discovery. It's a technique made possible by a laboratory at the School of Medicine that engineers the key ingredients for gene therapy research used by neuroscientists around the world.

"We've had these viral-vector lab facilities for a quite a while, and [lab director] Steve Wilson is recognized as one of the international leaders in developing this technology as a tool for neuroscience research," said Marlene Wilson, Ph.D. (no relation to Steve Wilson), a professor and interim chair of the Department of Pharmacology, Physiology, and Neuroscience.

Wilson and her colleagues all use common viruses that have been altered in special ways to deliver genetic instructions to a specific target—either in the brain or the peripheral nervous system. The designer viruses are harmless but effective messengers of genetic material.

The gene transfer technique is allowing the neuroscientists to better understand the biochemical mechanisms associated with certain disorders and diseases. In some instances, they might be able to develop better targets for medications; in other cases, the gene therapy itself might introduce new ways of treating disease.

"There's a lot of effort going on now to make safe viral vectors for human delivery," Wilson said, "It's likely that gene transfer would initially be used for crippling disorders like degenerative diseases, chronic pain, and epilepsy. But it could be on the horizon to treat conditions such as severe anxiety and even depression disorders."

HERE'S A CLOSER LOOK AT THEIR RESEARCH.

NO PAIN, BIG GAIN

Every semester, **Sarah Sweitzer, Ph.D.**, tries to bring in at least one person who suffers with chronic neuropathic pain to speak to her medical students.

Some can't work anymore, and most get no relief from traditional drug therapies. "They come to class and tell the students, 'Doctors think I'm a drug addict,'" Sweitzer said. "They can't get any break from the pain."

Seventy-five million Americans suffer from chronic pain (lasting at least three to six months), expending billions on medications that often don't work, can become addictive, or have unpleasant side effects.

Neuropathic pain has many causes—spinal cord injury, amputations, tumors pressing against nerves, and the aftermath of shingles (herpes zoster) infections to name a few.



David Mott, Ph.D., Sarah Sweitzer, Ph.D., Jim Fadel, Ph.D., Marlene Wilson, Ph.D. and Larry Reagan, Ph.D.

Designer genes

Neuroscientists are using virus-mediated gene transfer to target an array of serious diseases and disorders.

Sweitzer is using an altered form of the herpes simplex virus, which normally causes cold sores, to target neuropathic pain. The herpes virus naturally infects and resides in peripheral neurons that signal pain, and Sweitzer's customized virus does something more: it carries a genetic signal that activates the body's natural opioid-producing system.

"With our system, you can turn on the body's own pain-reducing chemicals, so you would need less prescription drugs—maybe none at all—for pain control," Sweitzer said. "If you think of pain as a loss of balance between excitatory pain causing activity and inhibitory pain suppressing activity, we're using these viruses to both decrease excitatory pain activity and increase pain suppressing activity."

A research group in Michigan is using similar strategies to address pain issues with terminally ill cancer patients. If that work shows results, it could open the door for more gene-therapy clinical trials for chronic pain sufferers using the unique viruses made at the School of Medicine.

EFFECTS OF AGING

As if the usual insults of aging such as creaky knees and wrinkles weren't enough, it seems that old age also ushers in a reduction in an important neuropeptide called orexin (also known as hypocretin).

Orexin regulates sleep/wake cycles, cognition, and feeding and metabolism. People who suffer from narcolepsy (sudden periods of deep sleep throughout the day) have severely depleted orexin levels. Older people who experience unexplained weight loss are at higher risk for Alzheimer's disease: both might be linked to lower levels of orexin.

Jim Fadel, Ph.D., is using a customized version of the common Lenti virus to target the hypothalamus, a region of the brain that makes orexin. His research, funded by the National Institute on Aging and American Federation for Aging Research, is testing the possibility of stimulating orexin production through virus-mediated gene therapy.

"Gene therapy started out with a lot of promise a couple of decades ago, but hit some snags. It has become a hot field again in neuroscience because of vast improvements

in the ability to use specific promoters that target certain regions of the brain," Fadel said. "Our initial findings suggest virus-mediated orexin expression can improve the function of the cholinergic system, which we know plays a major role in Alzheimer's disease.

"I'm guessing that we're probably five years or more away from human trials with this particular research, but it could offer some very exciting possibilities in restoring cognitive function in those diagnosed with early-stage Alzheimer's."

THE EPILEPTIC BRAIN

After Alzheimer's disease and stroke, epilepsy is the third most common neurological disease.

It's also one of the more difficult to treat: Anticonvulsant drugs are effective for only 70 percent of those with the condition albeit with many unwanted side effects. Treatment options for the other 30 percent range from few to none.

Funded by the National Institutes of Health, **David Mott, Ph.D.**, is studying the role of the excitatory neurotransmitter glutamate in epilepsy. Glutamate is used by 75 percent of all brain cells to communicate with each other. Mott is using a specialized virus to target certain glutamate receptors—called kainate receptors—that appear to play a role in the development of seizures.

In models, Mott is focusing on the hippocampus, the part of the brain that governs learning and memory and is the most common site of seizure activity.

"We're still several years away from a human trial, but we've developed a modified virus that does what it's supposed to do in the models. We're hopeful that targeting these receptors will stop seizures," Mott said.

THE CHEMISTRY OF ANXIETY

Anxiety disorders such as panic attacks and post-traumatic stress disorder often involve an imbalance of brain chemicals, which often is corrected with precise dosages of medication.

Marlene Wilson, Ph.D., is exploring another approach that could be used to treat anxiety or depression, which sometimes won't respond to medication.

"My lab is using selected virus vectors that target certain cell types in the brain," she said. "We were one of the first groups to use gene therapy approaches to look at how specific proteins affect anxiety and identified brain circuits that are responsible for stress disorders. We think receptors in the brain's endogenous opioid system play a role in disorders such as social phobias and generalized anxiety."

Studies also suggest that people and animals with high levels of a brain protein called neuropeptide Y can cope better with stress, appearing less anxious and more resilient to traumatic events.

"We're interested not only in the role of this peptide in anxiety disorders but also in knowing its relationship to alcohol effects because there appears to be a strong relationship between anxiety disorders and alcohol abuse," Wilson said.

DIABETES-RELATED DISORDERS

Scientists have long understood the biochemistry of insulin deficiency and diabetes, but the effects of insulin on the central nervous system are far less understood.

Larry Reagan, Ph.D., is using a modified virus as a tool to study those effects and the larger relationship between diabetes and development of other neurological disorders.

"Depressive illnesses and Alzheimer's disease are just a couple of the comorbidities associated with diabetes," Reagan said. "Using our specialized virus, we're looking at how decreasing insulin receptors in the brain affects the structure and function of neurons.

"We already know that with fewer insulin receptors, you start to see indications of accelerated brain aging. Diabetics' brains appear to be older, which is perhaps why they develop age-related diseases such as Alzheimer's."

Could boosting insulin receptors in the brain have a positive effect? "One of the newest things from a clinical perspective is administering insulin intranasally to increase cognitive function in Alzheimer's patients," Reagan said. "No one really knows how the insulin has that effect on the brain—that's the big unknown, and that's why we're using the virus to try to map it out." ■

Skin deep

A pathology professor's collaborative research helps pave the way for the first facial transplant in the United States.



Kevin Carnevale, MD

When he was still in middle school, Kevin Carnevale, MD, wanted to go to medical school to learn why people die from Sudden Athletic Death Syndrome.

Now a clinical faculty member at the University of South Carolina School of Medicine, Carnevale's research is helping people survive.

Carnevale, a 1990 graduate of Albert Einstein College of Medicine in New York, teaches pathology to

all second-year medical students and conducts research on tissue rejection, chronic inflammation, and other issues related to tissue and limb transplantation.

"I always knew that I wanted to do research; in fact, I always knew that I wanted to be a pathologist," Carnevale said.

A tragic childhood incident—a 12-year-old cousin dying before Carnevale's eyes after walking away from a wrestling mat—triggered his interest in pathology. While the cousin was later determined to have died from heat stroke and a fatal arrhythmia, initial autopsy results had no physical findings and were inconclusive.

"I wanted to know why he died, and what makes other people die when there are no outward signs or physical evidence of illness," he said.

What Carnevale didn't know is that his passion for pathological research would one day play a role in clinical studies that supported the first facial transplant in the United States, performed last December at the Cleveland Clinic. That transplant was the most extensive surgery of its kind to date, replacing 80 percent of the recipient's face.

Carnevale met Maria Siemionow, MD, Ph.D., the lead surgeon for the 30-member Cleveland Clinic transplant team that performed the surgery, more than a decade ago when he was a research associate at the clinic.

"We actually met at a party, and she mentioned she didn't have anyone to analyze tissue samples from her transplant research. I said, 'I'm a pathologist—I'll do it,'" he said. And so began a decade-long research collaboration that has produced more than a dozen scholarly articles related to tissue transplants.

"With a facial transplant, you're dealing not only with skin but also bone, muscle, and nerves," Carnevale said. "And along with the complexity of reattaching and shaping those components, you have to contend with tissue rejection."

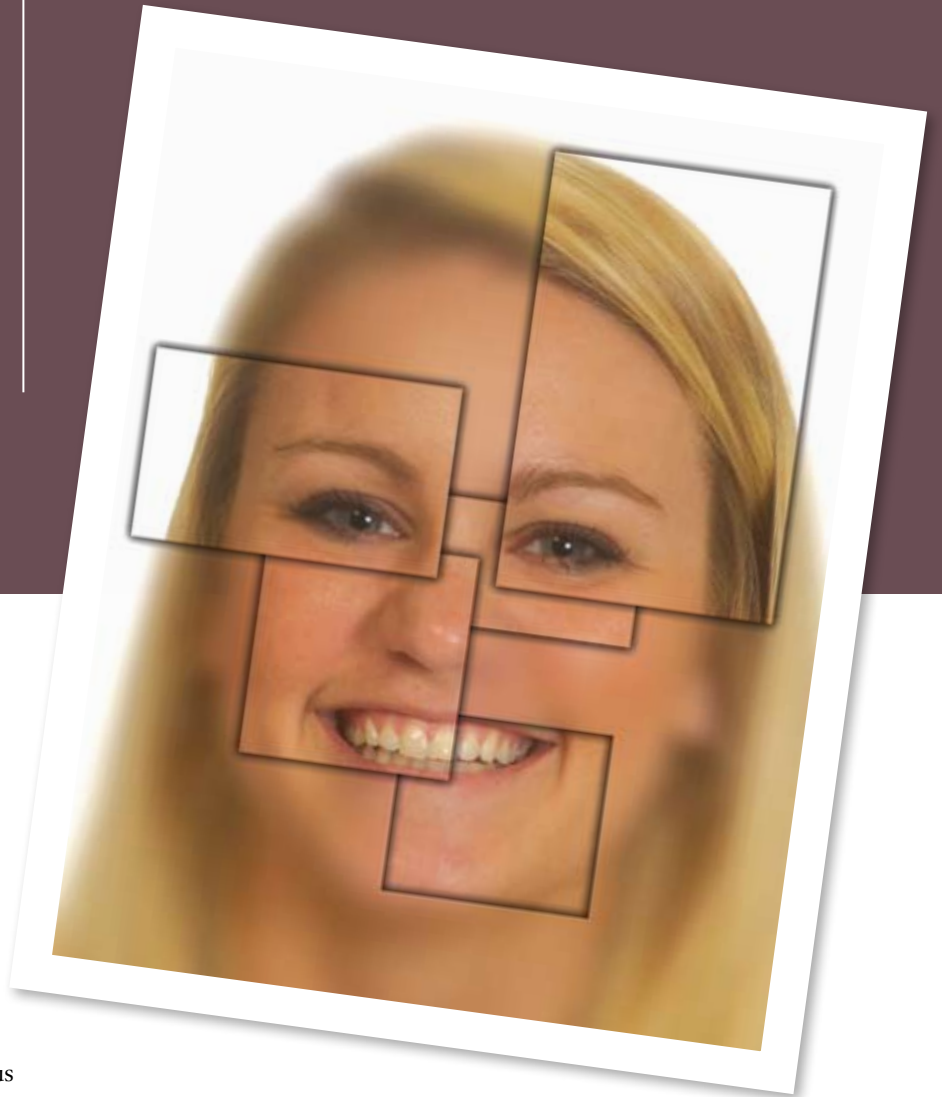
In the years since their collaboration began, Carnevale and Siemionow have explored various aspects of immunological responses associated with tissue transplants, exchanging ideas that have become the basis for most of their joint research publications. Immunological mechanisms of tissue rejection have been the central theme of their research and for good reason: the human body's natural tendency to reject donor tissue is the chief hurdle to overcome in complex transplants.

In fact, concerns over tissue rejection prompted many medical ethicists to voice grave reservations when the world's first facial transplant (for a woman mauled by a dog) was conducted in France during 2005.

"A facial transplant is not a life-saving procedure, but it requires the same lifelong regimen of immunosuppressant drugs that you would take with any other organ transplant," Carnevale said. "Ethicists would say that you're going to die if you need a heart or lung transplant and don't get one. But you're not going to die if you don't

“With a facial transplant, you’re dealing not only with skin but also bone, muscle, and nerves,” Carnevale said. “And along with the complexity of reattaching and shaping those components, you have to contend with tissue rejection.”

KEVIN CARNEVALE, MD



get a facial transplant. However, facial disfigurement that results in social rejection is very difficult to live with the rest of one’s life.

“There is the possibility that someone could go through the ordeal of a facial transplant and end up with even worse disfigurement if the transplant failed.”

But that’s where research is helping to turn the tide. Only a handful of facial transplants have been performed worldwide, but physicians have been encouraged by the few complications that have ensued. This is due to a very careful screening of the emotional, psychological, and physical aspects of each patient’s case along with sound commitment to rigorous post-surgical follow up and therapy.

Meanwhile, Carnevale continues to study the mechanics of tissue rejection and chronic inflammation, specifically looking at how donor cells merge with those of the recipient. Much of that research has direct implications for surgical procedures that are far more common than facial transplants. For example, when a partially blocked coronary artery is opened with angioplasty or with a stent, a chronic inflammatory reaction can occur that drives the process resulting in the artery closing down at the site of treatment (restenosis).

“Monocytes, which are key chronic inflammatory cells that drive restenosis, are the same cells that play an important role in composite tissue rejection,” Carnevale said. “So I’m also focused on the basic biology of vascular injury, which is not entirely understood. We understand key cells that play a role but don’t completely know the signals they produce and how they interact.”

Carnevale also collaborates with Esmail Jabbari, a chemical engineering associate professor at the University of South Carolina who teaches courses in biomedical engineering. The two are working on a nanocomposite scaffolding matrix for growing femoral bone tissue.

When he’s not conducting research, Carnevale is often in a medical school classroom. His dedication to teaching runs deeper than merely imparting information.

“I’ve enjoyed teaching as much as my research,” he said. “Interacting with the students is very stimulating; I get a lot out of that. And when they score in the higher percentiles than the national average on the pathology section of their boards, I know that we’re giving them a good education.” ■

“I don’t want to be treated different from anyone else. I’ve learned that a lot of people have misconceptions about people with disabilities. Just because we have a disability, that doesn’t mean we don’t have the same needs as everybody else. We just want to be treated the same.”—JEROME HUGGINS



Like other people

Center for Disability Resources helps clients achieve their goals, one step at a time.

When schools, organizations, and individuals need help accommodating people with disabilities, they often turn to the School of Medicine's Center for Disability Resources.

"We build partnerships with people who come to us, whether they're people with disabilities, agencies, or school districts. We work together so that people with disabilities have full citizenship," said Richard Ferrante, Ph.D., director of the center and associate professor for clinical pediatrics.

"Our mission is to help people understand that those with disabilities are just like other people. They want a home, they want a job, and they want friends," he said.

The Center for Disability Resources (CDR) is one of 61 University Centers for Excellence in developmental disabilities education, research, and service, located in major universities across the country. The School of Medicine's center connects faculty members' knowledge, expertise, and resources to people with disabilities, the people and organizations that help care for them, as well as schools and employers.

"We're not a clinical program," Ferrante said. "We're a training and program development resource."

The CDR also provides free literature to parents through the medical library, training for the School of Medicine's students and residents, and works with the state in developing its birth-to-three program, among other projects. It has also transformed lives through its work with individuals.

"We get referrals from the S.C. Department of Disabilities and Special Needs because they know we'll do a good job," Ferrante said. "We meet with the individual

and say, 'What do you want your life to be like a year from now?' Then we make a list of what needs to happen to help that person achieve what they want.

"These are people with skills. You just have to figure out how to structure a job so that they can do it," Ferrante said. "These are people who are demonstrating that people with disabilities would much rather work than stay home."

The center's Assistive Technology Laboratory finds innovative ways to use technology to help people with disabilities become active, contributing members of the community. The technologies can be as simple as an automatic door opener or as complex as software programs children use to communicate with their teachers. And the lab is developing more technologies all the time.

Meghan Trowbridge, the center's director of training and community development, has the satisfaction of seeing how the CDR's work changes lives. One of her most unforgettable stories is of a client's demonstration of spirit and determination in overcoming huge obstacles.

"I met Jerome when he was living in a group home. He kept telling me that he wanted a chance to live on his own," Trowbridge said. "He was frustrated that he didn't have that opportunity."

Even though Jerome Huggins' cerebral palsy confined him to a wheelchair and makes it difficult for him to speak, he was determined to change his circumstances. "He said to me, 'You talk about doing this, now you need to do it.' He said that if I can figure that out for him, I can figure that out for anybody," Trowbridge said.

Most experts believed that Jerome's disability required 24/7 care, but that's not how Jerome wanted to live.

"He forced us to think outside of the box a little. He pushed us to think differently about support services," she said. And it worked.

For the past two years Jerome has lived independently in his own apartment that has been modified to accommodate his disability. And while he does have daily assistance, he also has a job at Starbucks, where he has worked part-time for several years.

This wouldn't have been possible without the CDR or his church.

"He's had tremendous support from his church," Trowbridge said. "They helped him move, they had a housewarming party for him, and their associate pastor, Paul Cumbers, comes to all the support meetings for Jerome. When Jerome was sick, some guys from the church came over to care for him."

Look at Jerome and you see a man in a wheelchair, but get to know him, and you see something more. "Jerome has been a blessing to our church family," said Cumbers, the associate pastor. "Anyone who's ever talked to him one-on-one knows he's a deep thinker. He challenges people to rise above their circumstances."

Jerome has also been active in the community as an advocate and voice for people with disabilities.

"If you tell me 'no,' then you've just given me an incentive," Jerome said. "I like a challenge. My mama told me I can't do this and I can't do that. That just made me show everybody that I could."

"I don't want to be treated different from anyone else. I've learned that a lot of people have misconceptions about people with disabilities. Just because we have a disability, that doesn't mean we don't have the same needs as everybody else. We just want to be treated the same." ■

Vital Signs

WHITE COAT CEREMONY WELCOMES CLASS OF 2011 TO THE MEDICAL PROFESSION

The transition from preclinical studies to clinical health sciences marks one of the first important milestones in a student's journey through medical school.

At the White Coat Ceremony held in January 2009, 85 rising third-year medical students received their traditional white coats, signifying their achievement and entry into the medical profession.

Keynote speaker Bruce Latham, MD, Class of '87, program director of internal medicine at Greenville Hospital System, cited what he called "10 Pearls" on how to approach the next two years of medical school and residency. He reminded the students that it's OK to say, "I don't know, but I will find out."

"Medicine is a process," he said, "that takes time and practice."



GAMMA KNIFE: NON-INVASIVE BRAIN SURGERY

The Gamma Knife Center at Palmetto Health Richland is the only facility of its kind in South Carolina.

Burke Dial, MD, associate professor of clinical surgery for the School of Medicine and medical director of the Gamma Knife Center, sees remarkable results from this revolutionary treatment of brain disorders and blood vessel abnormalities.

"Surgeons are sometimes reluctant to operate in a particular area of the brain because of the risks associated with it," Dial said. "With the Gamma Knife, we have much less risk because it is so precise."

Gamma Knife radiosurgery is an approach to treatment that does not involve an incision but rather high concentrations of radiation beams to destroy abnormal cells. The surgical procedure is a good option for patients whose tumors are generally four to five centimeters or less in size. Patients are cared for by a multidisciplinary team of specialists, including neurosurgeons, radiation oncologists, medical physicists, and nurses specifically trained in Gamma Knife.

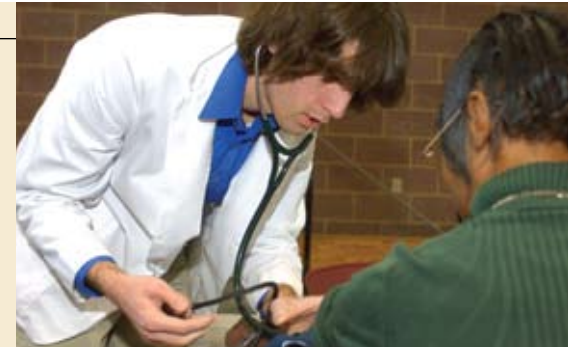
MEDICAL STUDENTS HOST COMMUNITY HEALTH FAIR

One of the missions of the University of South Carolina School of Medicine is to care for the community in which we live and work.

The fourth-annual Community Health Fair, an outreach effort organized by M-III and M-IV medical students, was held Feb. 21 at the Drew Wellness Center in Columbia. The Department of Family and Preventive Medicine partnered with the Student National Medical Association Health Fair and the Healthy South Carolina Challenge to host the event.

"I've had the pleasure of being involved in a number of health fairs and this truly ranks at the very top of my list," said Patricia Witherspoon, MD, M.S., director of patient relations, Department of Family and Preventive Medicine. "What is so astonishing is the organizers are full-time medical students. It was extremely well organized, comprehensive, thoughtful, and professional. What a credit to our medical school!"

The Health Fair benefits the community as well as medical students. While patients are receiving free preventive health screenings and



Kevin Wellbuam, M-II student, checks the blood pressure of a health fair participant.

medical advice, M-I through M-IV students had the opportunity to hone their clinical communication skills. Nearly 30 medical students were hard at work providing health screenings, including cholesterol and blood pressure tests and diabetes and vision screenings. Several School of Medicine faculty physicians and residents offered free medical advice to patients and mentored the students.

"This was one of the most rewarding experiences I have been a part of since starting medical school," said April Grant, Class of 2011 and health fair event chair. "Each person I helped reminded me of why I want to be a doctor. Practicing medicine is so rewarding."



SCHOOL OF MEDICINE STUDENTS SCORE HIGH ON NATIONAL BOARDS

Our medical students are prepared to be leading physicians and it shows! A three-year average indicates that School of Medicine students surpass the national pass rate on Steps 1 and 2 of the U.S. Medical Licensing Examination. This past year, 99 percent of our students passed Step 2, compared to 96 percent nationally. Furthermore, in 2005-06, 100 percent of School of Medicine students passed the Step 2 CK/CS exam.

JUST THE FACTS

- The School of Medicine's first graduating class consisted of **24 medical students**; a total of **1,681 students** have graduated from the school
- The master's of nurse anesthesia program began in **1994**
- More than **2,000 students** apply to the School of Medicine every year
- **353 graduates** of the School of Medicine practice in non-metropolitan areas of South Carolina
- **On average**, 86 medical, 40 biomedical, 14 genetic counseling, 53 rehabilitation counseling, and 55 nurse anesthesia students are accepted each year.

Unbuckling the Stroke Belt

South Carolina's Pee Dee region is the buckle of the Stroke Belt, a geographic area with a greater than 40-percent higher stroke death rate than the rest of the country.

That's why University of South Carolina School of Medicine researchers teamed up with CareSouth Carolina in Marlboro and Darlington counties for the StrokeMobile Project, a three-year outreach program designed to prevent strokes in the Pee Dee through education and screening.

Because African-Americans are more likely to have strokes five to ten years earlier than their white counterparts and are more likely to suffer worse consequences, the StrokeMobile Project uses innovative channels to reach this population. African-American churches, senior centers, and local businesses have been recruited as screening sites and partners in educating the most at-risk groups. For example, church groups are trained and given materials to teach members of their congregation how to prevent strokes. This component empowers the community to continue the outreach effort in the future.

The StrokeMobile Project classes also offer incentives and tools people need to reduce their risk of stroke by making changes to their daily lives, from exercising more to making better food choices and seeking medical help for conditions such as hypertension and diabetes that put them at greater risk of stroke.

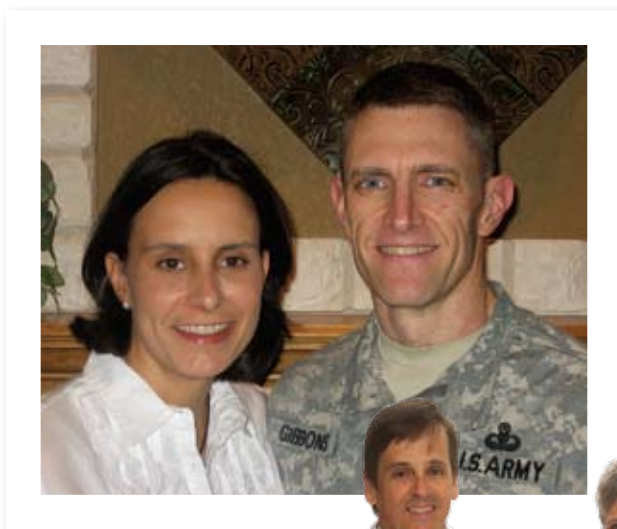
The statistical results are still being gathered, but the people who are on the front lines know that the project is saving lives. Monique Brown, a community outreach specialist, screened a man who had lost his job and his insurance. "My numbers will be high because I can't afford to see a doctor or get my medications," the client told Brown.

He was right: His diastolic blood pressure was 110, and his fasting glucose reading was 269. Brown got him in to see a Care-South physician the next day.

"I see him on every visit to the office because he sticks his head in my door and says, 'Thanks, Monique. You really saved my life. God is going to bless you for it,'" Brown said. "If I never help anyone else in my life, I know that I have helped at least one person in a special way just by doing my job. I'm thankful to be a part of the StrokeMobile team." ■

Profiles of Giving

A snapshot of individuals who help perpetuate the University of South Carolina School of Medicine's tradition of excellence.



Drs. Janice and Mark Gibbons



Francis Neuffer, MD

Judy Lawrence

LTC MARK AND JANICE GIBBONS, CLASS OF 1996

LTC Mark and Janice Gibbons, both Class of '96 graduates, have been faithful and consistent donors to their alma mater since 2000. Over time, they have given financial gifts in various amounts that add up to a sum that's difficult even for them to fathom.

The Gibbonses have six children, ranging in age from 13 years to three months old, but they've managed to make room in the family budget to give annually to the School of Medicine.

As Mark Gibbons, chief of Otolaryngology/Head and Neck Surgery at Darnell Medical Center in Fort Hood, Texas, said, "We just feel compelled to give to the school that has given us so much opportunity and support."

Just before entering medical school, the two were married. A few years later while in residency they had their first child. Janice Gibbons, a part-time pediatrician at Darnell Medical Center, remembers the support and understanding the faculty extended to them.

"Medical school is tough enough, but add a husband and a child to the mix and things can get a lot tougher," Janice Gibbons said. "But for us, balancing our home life and our education was made a lot easier because of the support we received from the faculty and staff. They really helped see us through."

When they met, Janice Gibbons was a pre-med major at Texas A&M, and Mark Gibbons was an Army infantry officer. He was intrigued by her career choice and decided to combine his interest in the military and medicine. Together, they pursued medical school.

"We could have attended the University of Texas in Houston, but the University of South Carolina proved to be the perfect choice for us," Janice Gibbons said. "We give because we want to help make it possible for other students to have the opportunity we had. We received excellent medical training by caring faculty members." ■

JUDY LAWRENCE, ADMINISTRATIVE COORDINATOR, BASIC SCIENCES DEPARTMENT

If Judy Lawrence had her druthers, she would remain a low-profile donor to the School of Medicine, as she has for the past 15 years.

However, as she began to reminisce about why she started giving, she realized the importance of letting others know that “it doesn’t matter how much you give—but giving nothing is too little.”

Lawrence, a mother of four children, was not working at the time her oldest daughter was graduating from high school in 1983. She worried about how she and her husband could afford to put each of their children through college.

“I told my husband that it was time for me to start working because there was no way we could afford to put them through college on his salary alone,” Lawrence said. “Their college education was not something we were willing to gamble with.”

That year, Dr. Richard Weymouth, a fellow church member and friend, hired her as a secretary in the anatomy department at the School of Medicine. For Lawrence, this was more than a job; it was her children’s future.

“Yes, the School of Medicine pays my salary, but I am giving as a mother who understands the high cost of college in hopes of helping others.”

Nearly 26 years later, all of her children are college graduates, and she is still working for and giving to the School of Medicine.

“My intention was to only work to help put my children through college,” she said, smiling. “Now, I am having too much fun to retire!”

When Lawrence reflects on why she continues to give to the school, she says with pride, “I give because my job helped me help my children get through college. I want to do my part to make sure every parent can afford to send his or her child to college. Although I don’t give tons of money, I have been a constant donor because I know that my gift will go a long way to help other families.” ■

FRANCIS NEUFFER, MD, CLASS OF 1975 (BIOLOGY)

Francis Neuffer, MD, can trace his Gamecock roots back many generations, beginning with his mother, Irene LaBorde Neuffer, Class of 1941, and his father, Claude H. Neuffer, who both were professors in the University’s Department of English.

His family affiliation can be traced all the way back to the 1840s when Maximillion LaBorde, then president of the faculty, was credited with helping save the campus during the burning of Columbia by Sherman at the end of the Civil War. LaBorde was Neuffer’s mother’s great-grandfather. The LaBorde and Neuffer families have been long-time philanthropists and educators in the Columbia community, making a contribution to grow the University. That’s why, for Neuffer, it is second nature to give—not to receive anything in return, but for the benefit of knowing that he is contributing to the betterment of society.

“We watched my parents give so much time, energy, and resources to education and to people in general,” he said. “I just felt it necessary to carry on our tradition of giving. I also see how my willingness to do a little good will return greater benefits to South Carolina as a whole.”

Recognized for his expertise in radiology, Neuffer was asked to serve as an expert witness in a malpractice case. His most recent gift to the School of Medicine was the proceeds from his expert testimony.

“Quite frankly, I felt a little uneasy about being reimbursed for my testimony as an expert witness,” Neuffer said. “I didn’t feel comfortable being paid for that. In my mind, the most logical thing to do with my money was to donate it to the School of Medicine.”

A School of Medicine faculty member, Neuffer sees his contributions as a means to perpetuate the exceptional educational and personal experience students receive at the University of South Carolina.

“The University of South Carolina means a lot to me,” he said. “I am especially proud to do my part in educating and supporting the students who make up this great University.”

Neuffer received his undergraduate degree in biology from the University in 1975 and earned his medical degree from the Medical University of South Carolina, where he met his wife, Dr. Mary Neuffer, an OB/GYN physician.

Continuing the family legacy of giving back to the community as a physician and a Gamecock, their son, John, is following in the footsteps of his parents. He is a third-year medical student at the School of Medicine, Greenville campus. ■

ALUMNI NEWS



A MESSAGE FROM DR. LEROY ROBINSON, CLASS OF 1990

PRESIDENT, SCHOOL OF MEDICINE ALUMNI ASSOCIATION

The School of Medicine Alumni Association continues to be a very exciting organization, and I invite you to become involved. One of the personal benefits is being able to give your input and offer your personal touch to what happens at the School of Medicine. Decisions made now will have a profound affect on the general health of the state and the future of the school.

One of the most important things we as alumni can do is support our dean, Don DiPette, MD, and his vision for the future. We need to get behind the school's agenda to increase class size to ensure there are enough physicians in the state.

If you're not involved in the association, you might want to ease into this very welcoming community by attending one of our social events such as the annual Black Tie/White Coat Gala and Silent Auction. People have a wonderful time, and it supports great causes: the Alumni Scholarship Fund and the Free Medical Clinic.

The Alumni Association's focus is to bring people back into the fold and to let people know what's going on at the medical school. You're encouraged to become involved with your association. There are a lot of exciting things going on, and we need your help.

Contact the Director of Alumni Relations, Debbie Truluck, at 803-733-1568 or Debbie.Truluck@uscmcd.sc.edu for more information on how you can get involved or go to our alumni Web site: alumni.med.sc.edu.

CLASS OF 1991

- **William Bragdon**—“At long last, our son David was born in Portland, Ore., on Wednesday, December 3, 2008, at 5:38 p.m. He weighed 7 lbs.-8 oz. and measured 20 inches long. His birth mother’s pregnancy went 17 days past her due date, and she underwent an emergency C-section due to complications during labor and delivery. Birth mom and baby are both doing well. Becky and I have been here since November 10, 2008, and are anxious to return home to David’s big sister Holly. Thank you for all of your prayers and support.”

CLASS OF 1996

- **Billie Jean Waddell**—“I am no longer practicing pediatrics. My new specialty is aesthetic medicine. I am board certified in pediatrics. I am the owner and medical director of my new practice, Palmetto Aesthetic Medicine, which opened October 2007 in Columbia. I am married to Randall Colby, MD. We have two children, Emily, 5, and Riley, 4.”

CLASS OF 1997

- **Bryan Andrew Castro** is “presently enjoying a busy orthopaedic spine surgery practice and also serves as the chairman of orthopaedic surgery at Exempla Lutheran Medical Center. We live in Colorado and enjoy the mountains and skiing. My three-year-old daughter, Ava Grace, wants to go skiing this year.”

CLASS OF 1998

- **Lee Carson**—“Celebrate with us! Our Brittany was chosen Miss Clemson University 2009.”
- **James Frederick Huiet, III** —“I was married on January 10, 2009, to Nancy Hansford Brown, and we now live in Charleston. I am an internist at the VA Medical Center and an associate professor of medicine at the Medical University of South Carolina. I am also a flight surgeon in the United States Air Force Reserve at the Charleston Air Force base.”

CLASS OF 2000

- **Nioaka “Nikki” Campbell** recently won the Carolina Alumni Association’s Outstanding Young Alumni Award. She is an assistant professor of clinical neuropsychiatry with the School of Medicine’s University Specialty Clinics and Palmetto Health Richland Hospital.

- **Trevar O. Chapmon**—“I am currently section chief for the Department of Physical Medicine and Rehabilitation with the Carilion Clinic in Roanoke, Va. We were recently blessed with our fifth and sixth children. Joshua Abraham and Mary Margaret Christabelle were born Sept. 8, 2008. Both babies are doing very well, and Jill (my wife) is, also.”

- **Ann Elizabeth Rawlings**—“I have been doing *locum tenens* medicine since completing my internal medicine internship. I travel to locations throughout Virginia and fill in for days, weeks, or months as needed. I do occupational medicine, internal medicine, family medicine, and urgent care. I have no overhead, and malpractice insurance is paid by my agency. I get to see various places, and, last year, I was named a Locum Tenens Provider of the Year by *Locum Life Magazine*.”

CLASS OF 2002

- **Michael Ferlauto**—“We have a baby boy, Lucas, born April 4, 2007.”

CLASS OF 2003

- **Julie Hay Saylor** (2003) and **Gene Saylor** (2004)— “are both completing fellowships in hematology/oncology at the University of Alabama at Birmingham in June 2009. We have both accepted positions at the Charleston Cancer Center in Charleston, S.C. They have offices in North Charleston and Mt. Pleasant and are planning to expand to Moncks Corner and Walterboro once we join. We are so excited to be returning home to South Carolina!”

CLASS OF 2004

- **Michael Rentz**—“My wife (Jamia) and I have a new edition to our family. Elisse Michaela was born Aug. 5 to join Mara, Rachel, and Emma. Yes, all girls! Additionally, I was recently selected as a clinical instructor/chief fellow in oncologic surgical pathology at Memorial Sloan Kettering Cancer Center in New York for the 2009-10 academic year.”

CLASS OF 2005

- **Philip Eugene Lowman** married Ashley Marie Brant on September 27, 2008. He is an instructor of clinical medicine at the School of Medicine and practices at Palmetto Health Richland Hospital.

CLASS OF 2008

- **Ryan Corbin Zitzke** married Caroline Phillips Moses on October 11, 2008. He is in his first year of an orthopaedic surgery residency.



SPRING ALUMNI WEEKEND WAS A HUGE SUCCESS

The University of South Carolina School of Medicine Spring Alumni Weekend is always a wonderful time to reconnect with friends and classmates and become reacquainted with the exciting progress of the medical school.

The 8th Annual Black Tie/White Coat Gala was the most successful event ever—in attendance and funds raised! Organized by M-IV medical students and the alumni office, the event raised more than \$51,000 for the Columbia Free Clinic and the University of South Carolina School of Medicine Scholarship Fund. What's more, over 400 guests attended the gala.

New this year, the class reunion was reorganized to include a combined reunion brunch and a new gift tradition. Each class selected a committee chair and co-chair to spearhead class giving and participation efforts for their graduation anniversary. The goal was to garner 100 percent participation from each class (5-, 10-, 15- and 20-year reunions). This first-time effort raised more than \$18,000 for the School of Medicine. The success of the entire weekend of events was made possible by our committed faculty, students, staff, and, of course, our alumni.



(Top) Record crowd attends the Black Tie/ White Coat Gala. (Middle: left to right) Class of 2009's Tobin Raymond, Beth Thomas, Krista Davenport, and Sarah Drennan. (Bottom left: left to right) Reid Passer, Darin Passer, MD, Class of 2004, Beth Passer, Elizabeth Haile, MD, Class of 2004. (Bottom right) Jessica McCutcheon, M-II medical student, Class of 2011.

Spring/Winter Alumni Calendar of Events

University of South Carolina School of Medicine

FOOTBALL TAILGATE WEEKEND

Friday, **September 18th**

3-5 p.m. **Alumni Association Full Membership Meeting**, Dean's Board Room, Bldg. 3, VA Campus (All alumni are welcome to vote on board members and alumni awards).

Saturday, **September 19th**

Tailgate – USC vs. Florida Atlantic – Go Gamecocks! (3 hours prior to kick off)

Location: **Rebekah's Garden** the State Farmer's Market on Bluff Road across from the Williams Brice Stadium (parking available for \$25 at the Farmer's Market; enter National Guard Armory Road gate).

Tailgate and Football Tickets – Price TBA

QUESTIONS/Alumni and Special Events Office:

Debbie Truluck – 803-733-1568; debbie.truluck@uscmed.sc.edu

Johnny Hakim – 803-733-3311; johnny.hakim@uscmed.sc.edu

Register for events online at www.alumni.med.sc.edu or call the Alumni Office.

WIN AN ALUMNI SURVIVAL KIT!

Send in your updated contact information and news for *South Carolina Medicine Magazine* by mail or online by October 30, 2009, and you could win a sweatshirt, T-shirt, and more!

University of South Carolina
School of Medicine
Alumni Office
Columbia, SC 29208

803-733-1568

<http://alumni.med.sc.edu>

Alumni Profile

Race car driver licensed to practice medicine

Ron Yarab, Class of '89, is a physical medicine and rehabilitation doctor by trade and a race car driver by choice.

A former track star at the University of South Carolina, Yarab put away his cleats years ago and began taking laps around the track in a different way—behind the wheel of a race car.

Yarab began racing cars as a hobby more than 10 years ago. This fast-paced hobby quickly escalated from race school to competing against pros like NASCAR's Jimmy Johnson and IndyCar driver Danica Patrick in the Rolex 24 Hours at Daytona. A “gentleman driver,” as amateur racers are called, Yarab is one of the few such part-timers with enough talent to race with professionals.

Although he has not won a big race, that's not what drives him to the race track. “Driving race cars is parallel to practicing medicine because they both take tremendous focus to be successful,” Yarab said. “The main difference is I get a rush, an adrenaline high, while driving my race car!”

Recently, Yarab fueled his passion for racing and medicine by participating in a fund-raising effort to benefit the Children's Tumor Foundation, a national charity. His Farnbacher Loles Porsche team drove 24 hours and more than 600 laps to help raise awareness and find a cure for neurofibromatosis. With his participation as a driver and medical expert spokesperson, the foundation raised nearly \$200,000.

Yarab lives and practices in Poland, Ohio, and was honored as an Ohio State Medical Association Young Physician of the Year.





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A GIFT THAT KEEPS GIVING

When the School of Medicine enrolled its first class of medical students in 1977, G. Cameron “Cam” and Elizabeth “Betty” Todd, University Class of 1950, established the Todd Medical Education Endowment Fund, the school’s first endowed fund, that same year.

“I was more than happy to help,” said Cam Todd, a retired Merrill Lynch executive. “The school was new so they needed a lot of things to get started. The discretionary funds were used for operational expenses or to buy supplies and any other things the school needed.”

In 1984, the Todd Fund was changed to the Todd Medical Scholarship to provide more direct assistance to students. With the longest history of giving to the School of Medicine, the Todd’s scholarship has been awarded to 114 physicians and doctors in training.

“One student said to me, ‘Your scholarship means the difference between me eating and not eating.’ That let’s me know that the scholarship is the right thing to do. It means a lot to the students,” Todd said.

Over the years, the Todds have played a major role in the advancement of the University and the School of Medicine while being outstanding examples for others to emulate.

For more information about contributing to the future of medicine, contact Mechelle English in the Office of Development at 803-733-1567 or mchelle.english@uscmed.sc.edu. We appreciate your support.

