ANNUAL REVIEW 2015-16

REFLECTIONS

WELCOME

College of Medicine

UNIVERSITY OF CENTRAL FLORIDA

It is a pleasure to offer this special 10th Anniversary Edition of the UCF College of Medicine Annual Review.

In 2006, the state approved a new medical school at the University of Central Florida. In our first decade, there has been tremendous growth, thanks to the dedicated support of our community, faculty, staff and students.

Our three core missions — education, research and patient care — are emerging.

We have an educational program for M.D. students that ranks in the top quartile nationally in every measure of student performance. We are the medical school with the largest number of undergraduate and graduate students studying in the Biomedical Sciences. We have growing residency programs at hospitals across Central Florida. Our education mission is strong.

The next decade will see new growth in research and patient care. Our research is currently focused in cardiovascular disease, neurodegenerative disease, infectious disease, cancer, population health and medical simulation. Our patient care includes UCF Health and a plan for a partnered academic hospital. We can only imagine what we will report in our 20th year!

Thank you for a rewarding first 10 years and for the dreams we will fulfill together in the decades to come.

Deborah C. German, M.D.
Vice President for Medical Affairs
Dean, UCF College of Medicine

10 YEARS OF *Milestones*

1

8/2009 – Charter Class Admitted on Full Scholarships

2

6/2010 – New Building in Lake Nona's Medical City

3

11/2010 – UCF Health First Location Opened

4

2/ 2013 – LCME Full Accreditation

5

5/2013 – Charter Class Graduates

6

6/2014 – First Residents Admitted

BURNETT SCHOOL NEWS

Biomedical School Soars

Sixty-six new graduate students in the biomedical sciences joined the College of Medicine this fall — almost twice the number from a year ago — including 17 master's candidates enrolled in a new neuroscience program and the college's first M.D./Ph.D. candidate.

Their alma maters include the University of California, Davis, University of Chicago, Georgia Institute of Technology, Washington and Lee, and the University of Wisconsin. They come from 25 states and 14 countries across the world, including India, China, Brazil, West Indies, Egypt and Jordan.

"It's an absolutely exciting time for growth at the Burnett School," said Dr. Saleh Naser, associate director of graduate studies and professor of medicine.

"I Want to See People Healthy."

Kelvin Chaplin thought about applying his scientific mind to solving crimes — until he met a cancer patient whose disease had spread from his lungs to his brain. "I saw his suffering," said the Burnett School of Biomedical Sciences new Ph.D. candidate. "Every day I thank God for my health. That's what I want for others."

Chaplin was raised in South Carolina and before coming to UCF did his undergraduate work at that state's Claflin University. He sang in Full Gospel, a local Baptist Church organization, which gave him the opportunity to get active in the community and perform at local events. He is the winner of a McNair Doctoral Fellowship, designed to help increase the number of African American Ph.D.s. As part of his McNair experience, he shadowed a physician and saw the CT scan of a patient whose cancerous tumors had metastasized.

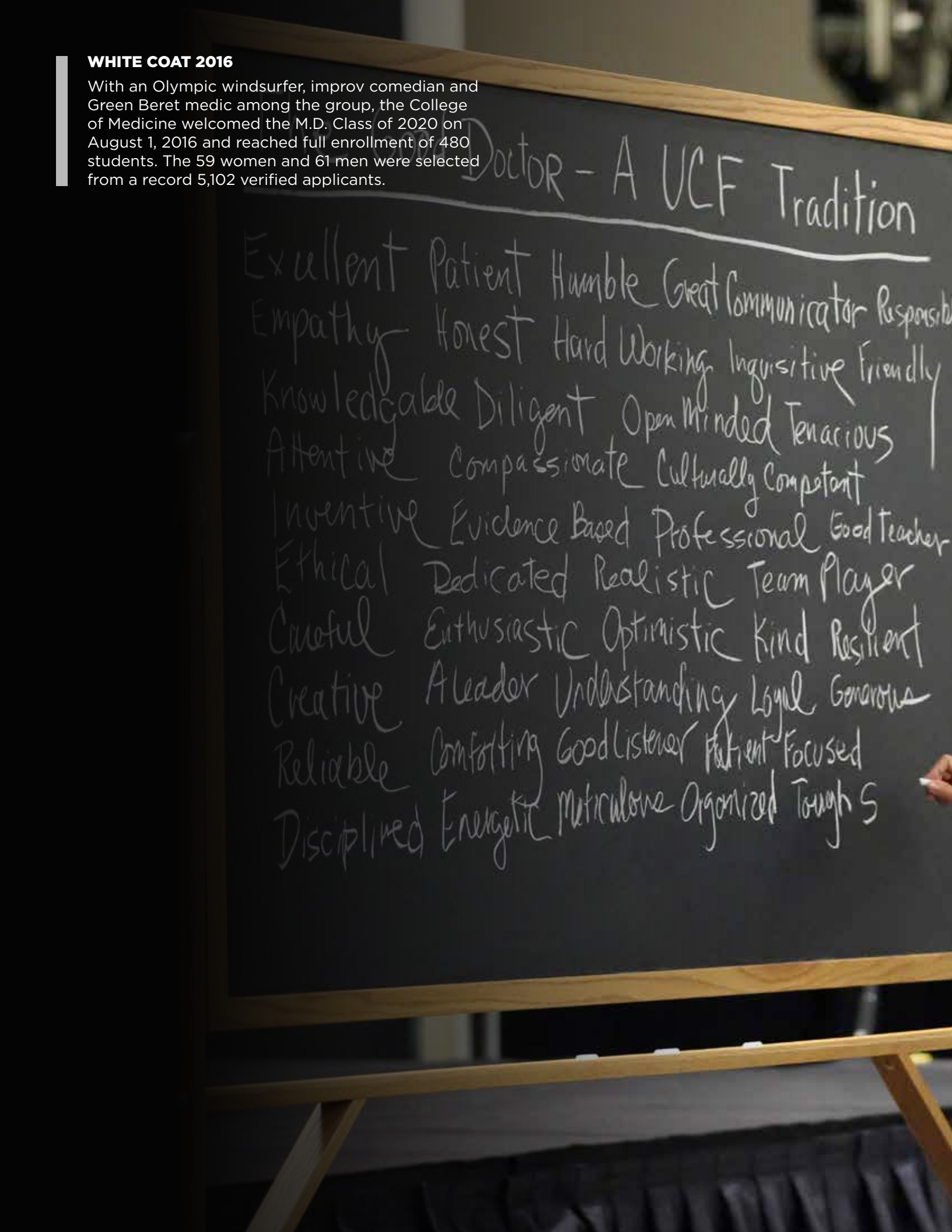
"That patient touched me," he said. "I kept thinking, 'What did he do to deserve this?' I don't like to see people in pain. I had thought about forensic science before but now I wanted to develop cures, vaccines even, for cancer. I want to see people healthy."

Chaplin is excited because the Burnett School's Ph.D. candidates spend about a year rotating between labs so they can find their niche. In addition to cancer research, he's also interested in infectious diseases such as AIDS.

GRADUATE COLLOQUIUM

WHITE COAT 2016

With an Olympic windsurfer, improv comedian and Green Beret medic among the group, the College of Medicine welcomed the M.D. Class of 2020 on August 1, 2016 and reached full enrollment of 480 students. The 59 women and 61 men were selected from a record 5,102 verified applicants.




Deborah C. German,M.D
Dean

HORSES & HEROES

"It *Reminds* You How To Be A Person Again"

Kelly Smith grew up in rural Osceola County around horses, but never dreamed they could help her cope with losing an arm in combat.

"I was very skeptical at first," she said. "I had pretty much made up my mind before I came here that this was not going to work for me. But you will be amazed at what it can do for you, whether you like horses or not. It's a connection that you will never ever forget. This is safe. It reminds you how to be a person again."

Equestrian therapy "takes my mind off the pain."

Smith was a Navy corpsman for 16 years who did tours in Afghanistan and Iraq. A 2007 IED explosion shattered her left arm and after about 100 surgeries, doctors amputated the limb. "When I lost my arm, I had a pretty tough time of it," Smith recalled. "It was not so much the loss of my arm, but it was more so having to get out so early in my career, adjusting to life back from tour and adjusting to my family and kids."

"I had a lot of attitude and anger management problems."

She heard about the UCF College of Medicine's Equestrian Therapy program from another vet who had been helped by it. Despite her doubts, she noticed that her mood and outlook changed after several sessions. Her anger "just seemed to go away, without me even noticing it," she said. "My husband and my kids made comments about how much nicer I was to be around and how we could actually go in public and they don't have to worry about me getting into an argument or anything else."

Today, Smith is training to compete in a Special Olympics Nordic biathlon — cross-country skiing and shooting. She volunteers and still rides at the equestrian center even though her therapy is complete. During a recent volunteer work day, her husband, Darryl, hugged one of the researchers who worked with Smith and said, "Thank you for giving me my wife back."

EQUESTRIAN THERAPY'S LEADER

The Osceola County Therapeutic Equestrian Center is the first in the nation to be built from the ground up with help from a medical school.

The researcher receiving the hug was Dr. Manette Monroe, a lifelong horsewoman who helped pay for med school by giving riding lessons. She went into the medical profession later in life, entering East Tennessee State University Quillen College of Medicine at age 43, after teaching anatomy and physiology at community colleges. A pathologist by specialty and an award-winning teacher, she also serves as the College of Medicine's assistant dean of students.

She started the equine assisted therapy program in 2011 with Heavenly Hoofs, an equestrian therapy program in Osceola County. Their "Horses and Heroes" effort was an eight-week series of classes and therapy for veterans with physical and emotional injuries from combat. But Heavenly Hoofs' donated facilities — a stable and outdoor ring without a roof at Osceola Heritage Park — meant classes couldn't happen all summer because of the heat and rain.

After hearing from veterans how horse therapy had changed their lives, Osceola County commissioners approved building a $1.75 million facility at Chisolm Park, just minutes from the medical school. The facility features a covered arena, indoor tacking areas and air conditioned therapy/meeting rooms.

The Osceola County Therapeutic Equestrian Center is the first in the nation to be built from the ground up with help from a medical school. The facility allows Monroe and other UCF faculty, graduate and M.D. students to do scientific research on how equestrian therapy helps vets and others. They have studied riding therapy for autistic children to see if it helps them become more engaged with the world around them. They are also going to research whether riding improves balance for patients with Parkinson's disease and how it helps medical students improve their nonverbal communication with patients. They are already planning an expansion to help more people.

Because equestrian therapy is relatively new – starting in the 1970s – there is anecdotal evidence of its effectiveness but little long-term scientific data. With the new center in place and therapy offered year-round to larger numbers of people, Monroe hopes to study why it works to help both physical and emotional injuries. Early results show riding and interacting with horses greatly decreases post-traumatic stress disorder symptoms in vets and improves feelings of depression and isolation.

HORSES AND HEROES

Lito Santos was one of the first veterans helped by the therapy. He enlisted in the Army at age 17, shortly after the Sept. 11 terrorist attacks. He lost his leg at the hip and suffered traumatic brain injury during a 2005 roadside bombing in Iraq. He was only 20 at the time. He says he never should have made it off the battlefield alive — his heart stopped several times there. But with help from Seemore, a compact 30-year-old chestnut quarter horse who died a few months ago, Santos reduced his anxiety and increased his core strength and balance. As a former trick riding horse, Seemore was trained to run full-tilt as his rider dangled from the saddle with her head inches from the ground so unsteady balance from former military riders who had lost one or both legs was no problem for him. Santos called equestrian therapy a blessing. "The whole time I'm here, I'm at peace."

WHY HORSES ARE SUCH GOOD THERAPISTS

Monroe says horses help people because they are so sensitive to non-verbal communication. They are flight animals who become skittish around sudden movements or noises. Wave your arms, raise your voice, become too tense or animated and horses flee or back off. Because the animals mirror the feelings around them, they teach veterans how to manage their emotions and energy.

The horse's unconditional love also provides support. Equestrian therapy "takes my mind off the pain," said Navy veteran Dave Vernaza, who was injured by shrapnel in Iraq. "It allows me to do something that's enjoyable, that relieves the anxiety. It gives me an opportunity to create a bond with my horse, Jake."

Jake is a mischievous gray quarter horse, known for picking up directional cones from the ground or a bandana from someone's head and dashing off with it for fun. He's one of the biggest therapy horses – able to carry larger vets – but under his big-guy build is a calming kindness. "He's just a big baby," says one of the therapists.

After hearing from veterans how horse therapy had changed their lives, Osceola County commissioners approved building a $1.75 million facility.

LEARN MORE ONLINE

Get More on This Story

Learn more about the Horses & Heroes program.

Go Online: med.ucf.edu/horses-and-heroes

PATIENT CARE

UCF Health Means Patient-Centered Care

UCF Health received recognition this year as a nationally certified Patient-Centered Medical Home for its use of evidence-based, patient-centered care in a teamwork environment. Only about 10 percent of U.S. primary care practices have earned the honor.

The National Committee for Quality Assurance gives medical home recognition to practices with primary care that combine teamwork and information technology to improve care and communication and reduce costs. Medical homes foster ongoing partnerships between patients and clinicians, instead of approaching care as the sum of episodic office visits. Each patient's care is overseen by clinician-led care teams that coordinate treatment across the health care system. "This accomplishment speaks to the ongoing care, energy, adaptability and hard work of our entire care team," Dr. Maria Cannarozzi, medical director for UCF Health, said.

UCF Health demonstrated the ability to meet the program's key elements: increased patient access to services, team-based care, and the ability to manage chronic conditions plaguing populations– such as diabetes.

UCF-HCA Propose Partnership Teaching Hospital

The University of Central Florida is partnering with Hospital Corporation of America to build a proposed teaching hospital next door to the College of Medicine in Lake Nona.

In September, UCF's Board of Trustees approved the partnership between HCA's North Florida Division and UCF Academic Health, a direct support organization to the university. Under the plan, HCA will pay all costs to build and operate the hospital; UCF will seek no state funds for the project. The two will share governance on a 50-50 basis.

The partnership agreement is now before the State of Florida, which must award a certificate of need for any new hospital in Lake Nona. The proposal also requires approval by the Florida Board of Governors, which governs the State University System.

Dr. Deborah German, vice president for medical affairs and dean of the College of Medicine, said a university-based teaching hospital is necessary for UCF to bring the economic development anticipated when the state approved the medical school in 2006.

"A UCF teaching hospital is the next step in delivering on the promise we made to our community," she said. "This hospital will expand Orlando's research and clinical potential. With it, we have the potential to become a medical destination where research, patient care and education are fully integrated into the care of every patient."

Michael P. Joyce, FACHE, president of HCA's North Florida Division said, "We are honored to deepen our longstanding partnership with UCF through this venture, which will expand access to critically needed physician education and training while addressing the medical needs of Lake Nona and surrounding communities."

SPOTLIGHT

New Residency Program to Add 550-Plus Doctors to Florida

A partnership between Hospital Corporation of America and the UCF College of Medicine is bringing hundreds of new — and desperately needed — residency slots to the state. Florida currently ranks 42 of the 50 states in number of residents per-capita, which has helped fuel the doctor shortage in the state.

In the first year of the consortium, UCF and HCA added 125 new residents in locations across Central Florida and plan to add a total of 580+ new slots by 2020. Leading the medical school's residency effort is Dr. Diane Davey, associate dean for graduate medical education, and a founding faculty member of the medical school. A pathologist by specialty, Dr. Davey also works part-time at the Orlando VA Medical Center.

WHY ARE RESIDENCIES IMPORTANT?

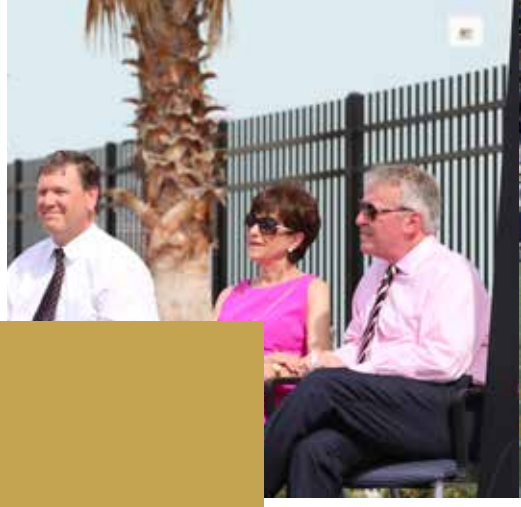
Doctors must complete an accredited residency program in their specialty area to practice and have hospital privileges. Residency programs are part of the continuum of medical training.

WHY DOES FLORIDA HAVE SUCH A SHORTAGE OF RESIDENCY PROGRAMS?

Florida's population growth means we have a significant doctor shortage in many areas of the state. We also have a number of new medical colleges in addition to UCF that are graduating more physicians. Nationally, the number of residency programs has not kept up with the need for physicians and the increased number of medical school graduates.

WHAT DOES THE RESIDENCY SHORTAGE MEAN FOR PATIENTS?

It contributes to the physician shortage. That means it takes longer to schedule doctor's appointments or you may not be able to find the physician you need. A physician shortage delays care.



BIOMEDICAL SCIENCES

UCF's Cancer *Assassin*

It's been quite the year for UCF College of Medicine cancer researcher Dr. Annette Khaled.

Her new technology that kills spreading breast cancer cells has generated a licensing agreement that will accelerate the therapy's path to clinical trials. And her research was highlighted at the inaugural AutoNation Cure Bowl football game in Orlando, which helped raise money for her work.

Metastatic cancer cells that spread from the original tumor to the brain, lungs and bones are the leading cause of death for most cancer patients. Dr. Khaled has created a peptide, CT20, that kills those fleeing cells. SEVA Therapeutics Inc., a Massachusetts-based pre-clinical biotechnology company, recently licensed the peptide technology for the purposes of future research that ultimately could lead to new therapies.

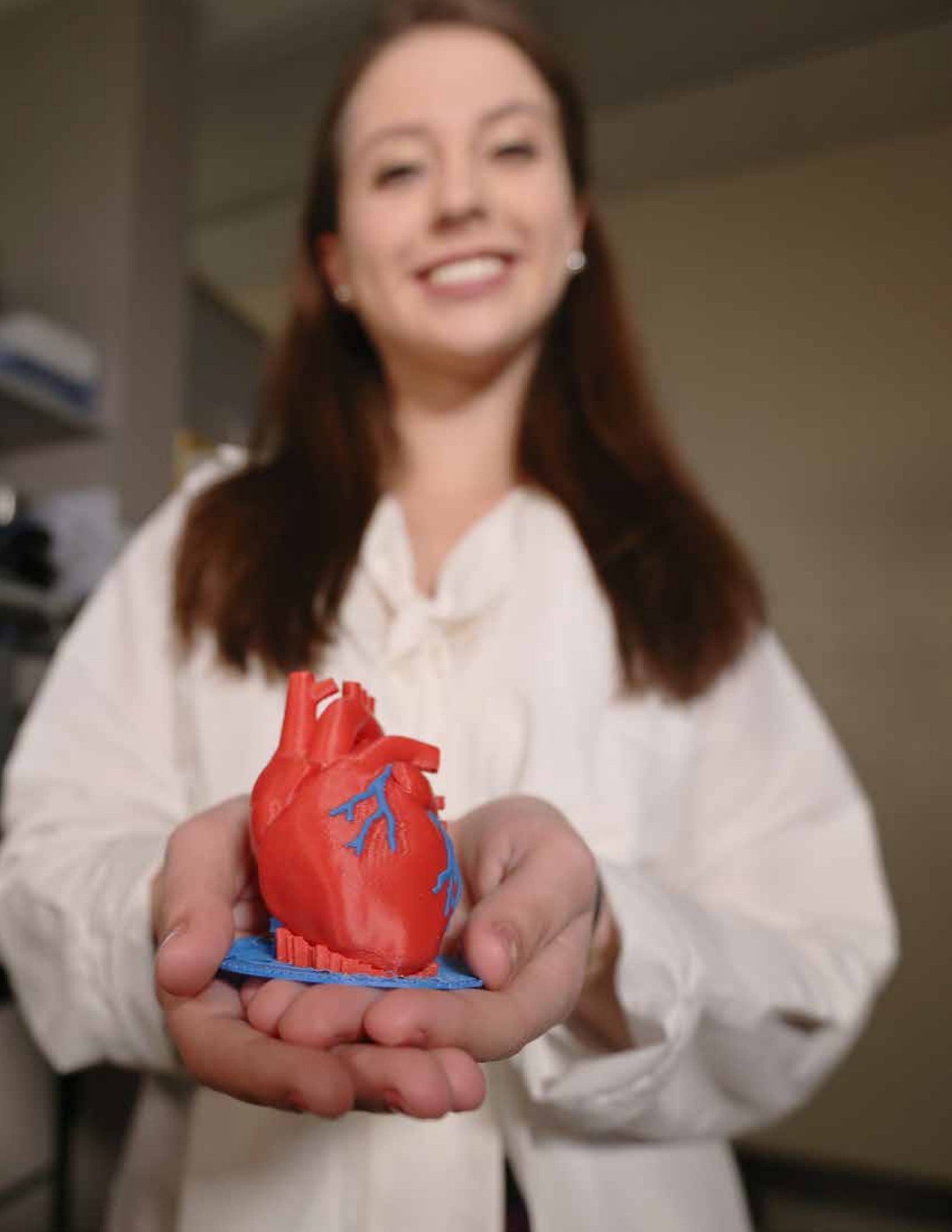
The inaugural AutoNation Cure Bowl in December 2015 raised $150,000 for breast cancer research. As pink-clad Florida Hospital cancer survivors performed at halftime, bowl game leaders, the medical school's dean, Dr. Deborah German, and Dr. Khaled stood on the 50-yard line and accepted a giant check to support finding a cure.

The bowl supports the Breast Cancer Research Foundation, the only A+ rated breast cancer charity in the United States that gives 91 cents of every dollar it receives to researching a cure.

The foundation supports five of what it considers eminent cancer scientists in Florida. In addition to Dr. Khaled, the organization supports research at the University of Miami and Mayo Clinic.

3-D HEART

3-D printer technology developed by College of Medicine cardiac researcher Dr. Dinender Singla is providing greater precision and patient safety for a Orlando pediatric heart surgeon and medical school faculty member, Dr. William DeCampli.



RESEARCH

Identifying Zika

As the Zika virus strikes over 3,600 people in the United States — and over 700 in Florida — a College of Medicine researcher is designing a new surveillance tool that can identify disease-carrying mosquitos and turn them a different color as a warning systems to residents.

Mosquitoes are a serious health threat worldwide. While Zika is the latest mosquito-borne disease gaining public and scientific attention, medicine has known for generations that the insects carry illnesses like malaria, dengue and chikungunya. A major challenge in fighting these diseases is surveilling an area and identifying mosquitoes carrying infections. College of Medicine assistant scientist Dr. Bradley Willenberg, an engineer by training, has developed a new mosquito trap to do just that. His project received a $100,000 Phase 1 Grand Challenges Explorations Grant from the Bill & Melinda Gates Foundation this year, the third in UCF history.

"I'd like to be able to say that I worked on something that helped some people."

HOW IT WORKS

As designed, the trap would exude an odorous blend that is especially attractive to specific species of disease-carrying mosquitoes. Once inside the trap, the mosquito encounters a wick-based device Dr. Willenberg helped invent. The wick is soaked with red-colored sugar water that mosquitoes love to feed on. But the food also contains gold nanoparticles that react to specific disease proteins. If the mosquito carries the disease, as it feeds, its enlarging belly would turn from red to blue. Mosquitoes that don't carry the disease stay red. Insecticide also in the solution kills the insects. By looking at the dead mosquitoes in the trap, residents of at-risk areas can see the colors of the dead insects and know if their community has disease-carrying species — without having to take the time to send bugs to a lab for analysis. The numbers of infected blue insects in the trap indicate the seriousness of the infestation.

So far, Dr. Willenberg and medical entomologists from the U.S. Department of Agriculture's Agricultural Research Service Center for Medical Agricultural and Veterinary Entomology have shown that mosquitos carrying the chikungunya virus will use the wicks to feed on the red colored sugar water and that their stomachs will turn red.

Dr. Willenberg and Dr. Sudipta Seal.

Now the team is testing the color change. Dr. Sudipta Seal, UCF's interim chair of the Materials Science and Engineering Department, director of UCF's Advanced Materials Processing Analysis Center and NanoScience Technology Center has created the gold nanoparticles that react to a specific disease protein in infected mosquitoes' bodies. If the color change technology can be perfected with chikungunya, it can be applied to other diseases, like Zika.

When it comes to insects, the World Health Organization calls mosquitoes the "greatest menace" to public health, responsible for causing several million deaths and hundreds of millions of illnesses each year across the globe. Forty percent of the world population lives in areas where malaria is endemic and that mosquito-borne disease kills up to 2.7 million a year. Dengue sickens 20 million people a year. Chikungunya produces fever and joint pain that can be severe and debilitating.

The new wick-based devices are easy to use in the field because they have no moving parts and require no power; the wick and sugar water reservoirs are totally self-contained and protected from the environment.

"Our goal is to provide a mosquito surveillance tool that attracts specific mosquito species and marks those carrying infectious human disease pathogens," said Dr. Willenberg. "This novel trap can help everyday people readily identify their risks and protect themselves from mosquito-borne illnesses."

Dr. Deborah German, vice president for medical affairs and founding dean of the College of Medicine, said the research and the Gates Foundation award show the power of partnership and innovation in solving healthcare problems worldwide. "When we bring together discoverers with diverse perspectives, we create innovative new ideas for the good of us all," she said.

THE SCIENTIST

As an engineer, Dr. Willenberg is passionate about how things work — how to put things together and take them apart. And that curiosity has been with him since childhood, when he took apart toys so often that his mother threatened to stop buying them.

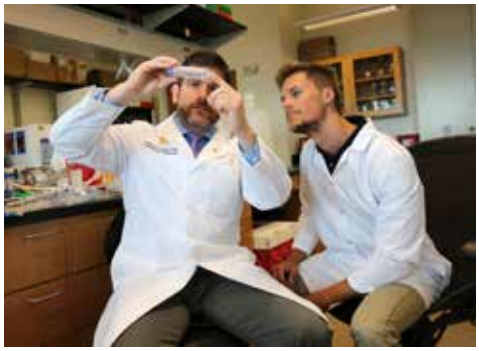
As a doctoral student at the University of Florida, he created a now patented hydrogel that is used in wound healing and tissue engineering. That focus on biomaterials has continued at the College of Medicine, where Dr. Willenberg works in the lab of Dr. Edward Ross, chair of internal medicine. The two are investigating ways to use a pig kidney as a scaffolding to grow a patient's own kidney from stem cells — and also created an artificial pancreas for patients with diabetes. He is also doing research sponsored by the state of Florida to develop better ways to detect disease-carrying mosquitoes and is working with the military to develop better bug repellants for soldiers in combat.

Dr. Willenberg says his goal with all these efforts is to have his research help others. "I'd like to be able to say that I worked on something that helped some people, people that I may never meet, that I may never know," he said. "I want to be able to say that I had these advantages, and as I was doing something for myself, I tried to do something for my community, for my country, and for the world."

Received a

$100k

Gates Foundation Phase 1 Grand Challenges Explorations Grant



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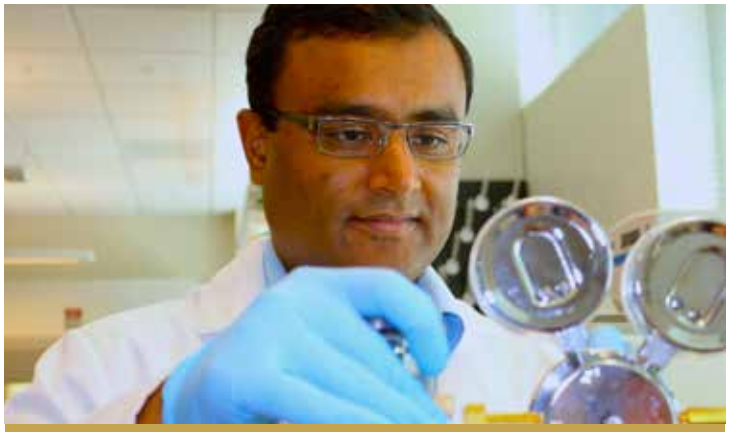
M.D. PROGRAM



FACULTY RESEARCH

Tiny Liver Protein Impacts Heart Health

A UCF College of Medicine researcher has identified for the first time a tiny liver protein that when disrupted can lead to the nation's top killer — cardiovascular disease — as well as fatty liver disease, a precursor to cancer. The chief culprit in disabling the protein's delicate mechanics is a fatty acid found in red meat and butter.

Dr. Shadab Siddiqi's discovery was the cover story of the June 10 edition of *The Journal of Biological Chemistry*. An associate professor in the medical school's Burnett School of Biomedical Sciences, Dr. Siddiqi's work focuses on how to prevent heart disease by regulating the secretion of very low density lipoproteins (VLDL) by the liver. These lipoproteins are known to increase cholesterol levels, a risk factor for plaque buildup in the arteries. His previous research has discovered how newly formed VLDLs are transported into the blood stream, forming plaque.

For healthy liver function, normal VLDL secretion must be kept in a delicate balance. Too much increases cholesterol levels. Too little causes fatty liver and, potentially, liver cancer. Identifying the protein and what activates it is the first step in finding ways to prevent its malfunction and disease. Since changing diets is so difficult, Dr. Siddiqi hopes to find an easier alternative.

The Cell *Mechanic*

What do your car and the cells within your body have in common? They each have their own mechanical system and a College of Medicine researcher has received a grant of almost $1 million from the National Institutes of Health to decipher how mechanical forces in cells can cause heart disease.

Dr. Robert Steward, Jr., joined the Colleges of Medicine and Engineering and Computer Sciences in 2015. He received his Ph.D. at Carnegie Mellon, did his postdoctoral training at Harvard's T.H. Chan School of Public Health and builds Lego models in his spare time.

"I view the cell as a mechanical system that generates and responds to mechanical forces. Understanding how mechanical forces influence human health and utilizing these findings to cure and prevent disease is what drives my research," he explained.

Cells use mechanical forces to attach themselves to each other and to surrounding tissues throughout your body. Your skin is a perfect example of how your body needs mechanics to stay intact and working, he said.

He uses an automated fluorescent microscope coupled with complex mathematical algorithms to see, model and calculate the mechanical forces generated by cells. This high-tech system allows him to determine the mechanical "weak" and "strong" points within a group of cells. With the NIH grant, Dr. Steward will work with Dr. Sampath Parthasarathy, associate dean for research, to study heart disease and whether cholesterol enters the heart's vessels at mechanically weak locations.

COMMUNITY

Caring for Community UCF STYLE

The M.D. curriculum includes plenty of opportunities for service learning, where students care for people in the community.

In the past year, students with supervision from faculty, did health screenings at the Zora Neale Hurston Festival in Eatonville, provided interprofessional care with nursing, social work, physical therapy and pharmacy students at the Farmworker Association of Florida and did community asthma screenings for adults and children during tax-free weekend shopping at Orlando's Fashion Square Mall.

The farmworker clinic's 200 patients ranged in age from 2 months to more than 70 years. The idea for the clinic was as interdisciplinary as the care. UCF nursing students work with the Farmworker Association but wanted to do more and bring together a range of health services under one roof. They met medical students at a UCF Service Learning event months ago. The M.D. students are leaders of MedPACT (Medical Students Providing Across Continents), which has done medical mission trips to the Dominican Republic. The groups began brainstorming and the clinic project was born.

"This is such authentic learning," said UCF Nursing faculty member Dr. Heather Peralta, who helped organize the event. "This is what health care should be."

The "Take Back Your Air" asthma screenings included M.D. students from all four classes – including first-years who hadn't even started class yet and Duke, an asthma therapy dog who smells unusual substances that can trigger asthma.

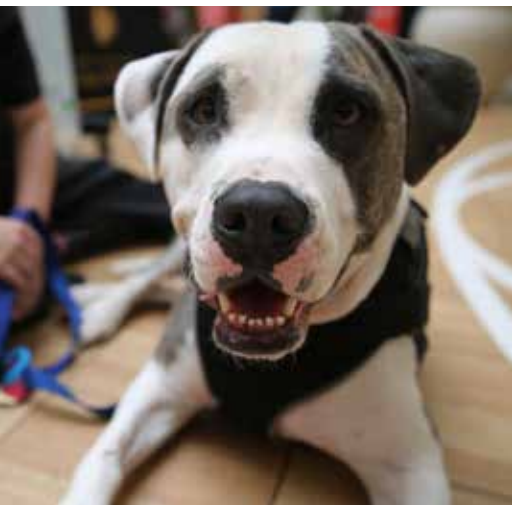
For the fifth year in a row, the Council for Diversity and Inclusion helped sponsor the Zora event. Students, core and volunteer faculty performed vision screenings and other health checks including blood sugar, blood pressure, height, weight and BMI and for the first time biofeedback therapy to promote relaxation and help manage issues such as migraine headaches, chronic pain and hypertension.

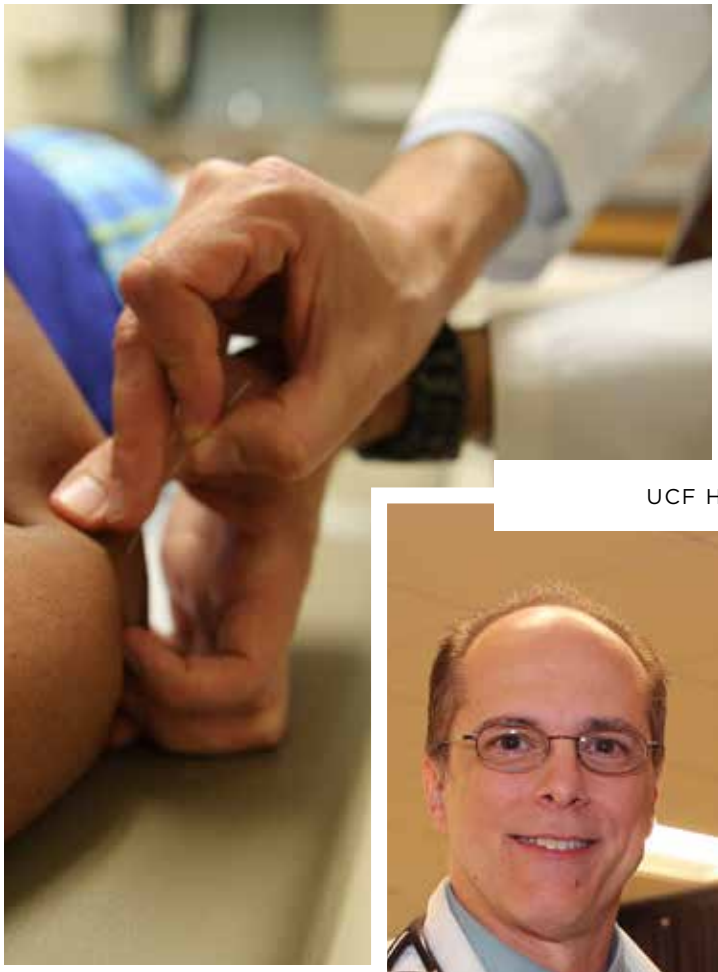


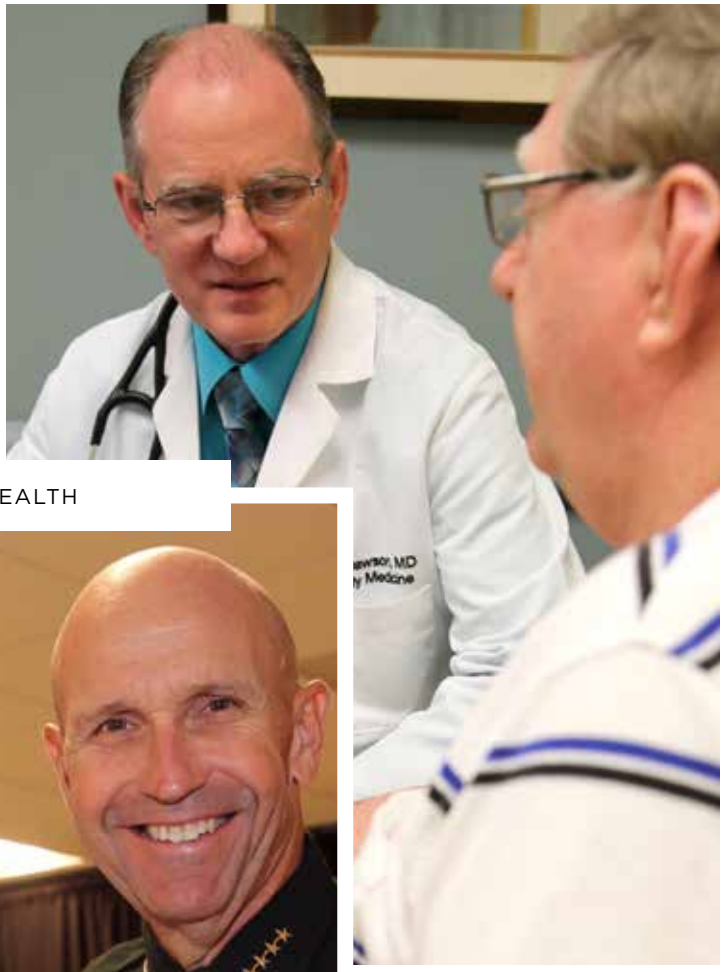




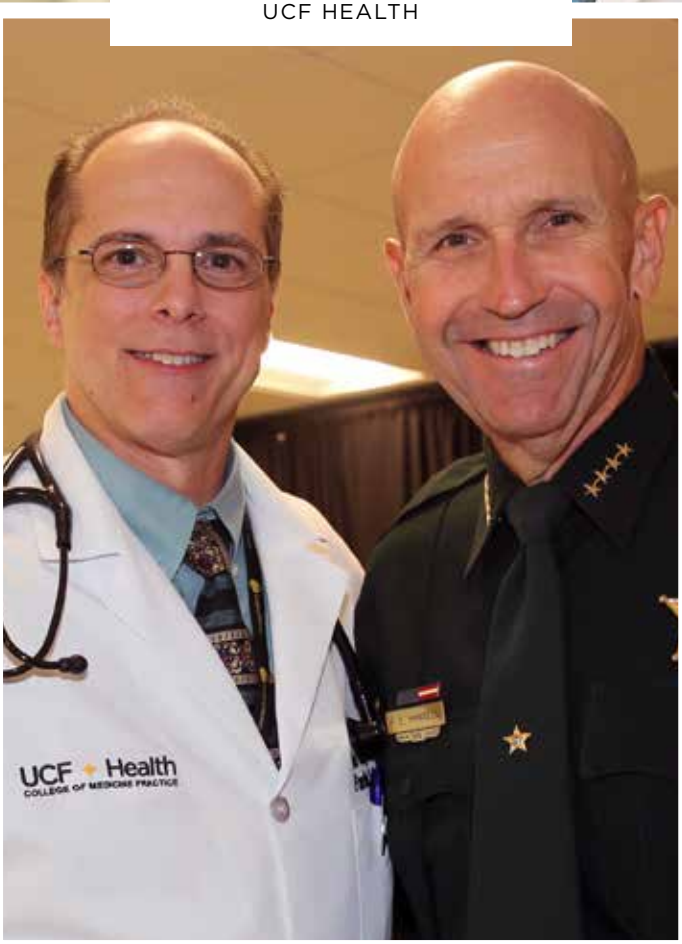






UCF HEALTH



Home-Grown Doc

Leads UCF Health's Dermatology Services

Orlando has always been home for Dr. David Weinstein. He grew up in the suburb of Maitland and attended Winter Park High School before leaving town to start his college education. Now, as an assistant professor of dermatology with the College of Medicine and a physician at UCF Health, he has returned to his hometown to serve the people of the city he loves.

The opportunity to help build something new in Medical City attracted Dr. Weinstein back. He is helping build UCF's young dermatology practice and will soon open a dedicated dermatology suite at UCF Health's Lake Nona location. The suite houses a new Mohs surgery center for skin cancer treatments, as well as other services like laser, botulinum toxin and fillers.

Dr. Weinstein received his M.D. from the University of Florida and did his dermatology residency at New York Medical College, where he served as chief resident. After his residency training, he completed a fellowship in procedural dermatology at Good Samaritan Trihealth in Cincinnati, Ohio.

WHAT MADE YOU CHOOSE UCF'S COLLEGE OF MEDICINE TO BEGIN YOUR PRACTICE?

During my time in medical school and training, Orlando morphed into a medical metropolis. I saw how UCF was responding to the needs of our community and instantly wanted to be part of it. Having the medical school here elevates the quality of care for everyone in the city.

WHY DERMATOLOGY?

Skin diseases are not something you can easily hide — it's right out there for everyone to see. Being able to help with these conditions, I think, has a real affect on a person's quality of life.

STUDENTS & COMMUNITY

Hearts for Medicine

A heart for medicine comes in myriad shapes, sizes and backgrounds. Here are the stories of two members of the College of Medicine family following their dreams.

JOURNEY TO MOTHERHOOD

Dr. Mariana Dangiolo's path to motherhood was hardly a straight one.

The UCF Health faculty physician and assistant professor of family medicine and geriatrics struggled with infertility as she entered her 40s and knew her chances of conceiving a child with Matthew, her husband of 10 years, were diminishing.

"As a doctor, it was even more stressful for me because I knew that with every passing year, chances were less and less likely that I would get pregnant."

Eventually, the couple turned to IVF treatments.

"It was an emotional time in our lives," she said. "I knew I was risking my life with each surgery I needed along the way. With every failed IVF,

> "With every failed IVF, I tried not to lose hope."

I tried not to lose hope. But it was hard. And the stress impacted our lives."

On what was going to be the couple's last try at IVF, Dangiolo became pregnant with twins. "When we had our first ultrasound and we saw two hearts beating side by side, I burst into tears of happiness, as my doctor said, 'It's been a long road for you Mariana, this is a day to celebrate!'"

Complications from the high-risk pregnancy required Dangiolo to take extended leave from her practice. But as a geriatric specialist, she says her patients helped focus her outlook. "Seeing my patients with so many life experiences and accomplishments has inspired me to never give up and keep dreaming."

On Dec. 7, 2015, John and Marie were born. Both healthy and with reddish hair and blue eyes - just like their dad.

"It's a different experience, having babies in your 40s, but here I am," Dangiolo said. Looking back, she says the long and challenging journey has made her appreciate motherhood – no matter where a woman is on her individual journey.

"Whether you have children, lost a child, or are still hoping for a child. It's a journey, and anyone brave enough to start on that journey deserves support and gratitude."

Kim's algorithm analyzes images of the eye to better compare differences as patients with conditions like glaucoma and diabetic retinopathy progress.

Future Doctor Engineers Assistive Device For Sick Family Member

Jae Kim designed faster, cheaper iPhones after earning his Masters in electrical engineering from UCLA. But the young scientist wanted to use his problem-solving brain to do more. Today, as a medical student about to graduate and enter residency, Kim is a medical entrepreneur whose inventions have won national and state awards.

He says he came to UCF's College of Medicine because it so values research that all M.D. students must complete a two-year scientific research module called FIRE (Focused Inquiry and Research Experience).

"I've always been a person who likes to ask questions," Kim said. When I see something and feel like there has to be a better way, it triggers my curiosity."

For his FIRE project, Kim created a hand-held machine that measures uric acid levels at home for patients with gout. His inspiration: his brother-in-law's own struggle with the painful form of arthritis triggered by high levels of the acid. Kim's machine shines light through the patient's palm to detect the levels – without blood drawing.

His invention drew honors from the Florida Medical Association and the American Medical Association Research Symposium.

The device needs to undergo clinical trials and other investigations before it could be used, but Kim hopes that one day gout patients will use it to better manage their disease and improve their quality of life. "Patients who suffer from gout—that is excruciating pain," he said. "If I can help them prevent or alleviate that pain, it is a big plus in my book. I'm really interested in preventative medicine."

That focus was also the inspiration behind Kim's second award-winning invention. On April 6, 2016 he won Florida's Healthcare Innovation Pitch Competition, open to graduate and undergraduate students with an invention that could address a significant healthcare challenge. Kim received the competition's $10,000 first place award for a computerized imaging process that could help doctors diagnose eye diseases earlier and more accurately.

Kim's algorithm analyzes images of the eye to better compare differences as patients with conditions like glaucoma and diabetic retinopathy progress. Currently, physicians use an ophthalmoscope to examine the eye, take photos and compare the latest images to past ones. But physicians must rely on their own vision to make comparisons. Kim's computerized software overlays the images and highlights the differences in a different color, making the analysis more precise and less subjective.

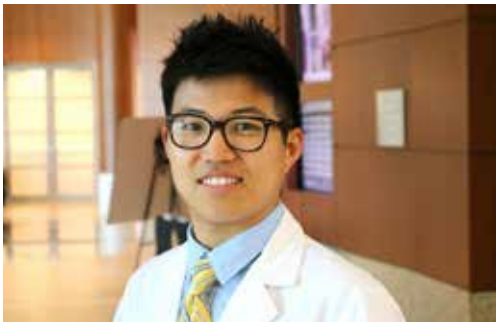
Kim said the invention can be especially helpful to primary care physicians, the first line of defense in eye disease. A recent study found that more than 50 percent of such physicians lack confidence in their ability to diagnose eye conditions. So many wait to see if the condition progresses or refer their patients to specialists, which can be costly and delay treatment. Adding to the problem is the fact that less than 50 percent of Americans get an annual eye exam. As a result, many conditions, like diabetes and glaucoma, cause blindness and impaired vision because they aren't diagnosed until the eye is already damaged. One day, he said, technology might let patients photograph their eye with their cell phone and email it to the doctor for analysis.

The engineer-turned-med-student says there's nothing special about his inventive spirit — "I'm just a guy" — but hopes his work builds public awareness about UCF's support of research. "Dean German mentioned during my interview that she wants and needs students to roll up their sleeves together to strengthen the M.D. program," he said. "I was very intrigued that at UCF I could potentially contribute and continue my interest in research."

Kim received the competition's

$10k

first place award.



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Go Online: med.ucf.edu/dangiolo

ORDER OF PEGASUS

Sarah Gitto, a Ph.D. candidate researching cancer, is the first Burnett School of Biomedical Sciences graduate student to be selected to UCF's prestigious Order of Pegasus. The order is the university's highest student award, given for academic excellence, leadership and service.

Anatomy With a Clinical *Focus*

Dr. Andrew Payer is a founding faculty member who created what he describes as "the Anatomy Lab of my dreams" at the College of Medicine. Anatomy Lab is a rite of passage for first-year medical students and at most med schools, it's hidden in the basement. But UCF's is on the top floor of the medical education building, overlooking a nature preserve. Dr. Payer's approach to teaching anatomy is as unique as the high-tech setting he created.

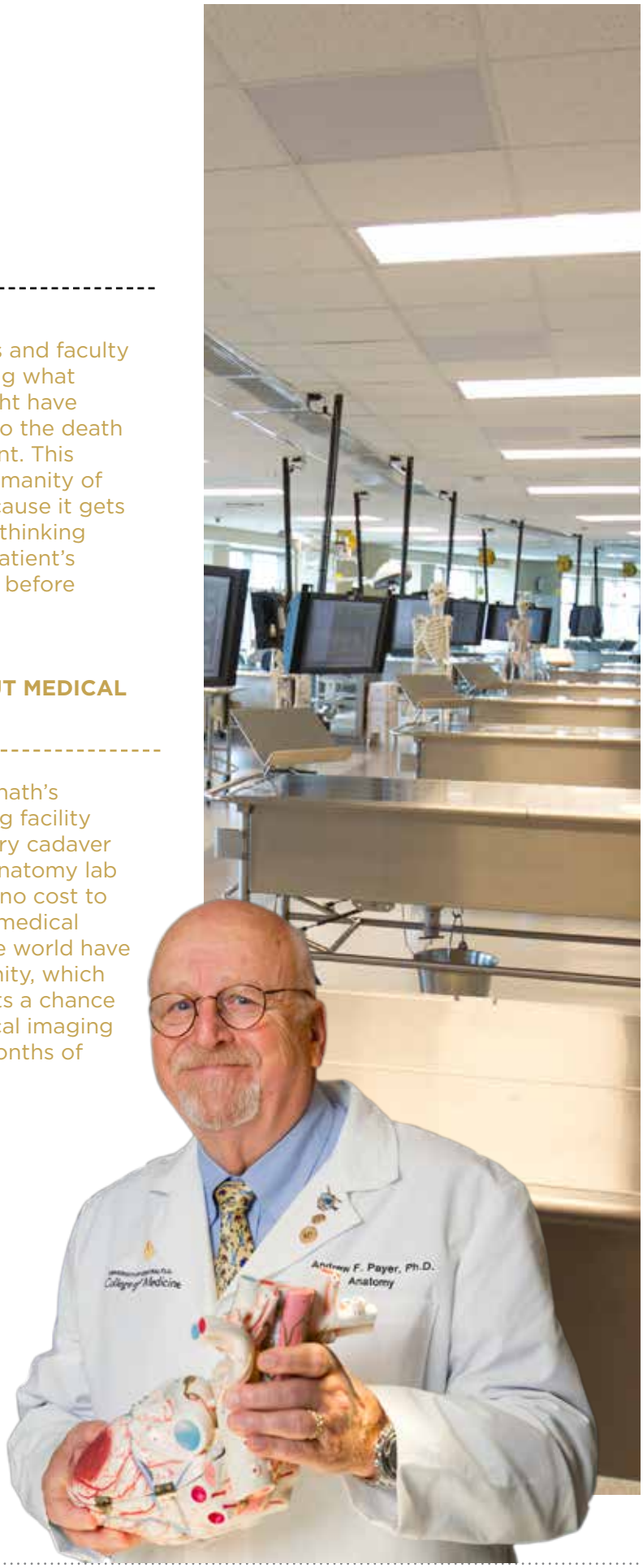
WHY IS UCF DIFFERENT IN ITS APPROACH TO TEACHING ANATOMY?

The anatomy component of the curriculum is not merely learning anatomical terms. It is an applied anatomy program that integrates anatomy with physiology with clinical components of the curriculum. We have incredible participation by community clinicians who volunteer to come to the anatomy lab and interact with students on how their clinical practices use anatomy.

We do not give students the cause of death of their cadaver. They spend the 17 weeks of lab documenting their findings and give a "grand rounds" presentation to their peers and faculty demonstrating what they feel might have contributed to the death of their patient. This brings the humanity of anatomy, because it gets the students thinking about their patient's quality of life before death.

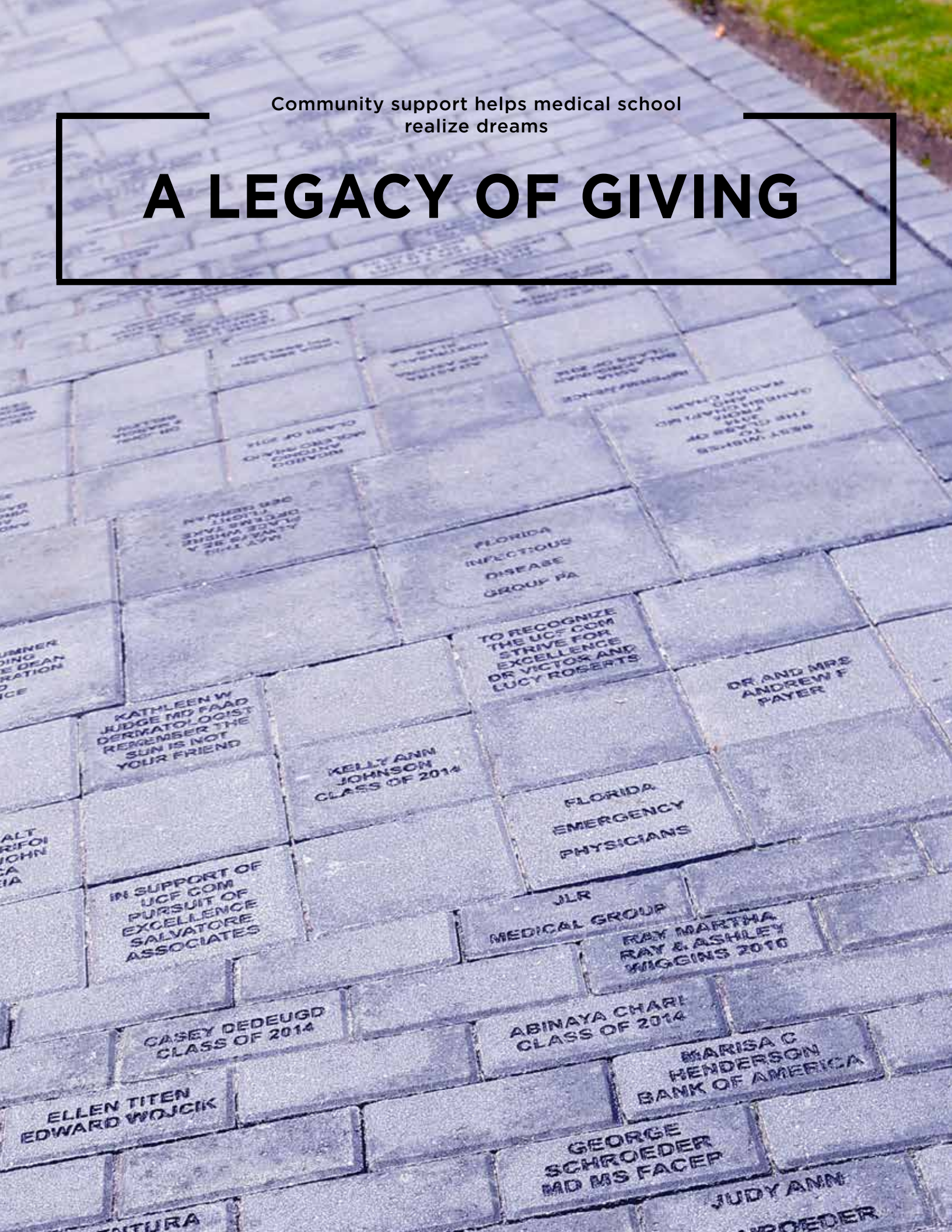
WHAT ABOUT MEDICAL IMAGING?

Dr. Rick Ramnath's neuro imaging facility CT scans every cadaver used in our anatomy lab sessions – at no cost to us. Very few medical schools in the world have this opportunity, which gives students a chance to learn clinical imaging in the first months of school.



Community support helps medical school realize dreams

A LEGACY OF GIVING



THANK YOU!

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PHILANTHROPY

Why Giving Matters

Why should someone donate to the UCF College of Medicine? Because many students wouldn't have been able to attend medical or graduate school without a scholarship.

UCF is committed to recruiting the best and brightest. As a new school developing its reputation and track record, scholarships play an important role in our success in recruiting extraordinary students. Scholarship donations — either to the M.D. program or for graduate fellowships — can make this happen. Offering full or partial scholarships helps highly qualified students with a pioneering spirit choose the UCF College of Medicine.

By providing scholarships, donors can have a direct impact on the lives and careers of our students. When you support the College of Medicine, you're also supporting our community's future. After all, one or more of these doctors and research scientists may someday save your life or the life of someone you love.

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Why One Donor Gives

The notion that UCF should have its own medical school was just an idea more than a decade ago, but it was an idea Conrad Santiago believed in from the very beginning.

"You know what the medical school signifies and what it does for our community," said Santiago, who was served on the UCF's Finance Committee in the early 2000s, was an early med school supporter and now has joined the Dean's Society and made an estate gift.

As a businessman and financial planner, Santiago sees the college as an investment into the area's future, and also says the College of Medicine has already surpassed its goals in terms of the quality of teaching and students.

He believes that the public sees a large university like UCF and assumes it receives a lot of funding from the state. "People don't realize that there are a number of things that are not supported by the state," he said.

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Has the UCF College of Medicine positively impacted you?

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Accurate representation and acknowledgement of your gift is vitally important to us. If there is an error or omission, we sincerely apologize. Please contact Tamara Smith-Darby at 407.266.1042.

Golf Classic Raises Record Amount for Scholarships

More than 100 golfers, including Orlando Mayor Buddy Dyer, participated in the fourth annual Med School Classic golf tournament at Lake Nona Country Club April 25, 2016, raising a record $40,000 for M.D. student scholarships.

The classic is sponsored by local businesses working to relieve the burden of student debt for UCF medical students. Sponsors Dan DeCubellis of Carlton Fields Law firm and Jim Warmus of Withum Smith-Brown presented a giant check of proceeds to Dean Deborah German at a post-competition dinner.

Thanking the donors at the event was medical student Mariya Kristeva, who has a Med School Classic scholarship. “I was accepted into seven different medical schools and UCF was the only one that awarded me a scholarship,” she said. “It showed me that UCF really cared about their students’ success.”

An Army veteran and a native of Uzbekistan, Kristeva is the mother of a 2-year-old and says Florida was the first place she settled when she immigrated to the United States in 2007. She plans on specializing in internal medicine. She met her husband in the military and he serves at the Orlando VA Medical Center.

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