



UNIVERSITY OF SOUTH FLORIDA

WWW.USF.EDU



USF: UNSTOPPABLE
CHANGING STUDENT LIVES

WWW.USF.EDU

USF

VOL 55 NO 3

Magazine



COVER STORY **Changing Student Lives**

With more than \$621 million raised, including more than \$79 million for student scholarships, the first phase of the *USF: Unstoppable* Campaign came to a successful conclusion at the end of June.

Above: Campaign Chair Les Muma, left, and Frank Morsani, Morsani College of Medicine benefactor, right, join USF System President Judy Genshaft and 15 recipients of campaign-funded scholarships.

FALL 2013



12 High Note

Music student performs at Kennedy Center.

14 Exploring Their Future

Pre-College summer programs inspire high school students.

16 Cycling for Vets

Student bikes cross-country for vets.

18 Learning from the Bay

New labs open at Mote Marine.

20 Life on Earth

Astrobiologist explains how phosphorous came to Earth.

28 Pushing Their Limits

Study evaluates prosthetics for military amputees.

34 World Classroom

Interns seek sustainable solutions in Malawi.

34

High Impact

- 4 President's Letter
- 5 Where Science Begins

Spotlight

- 6 Research
- 8 Health
- 10 System

Sports

- 40 Highlights

Voices

- 42 Maya Trotz



28

USF is a high-impact, global research university dedicated to student success.



As we welcome our newest students to USF, we celebrate a historic moment in the trajectory of this remarkable university — the first-ever freshman class at USF Sarasota-Manatee. This major milestone signals the beginning of an ambitious plan that will transform the Sarasota-Manatee campus into a traditional, four-year university with full-time students.

There is much to celebrate in this issue of *USF Magazine*. In June, we announced the successful conclusion of the first phase of the *USF: Unstoppable* Campaign. I have been truly overwhelmed by the generosity of so many people in this community and around the country who are committed to changing the lives of our students, as they prepare to change the lives of others.

In July, three of our graduate students from the Patel College of Global Sustainability returned from a six-week internship in Malawi, in southeast Africa. The

students are assisting in the development of a sustainable tourism plan for the country's largest national park. You will read about their experiences in one of the world's least developed countries and their efforts to help Malawians achieve the dream of a brighter future.

In this issue you will also read about fascinating prosthetic research to benefit military amputees. The research currently under way in the School of Physical Therapy & Rehabilitation Sciences could have implications for injured soldiers who wish to return to active duty, as well as civilian amputees who want to participate in intense athletic activities.

We have so much good news to share. I know you will be interested to read about music major Paul Gavin who performed at the Kennedy Center in Washington, D.C., this summer; a \$4.2 million federal grant to help uninsured individuals access healthcare coverage; new labs at Mote Marine Laboratory, and so much more.

There's no question in my mind — it's going to be another exceptional and exciting year at USF!

PRESIDENT JUDY GENSHAFT

Where Science Begins

Thirteen years ago, Stewart Middle Magnet School teacher Lynn McDaniel wanted to add more to her school's earth sciences curriculum and went looking for someone who could help open her students' eyes to the big world around them. She had to go no further than USF College of Marine Science Professor Frank Muller-Karger.

Now, hundreds of middle school students and thousands of classroom hours later, the partnership not only involves USF in enhancing instruction at the science magnet school but has brought Muller-Karger's own graduate students into the classroom to share their knowledge and gain experience in teaching. This year, Muller-Karger and his students were awarded the Hillsborough County Education Foundation's Business Partner of the Year Award for their long relationship with Stewart.

"The impact of his expertise, encouragement, enrichment, explorations and his desire to empower students has put them on the launch pad for learning," McDaniel said in a tribute to Muller-Karger, a biological oceanographer and globally-recognized expert in using satellite technology to study the seas.

Over the years at Stewart, Muller-Karger and his students have developed educational presentations, field trips and activities for science classes in sixth through eighth grades. Muller-Karger was instrumental in helping Stewart win grants from NASA that help fund field trips for Stewart students and included the school in a crucial study on climate change funded through



the National Science Foundation. That grant has allowed Stewart to become one of the monitoring areas in a global climate change project and turned a stretch of the school's Hillsborough riverfront location into an outdoor lab where students take water quality measurements to contribute data to the multi-site project.

Because Muller-Karger's expertise also involves uniting space technology with ocean issues, students have come to understand how technology advancements can be leveraged to answer big scientific questions, and opened their eyes to potential careers in science.

"Students are 'restless sojourners' and we need to help them shape their thoughts and images of their future. Whether they are studying the 'Mir mortals' of the heavens or spreading their canvases from one end of the universe to another," McDaniel said. "Our responsibility as educators is to provide awesome experiences for them to reach for the stars. Dr. Frank and his students have done that."

VICKIE CHACHERE | USF News

USF Magazine is published by University Communications & Marketing. USF is a member of the University of South Florida System.

Managing Editor Ann Carney
Design Editor Anne Scott

Contributing Writers Anne DeLotto Baier, Vickie Chachere, Katy Hennig, Brandi Hollis, Ruth Lando, Jay Wilson, Tom Zebold

Contributing Photographers and Designers Aimee Blodgett, Katy Hennig, Charlotte Koh, Thomas Todd, Eric Youngmans

USF System Administration

Judy Genshaft, President
Ralph Wilcox, Provost and Executive Vice President
John Long, Senior Vice President and Chief Operating Officer
Stephen Klasko, Senior Vice President for USF Health
Joel Momberg, Senior Vice President for University Advancement
Paul Sanberg, Senior Vice President for Research & Innovation
Sophia Wisniewska, Regional Chancellor for USF St. Petersburg
Arthur Guilford, Regional Chancellor for USF Sarasota-Manatee

USF Board of Trustees

Christopher J. Davis
Stephanie E. Goforth
Scott L. Hopes
Brian D. Lamb
Stanley I. Levy
Mark Lombardi-Nelson
Stephen J. Mitchell, Esq.
Harold W. Mullis, Esq., Vice Chair
John B. Ramil, Chair
Debbie N. Sembler
Byron E. Shinn
Nancy H. Watkins
Jordan B. Zimmerman

Contact USF Magazine

University Communications & Marketing
4202 E. Fowler Ave., CGS 301
Tampa, Florida 33620-4301
(813) 974-4014
news@usf.edu

Contact the USF Alumni Association

Gibbons Alumni Center
4202 E. Fowler Ave., ALC100
Tampa, Florida 33620-5455
(813) 974-2100 • (800) 299-BULL (2855)
alumni@admin.usf.edu

Update your contact information

www.giving.usf.edu

Reprint Policy: USF encourages reprinting articles in their entirety. Permission may be obtained by contacting ascott@usf.edu.

Digital issue: USF Magazine is online at www.magazine.usf.edu





Jennifer Bugos leads an intensive two-week piano course.

Piano Memories

Lilli Guttman is learning to play the piano.

Every day for 10 days, the retired school teacher from New York spends 3 1/2 hours at USF learning basic piano technique, finger dexterity exercises, scales and arpeggios, music theory and standard piano repertoire.

Guttman is part of a USF research study investigating the effects of intense piano instruction on cognitive performance in adults and children.

Jennifer Bugos, assistant professor of music education, and Nathan Maxfield, a specialist in the Department of Communication Sciences & Disorders, are collecting data that will provide information on the viability of musical training to assist with other brain functions.

"We are looking at several different areas of cognitive processing as well as executive function," Bugos says.

This is Bugos' second year teaching the intense, two-week piano course. She and Maxfield plan to use data from the current cohort of students to build on information collected last year in a similar trial looking at cognitive and behavioral decision making, memory and stress levels.

Participants in the study undergo cognitive, behavioral and memory testing before and after the program, as well as non-invasive electroencephalogram, or EEG testing, to measure brain activity.

"We look at overall brain activity while a person is looking at words on a screen. They are making decisions about what they see and what they hear, so we are looking at data on that level," Bugos explains. "We are also looking at stress levels, we are measuring cortisol levels."

The research is being funded by a grant from the School of Music and the College of The Arts in an effort to secure more funding for future studies.

"This has been a fabulous experience for me," Guttman says, still surprised at the speed in which she is learning to play the piano.

"I have grown exponentially," she adds. "I didn't expect to go so fast. I expected, ok, I'd learn to play piano with my right hand, maybe with my left hand, but never with both, never using harmony and melody at the same time. I never even knew the difference between harmony and melody."

KATY HENNIG | USF News



Iconic Sandwich

While there have been many contributions from immigrants to Tampa's restaurants, Andy Huse, assistant librarian in Special Collections, admits the Cuban sandwich is the most recognized in the city.



The sandwich is so intertwined with Tampa's rich history that it was crowned the signature sandwich of the city of Tampa by the Tampa City Council last year.

The official Tampa sandwich is made with thinly sliced ham and mojo roast pork layered over salty salami and Swiss cheese, all topped off with a few pickles and a drizzle of mustard, then hot-pressed in fresh Cuban bread.

Huse is researching the evolution of food in the city of Tampa as part of an ongoing project to document Tampa's history through its food and restaurateurs.

"I learned the history of the community here through the food and the culture, and the Cuban sandwich is of course a part of all that," says Huse. "It's the thing people are most interested in, they're drawn to it."

BRANDI HOLLIS | USF News

Virtual Campus

Using 3-D laser scanners, global positioning systems, geographical information systems and high-tech computer software, scientists at USF are working with graduate and local high school students to create a virtual campus.

"The idea is to give them sort of a living classroom," says Lori Collins, who along with Travis Doering, directs the university's Alliance for Integrated Spatial Technologies (AIST). "This is going to make USF one of the smartest campuses."

For years, Collins and Doering have traveled the world documenting and preserving 3-D replications of historic monuments and imperiled World Heritage Sites. Now, they're bringing the cutting-edge techniques they've perfected to a familiar location — the USF Tampa campus.

USF alums Collins and Doering began work on the project this summer with the help of AIST team members and high school students enrolled in a summer STEM course.

The virtual campus model starts with 3-D laser scans of campus buildings, accurate to the millimeter. The scans are combined with geographical information and global positioning to create the living document that can be used for virtual tours, security, sustainability, efficiency and other purposes.

Collins says the project will be continually updated and stocked full of current and historical information about the locations. The virtual tour, she adds, will have an augmented reality feature, allowing users to access the site with a mobile device and learn more about that particular location.

"So you can take the 3-D model of the library, you can come into our campus and look at the library and through your own device — through a phone or a tablet — once we tag that spot with information, you can then view things about that building. So the building can talk to us, the building can tell us its story," says Collins.

KATY HENNIG | USF News



Navigating Care

A \$4.2 million grant awarded to USF will help eligible uninsured individuals get health care.

The one-year grant, awarded by the Department of Health and Human Services, will help individuals who want in-person assistance with shopping for and enrolling in plans through the Health Insurance Marketplace.

The Florida Covering Kids & Families program (FL-CKF) at the Lawton and Rhea Chiles Center for Healthy Mothers and Babies received the largest award in Florida, and the second largest nationwide. In all, \$67 million in “Navigator” grant awards were distributed to 105 organizations.

USF will oversee and work with a consortium of 11 partners in all but three counties in Florida. Counselors, or navigators, will be trained and certified to guide people seeking health insurance coverage through the new online marketplace. They will provide unbiased information in a culturally competent manner to consumers about health insurance; the new Health Insurance Marketplace, qualified health plans, and public programs including Medicaid and the Children’s Health Insurance Program (CHIP).

Jodi Ray, project director of FL-CKF, says the new award will allow USF to build on a network already in place to serve a larger population of Floridians in need of health insurance coverage.

“This grant will help us expand the work we have been doing to enroll children to additionally include adults,” Ray says. “We have many community-based grassroots efforts that will allow navigators to go to the places where people are to assist them there.”

“I’m very proud of what we’ve done here at USF Health and the USF College of Public Health to build the infrastructure that enables families to seek and find healthcare insurance coverage for their children, increases access to high-quality health care,

creates clinical interventions that are effective, and, at the population level, helps to advance healthier communities,” says Donna Petersen, interim senior vice president of USF Health and dean of the College of Public Health. “This award is recognition of that and our capacity to make life better.”

ANNE DELOTTO BAIER | USF Health



(left to right)

USF President Judy Genshaft, Health and Human Services Secretary Kathleen Sebelius, Interim Senior Vice President for USF Health Donna Petersen, U.S. Representative Kathy Castor and FL-CKF Project Director Jodi Ray at the August press conference.

HHS Secretary Kathleen Sebelius recognized FL-CKF’s successful community outreach in helping thousands of uninsured children in Florida get health care following her announcement of the new awards during a press conference at USF.

“Navigators will be among the many resources available to help consumers understand their coverage options in the marketplace,” Sebelius said, “so they can find the option that best fits their budget and need.”

Living with Cancer

Researchers in the USF College of Nursing are studying a novel intervention that teaches cancer patients to manage their highest priority symptoms.

The three-year study, funded by a \$2 million award from the Patient-Centered Outcomes Research Institute (PCORI), is being led by USF Distinguished Professor and Thompson Professor of Oncology Nursing Susan C. McMillan.

“Improving cancer patients’ ability to self-manage difficult symptoms may diminish patient suffering, improve quality of life, and decrease emergency room visits and allocated health-care costs,” McMillan says. “We hope that this intervention will be as successful for patient self-care as it has been when implemented with caregivers of hospice patients with cancer.”

Learning to manage symptoms early on is key as more and more people live with cancer.

“For most patients in the U.S. today,



Susan C. McMillan

cancer is becoming a chronic condition,” McMillan says. “Cancer may be a life sentence, but for most people it is not a death sentence.”

The brief intervention, known as COPE, teaches cancer patients strategies to alleviate moderate to high-intensity cancer symptoms such as fatigue, pain, dry mouth and difficulty sleeping, which cause distress and interfere with patients’ lives. The study will also examine the frequency and intensity of symptoms.

The USF College of Nursing was one of 51 PCORI award recipients. In total,

PCORI awarded \$88.6 million in the current round of funding to support patient-centered comparative clinical research effectiveness projects. The only other new PCORI award in Florida went to H. Lee Moffitt Cancer Center &

Research Institute to study a navigator-guided psychoeducational intervention for prostate cancer patients and caregivers.

The USF study, now in its early phase, seeks to enroll 450 cancer center outpatients with breast, colorectal, lung and prostate cancers. McMillan is working with co-investigators Cindy Toftthagen from the College of Nursing; William Haley, Brent Small and Daniel Meng from the School of Aging Studies; and Dr. Shirley Codada from Moffitt Cancer Center.

ANN CARNEY | USF News



David Kotun will lead the new program.

New PA Program

A new physician assistant (PA) degree program based in the USF Health Morsani College of Medicine is set to launch in 2015. The two-year master’s degree program in Physician Assistant Studies was approved by the USF Board of Trustees in March 2013.

PAs are nationally certified and state licensed to practice medicine with physician supervision. PAs perform physical examinations, diagnose and treat illnesses, interpret lab tests, perform procedures, assist in surgery, provide patient education and counseling, and make rounds in hospitals.



First Freshmen

Sarah Bradtmueller is one reason that USF Sarasota-Manatee is making history this fall.



Military Academy is now part of USFSM's first freshman class.

From a total of 389 applicants, USFSM offered admission to about 130 first-time college students, and as of the end of July, had enrolled

The talented singer, actress, basketball player, performing arts teaching assistant and top cadet at the Sarasota

78 fresh new faces — including Sarah's.

From the stage at Disney World to the All-America Cities Competition in Denver, Sarah brings great talent and energy to USFSM, where she plans to study elementary education and learn how to integrate music into her future classrooms. "I believe music can enhance many aspects of a child's life, and I plan to share that knowledge with every young student that comes my way," Bradtmueller says. "My love for children and music awaits the day it can be presented in the classroom."

USFSM's first freshman class boasts an average GPA of 3.59, average SAT

score (reading and math) of 1093 and ACT of 24. While 79 percent of the class hails from Sarasota and Manatee Counties, the student traveling the farthest distance to USFSM attended high school in England. The youngest freshman is 16 and the oldest is 22.

With underclassmen comes an innovative general education curriculum, referred to as the Pillars of Intellectual Engagement, and a four-year, comprehensive program. The Pillars, developed by USFSM faculty, are values and skills, such as leadership,





Members of USFSM's inaugural freshman class show their Bull pride at freshman orientation. Clock-wise from top left: Daniel Yarke, Margarita Coronel, Roger Walser, Sarah Smith, Wesley Baugh and Kailey Fischer.

communication, ethics and community engagement, that all students should demonstrate by the time they graduate from USFSM.

Since 1974, when USF began offering limited courses in the Sarasota-Manatee area, USFSM has grown to serve more than 4,500 students annually. Until 2012, USFSM was an upper-division transfer university offering undergraduate and graduate course work leading to baccalaureate and master's degrees. Accepting sophomores beginning in 2012, and now the first freshman class in fall 2013, signals USFSM's major transformation to a four-year university.

RUTH LANDO | USF Sarasota-Manatee



Game On

It was 'Game On' for USF St. Petersburg student and Navy veteran Dwayne Scheuneman at the 33rd annual National Veterans Wheelchair Games in Tampa in July.

Scheuneman earned four gold medals in his track races — the 100, 200, 400 and 800 meters and received silver medals in field events and rugby.

Injured in a swimming pool accident more than 15 years ago, Scheuneman approaches life and all its challenges with a high level of energy. In addition to racing, the USFSP elementary education major dances and started his own dance company for children and adults with mixed abilities.

He's found an incredible support system within the James A. Haley Veterans' Hospital and the USF community since moving to the Tampa Bay area in 2000, after learning about the Michael Bilirakis DVA Spinal Cord Injury Center at the hospital.

"I thought the games are here in Tampa, I want to represent Tampa, and the Tampa VA has always been supportive of me," he says.

It wasn't Scheuneman's first time competing in the Veterans Wheelchair Games. He also participated in the games in Los Angeles in 2003.

Scheuneman stresses the importance of having an active lifestyle and what the Veterans Wheelchair Games can provide to vets.

"It's an opportunity for disabled vets," he says. "The importance of the games is it really is an outlet, helping vets dealing with injuries. And as the recreational therapist at the VA tells me, you can maximize your potential, find that outlet."

KATY HENNIG | USF News



Scheuneman practices on the track at USF.

High Note

Paul Gavin doesn't usually take calls during keyboard class. But when the senior music major recognized the Washington, D.C., area code, he decided to step outside.

On the phone, Gavin learned he'd just been named one of four winners nationwide in the annual VSA International Young Soloists Competition. The competition supports outstanding young musicians with disabilities in pursuit of a musical career.



Winners receive \$2,500, professional development opportunities and the chance to perform at the John F. Kennedy Center for the Performing Arts in Washington, D.C.

"A national award such as the VSA Young Soloist and a performance at a major performing arts venue such as the Kennedy Center provides a richly rewarding educational experience," says Professor of Music Robert McCormick, who has taught Gavin since his freshman year at USF. "We are especially proud of Paul Gavin for his dedication, commitment and the recognition that he brings to USF and the School of Music."

On June 16, with his parents and sister in the audience, Gavin walked onto the center's Millennium Stage for the performance of a lifetime.

"When I first stepped into the Kennedy Center and saw where I was performing, I went crazy; I got really excited," says Gavin. "I've had some exciting music experiences, but this was really cool."

Despite the enormity of the event, Gavin stayed calm throughout his 14-minute performance. "I was in 'playing the drums mode' and stayed really relaxed," he recounts, adding that the best part was having his family in the audience who hadn't seen him perform since high school.

"It was awesome to hug my parents after the performance and hear them tell me it was great."

Gavin, a Jazz Studies major in the USF College of The Arts, plays regularly with the Southwest Florida Symphony and musical theater companies in Naples. He teaches drum line at Sickles High School in Tampa, performs at Bay area venues, teaches music privately, writes regularly for schools in Tampa, Ft. Myers and Atlanta, and has a dedicated Facebook page: Paul Gavin Music. He

“A national award such as the VSA Young Soloist and a performance at a major performing arts venue provides a richly rewarding educational experience.”

– ROBERT MCCORMICK



recently launched “Drum’n’Brass,” a local brass band he hopes to bring to area middle schools to encourage and inspire young musicians.

“I like to take initiative,” he says.

Gavin’s most recent award wasn’t the only highlight of his summer. Less than two weeks after his Kennedy Center performance, the 21-year-old was heading overseas with the USF Jazztet, performing at the invitation of some of the world’s most prestigious jazz festivals, including Italy’s Umbria Jazz Festival and Jazz à Vienne in France.

“It was absolutely exhausting and awesome,” he says, adding that the group played every day under the direction of Professor and Director of Jazz Studies Jack Wilkins.

Gavin isn’t looking to slow down. He’s set his sights on graduate school, “somewhere where there’s music,” perhaps the University of Maryland.

“Thanks for reminding me,” he says. “I really have to start looking into that.”

ANN CARNEY | USF News

Paul Gavin, a senior music major, played a drum solo at the Kennedy Center in Washington, D.C., in June.

Exploring Their Future

Exploring aquatic preserves, excavating Hillsborough River banks and cruising around Sarasota Bay were all in a day's work for more than two dozen high school students enrolled in the USF Patel College of Global Sustainability Pre-College program this summer.

The two-week program offered rising juniors and seniors a chance to explore sustainability careers in fields including architecture, renewable energy and marine science.

"We want our program to inspire students by sharing with them new ideas and thinking, and to inform them of the great and exciting opportunities that lie before them in the growing green economy," says Kala Vairavamoorthy, dean of the Patel College of Global Sustainability.

“Pre-College is a great opportunity for rising high school juniors and seniors to experience college life and important subject areas in their fields of interest.”

– ELIZABETH GARLAND

The global sustainability program was one of seven Pre-College programs offered by USF this summer. Begun as a Student Success initiative, Pre-College allows students to explore various majors and careers before beginning their college experience.

"Pre-College is a great opportunity for rising high school juniors and seniors to experience college life and important subject areas in their fields of interest," says Elizabeth Garland, chief business officer, innovative education at University College. "Students are exploring career ideas, getting hands-on experience in labs and in the community, and learning from leading STEM researchers."

In addition, many are getting a taste of their future college home. Following last year's program, 10 of 14 rising seniors applied to and were accepted to USF, five in Honors College.

Pre-College is an "excellent recruitment tool, attracting the best and brightest high school students to USF," says Garland.

More than 100 students from Florida, Wisconsin, New Jersey, Pennsylvania, Maine, Massachusetts, Connecticut, New York, Puerto Rico and Colombia participated in this year's Pre-College program. The program is sponsored by University College in conjunction with faculty and staff in colleges and departments across campus, and offers both residential and non-residential sessions. The sessions range from two days to four weeks.

Programs for 2013 were:

- STEM Academy: Diabetes & Medicine (two sessions)
- STEM Research for Scholars
- Global Sustainability
- Computer Science
- Biomedical Engineering
- Community Film-Making

Garland hopes to expand program offerings next year, including more residential programs and additional engineering programs, possibly focusing on robotics.

For now, she is thrilled at the response to the 2013 summer program, including emails from current program graduates, like Jules Hurley, who attended the STEM Diabetes & Medicine program in June, directed by Richard Pollenz, director for the Office of Undergraduate Research at USF.

"Before this camp I was on the fence about a career in medicine," he says, "and after learning so much about so many different fields in medicine, I'm positive it's what I want to do."

ANN CARNEY | USF News

Students in the Global Sustainability and Diabetes & Medicine Pre-College programs conducted field studies and laboratory research under the direction of USF faculty and staff.



Cycling for Vets



Every mile Kiersten Downs biked traversing the country this summer was dedicated to fellow student veterans.

On August 5, the USF doctoral student completed her ride. Downs had cycled almost 3,800 miles across the United States, from San Francisco to Washington, D.C., to raise awareness and funding for veterans transitioning into university life.

"I am most proud of all the support I received along the way, with riders from the SVA joining up for encouragement," says Downs, referring to the national nonprofit Student Veterans of America.

As she cruised down H Street NW and into University Yard in the heart of Washington, D.C., supporters cheered and embraced her.

Followers tracked her remarkable journey across America on her website, bikingusa.net, where she

and filmmaker Annie Pace ventured and explored along the way, accompanied by Downs' parents, Cornelia and Chris Downs.

Downs, a U.S. Air Force veteran, is working toward her PhD in Applied Anthropology at USF and has integrated her love for cycling with her advocacy for veterans and higher education.

Although Downs completed the entire ride on her own, in many Bike America cities fellow veterans and supporters came out to ride alongside and take part in the journey. During the last 70 miles from Fredericksburg, Va., cyclists joined forces with Bike America and carried the momentum all the way to D.C.

After more than two months on the road and accomplishing her incredible goals, Downs was looking forward to relaxing with family and friends.

Downs' main focus with her Bike America Student Veterans Ride for Education was to raise awareness and support for student veterans. By successfully raising more than \$50,000, Downs surpassed her goal, with 15 percent of the proceeds donated to the SVA chapter at USF and the rest to chapters of SVA throughout the country, dedicated to essential projects and leadership initiatives.

The Student Veterans of America organization held a reception at the National Veterans Center on the George Washington University campus to honor Downs' achievement and celebrate her contribution to student veterans.

From the dip of her rear tire in the Pacific Ocean to the splash of her front wheel in the Reflecting Pool in D.C., Downs has completed her journey. For now.

KATY HENNIG | USF News



Scan the QR code or search "Bike America Finale" at www.usf.edu/news to see a video about Kiersten Downs' journey.



“

I am most proud of all the support I received along the way, with riders from the SVA joining up for encouragement.”

- KIERSTEN DOWNS

Learning from the Bay

All around the Mote Marine Laboratory in Sarasota, scientists are researching new ways to fight cancer, possible new antibiotics from the sea, and discoveries that will promote conservation and sustainable use of marine resources. Meanwhile, just outside the USFSM laboratory windows on the Mote campus, dolphins and recreational boaters float through the azure waters of Sarasota Bay.

It's not your typical classroom setting.

The USFSM labs built at Mote over the past five

months leverage the strengths of both institutions in a marriage of academics, research and business. Mote researchers hold courtesy faculty appointments at USFSM, sharing their real-world experience with students, who will one day lead the next wave of Florida's scientists, engineers, technicians and business visionaries.

The newly constructed labs will be the site for all USFSM biology and chemistry classes, as well as an inquiry-based bachelor's degree program in biology, set to launch in fall 2014. Curriculum for the new degree program is unique to the region, and incorporates the core concepts and competencies for biology majors as outlined by the National Science Foundation and the American Association for the Advancement of Science.

"We are training the next generation of STEM thinkers to use science and technology-based discoveries as an economic engine for the development of our region," says USFSM Regional Chancellor Arthur Guilford. "Our graduates will be fully prepared with opportunities to pursue careers in medicine, healthcare, environmental science and other fields utilizing their solid foundation in science."



At a Glance

- 5,000 square feet: 2 science labs, storage and prep lab areas, a student commons and faculty offices
- \$1.5 million for construction and equipment
- \$2.2 million raised from foundations, corporations and individual donors
- Designed in Sept. 2012, construction begun in March 2013, completed in August 2013
- Architecture and interior design services by Fawley Bryant
- Construction by Willis A. Smith



Photos: Pg. 18, KATY HENNING | USF News; pg. 19, Mote Marine Laboratory



Erin Martin, coordinator of the new general education curriculum as well as developer of the biology program at USFSM, says students will be immersed in the process of science in the new Mote setting — learning to practice science as science is done.

“Students in our labs will practice science right alongside people who do research every day,” she says. “At Mote, biology and chemistry are put to use for restoring coral reefs, finding eco-friendly ways to farm seafood and for other projects that benefit the oceans and society. Here they’ll get the total immersion that students seek at large universities, where it’s usually found behind the closed doors of labs.”

Jane A. Rose, dean of the USFSM College of Arts & Sciences and architect of the new program, says USFSM’s partnership with Mote has been more than five years in the making and fast-tracked for the past two years, as \$2.2 million from foundations, corporations and individual donors have enabled the dream to be realized.

Michael Crosby, president and CEO of Mote, says the partnership is focused on the future.

“There is so much potential here for innovation,” says Crosby. “Exposing students to all these fields and the expertise of our researchers will prepare them for many different paths they can follow and excel in when they graduate. They’ll come out ready to really take on the world, and it is exciting to be a part of that.”

RUTH LANDO | USF Sarasota-Manatee

Mote Marine Laboratory interns work with a seine net at Mote’s main campus.



Scan the QR code or search “New USFSM Labs at Mote Marine” at www.usf.edu/news to learn more and view a video.

Life on Earth



Matthew Pasek

Scientists may not know for certain whether life exists in outer space, but new research from a team of scientists led by USF astrobiologist Matthew Pasek shows that one key element responsible for producing life on Earth was carried here on meteorites.

In an article published in the *Proceedings of the National Academies of Sciences*, the USF assistant professor and researchers from the University of Washington and the Edinburg Centre for Carbon Innovation reveal new findings that explain how phosphorus, an essential component for creating the earliest life forms, came to Earth.

The scientists found that during the Hadean and Archean eons — the first of the four principal eons of the Earth's earliest history — the heavy bombardment of meteorites provided reactive phosphorus that when released in water could be incorporated into prebiotic molecules. The scientists documented the phosphorus in early Archean limestone, showing it was abundant some 3.5 billion years ago.

The scientists concluded that the meteorites delivered phosphorus in minerals that are not seen on the surface of the Earth, and these minerals corroded in water to release phosphorus in a form seen only on the early Earth.

The discovery answers one of the key questions for scientists trying to unlock the processes that gave rise to early life forms: Why don't we see new life forms today?

"Meteorite phosphorus may have been a fuel that provided the energy and phosphorus necessary for the onset of life," says Pasek. "If this meteoritic phosphorus is added to simple organic compounds, it can generate phosphorus biomolecules identical to those seen in life today."

Pasek says the research provides a plausible answer: The conditions under which life arose on the Earth billions of years ago are no longer present today.

"The present research shows that this is indeed the case. Phosphorus chemistry on the early Earth was substantially different billions of years ago than it is today."



The research team reached its conclusion after examining Earth core samples from Australia, Zimbabwe, West Virginia, Wyoming and Avon Park, Fla.

Previous research showed that before the emergence of modern DNA-RNA-protein life that is known today, the earliest biological forms evolved from RNA alone. What has stumped scientists, however, was understanding how those early RNA-based life forms synthesized environmental phosphorus, which in its current form is relatively insoluble and unreactive.

Meteorites would have provided reactive phosphorus in the form of the iron-nickel phosphide mineral schreibersite, which in water released soluble and reactive phosphite. Phosphite is the salt scientists believe could have been incorporated into prebiotic molecules.

Of all of the samples analyzed, only the oldest, the Coonterunah carbonate samples from the early Archean of Australia, showed the presence of phosphite. Other natural sources

of phosphite include lightning strikes, geothermal fluids and possibly microbial activity under extremely anaerobic condition, but no other terrestrial sources of phosphite have been identified and none could have produced the quantities of phosphite needed to be dissolved in early Earth oceans that gave rise to life, the researchers concluded.

The scientists say meteorite phosphite would have been abundant enough to adjust the chemistry of the oceans, with its chemical signature later becoming trapped in marine carbonate where it was preserved.

It is still possible, the researchers note, that other natural sources of phosphite could be identified, such as in hydrothermal systems. While that might lead to reducing the total meteoric mass necessary to provide enough phosphite, the researchers say more work would need to be done to determine the exact contribution of separate sources to what they are certain was an essential ingredient to early life.

VICKIE CHACHERE | USF News

Changing St



Photo: AMEE BLODGETT | USF News

Successful USF:Unstoppable Campaign

udent Lives



will change lives for generations to come.

By JAY WILSON | USF Foundation

In October of 2009, amid much hoopla and applause, the USF Cheerleading team and Herd of Thunder Marching Band came together for a special event in the Marshall Student Center. That night, the USF System officially embarked on a fundraising campaign historic in its ambition.

The first phase of the *USF: Unstoppable* Campaign came to a close at the end of June, surpassing its goal of \$600 million with more than \$621 million raised for the people and programs of the

“We are so grateful to the many people throughout the Tampa Bay region and around the country who have supported the USF System through their gifts during this campaign.”

– JUDY GENSHAFT

University of South Florida System. This successful conclusion is a showcase for the power of philanthropy and the love that alumni and friends have for the institutions of the USF System.

USF System President Judy Genshaft says the campaign has truly been a system-wide effort, and one that has lived up to its billing.

“We are so grateful to the many people throughout the Tampa Bay region and around the country who have supported the USF System through their gifts during this campaign,” she says. “They have made a tremendous difference in the lives of our students and our faculty and their generosity will benefit and impact our community in so many ways.”

The third campaign in the university’s history, *Unstoppable* has also been the most successful. The first campaign, *Campaign USF*, concluded in 1991 with \$117 million raised to benefit USF. A decade later, the *Great Achievements, Great Expectations* Campaign concluded after raising just over twice that amount, \$256 million.

The quiet phase of the *USF: Unstoppable* Campaign was launched four years later, in 2005. The name reflects both the celebrated history of USF and hope for a bright future for the entire USF System. Throughout its history, USF has overcome the naysayers to achieve great things, from the development of a top-flight medical school to a powerful athletics program. The campaign pays homage to and builds upon these achievements.

The *USF: Unstoppable* Campaign has thus far raised more than \$79 million for student scholarships and \$34 million for faculty chairs and professorships. In addition, benefactors to



Photos: Pgs. 24-25: BRUCE CRAMER | Snively Associates; pg. 24, Morsani nameplate, ERIC YOUNGHANGS | USF Health

the campaign donated more than \$335 million to support academic program enhancements, which impact both faculty and students through the creation of better opportunities for teaching, learning and research.

USF: Unstoppable Campaign Chair Les Muma says the academic focus of the campaign was not lost on USF's many supporters.

"As chair of this campaign, I had the opportunity to meet with many, many donors who support the USF System," says Muma. "Time and again I was struck by how their giving to USF was motivated by wanting to help students learn, faculty members teach and conduct research, and by their desire to see the impact their philanthropy makes on both individuals and the greater community. We are so thankful for the gifts of more than 143,000 donors who stepped forward to support USF."

Before being awarded a McCorkle Academic Scholarship, Hiram Rios was working up to 50 hours a week to finance his USF education. Thanks to the campaign-funded scholarship, Rios was able to focus on his studies and become immersed in campus activities.

"In addition to studying, I had a lot more time for meaningful opportunities, such as meeting the British Ambassador and other diplomats

USF: UNSTOPPABLE ***FACTS***

143
Thousand Donors

\$621
Million Raised Since 2005

\$79
Million for Scholarships

\$174
Million for USF Health

\$41
Million for USF Athletics





Les Muma



The Kiran C. Patel Center for Global Solutions

“Time and again I was struck by how their giving to USF was motivated by wanting to help students learn”

– LES MUMA

when they came to campus. If it weren't for the scholarship,” says the Honors College senior, “I would have been working during those visits.”

A second McCorkle Scholarship for travel abroad allowed the economics and math major from Puerto Rico to travel to China for the summer, where as a Gilman and Boren Scholar, he studied Mandarin Chinese language, history and culture.

“Because of the scholarship, I didn't have to work all summer. That made all the difference,” says Rios, who also is pursuing a minor in Mandarin Chinese language.

Also benefiting from the campaign has been USF Health, including the Morsani College of Medicine, and the USF Colleges of Nursing, Public Health, Pharmacy and the School of Physical Therapy & Rehabilitation Sciences. Including the giving of Frank and Carol Morsani, which led to the naming of the Morsani College of Medicine and the construction of the Carol and

Frank Morsani Center for Advanced Healthcare, more than \$174 million was donated to USF Health.

Giving to USF Health led to the establishment of the SELECT Program, USF's partnership with the Lehigh Valley Health Network, the growth of the USF Diabetes Center and the BRIDGE clinics serving at-risk youth in Tampa Bay.

The USF Athletics program raised more than \$41 million during the campaign, with many of the gifts designated for new facilities. Now dotting the dramatically-altered athletics landscape are the Pam and Les Muma Basketball Center, the Corbett Soccer Stadium, the Gonzmart Family Plaza (connecting the new baseball and softball stadiums), the Chowdhari Golf Center, the Frank Morsani Football Practice Complex and the soon-to-be-constructed James Tennis Center, funded by a lead gift from Tom James.

Academic and campus life facilities were also supported by giving during the *USF: Unstoppable* Campaign. The nearly \$140 million raised for facilities included the Patel Center for Global Solutions in Tampa and the Sembler Family Fountain and Plaza at the heart of USF St. Petersburg.

Joel Momberg, senior vice president for Univer-



Frank Morsani



The Pam and Les Muma Basketball Center.



The Sembler Family Fountain at USF St. Petersburg.

sity Advancement and Alumni Affairs and CEO of the USF Foundation, sums up the gratitude of USF and the USF Foundation for the support of so many.

“The *USF: Unstoppable* Campaign, through the creation of facilities, endowments and academic enhancements, is not only changing lives for the better today, but will continue to do so far into the future,” says Momberg. “This campaign is strengthening USF in countless ways, as well as the entire community. The USF Foundation looks forward to continuing to work with our friends and partners to forge a stronger USF System for many years to come.” ■



USF: UNSTOPPABLE

Pushing Their Limits

Prosthetic research could transform the lives of wounded warriors and civilian amputees.

By ANNE DELOTTO BAIER | USF Health

Whenever he leaves for the airport on vacation, Joshua Sparling carries along a bag full of legs and feet. There are different prosthetic components for running, others for swimming, bicycling or golfing, and yet another for everyday walking.

Sparling, 31, who lost his right leg to an improvised explosive device (IED) while serving as an Army sergeant in Iraq in 2005, has experienced the discomfort of prostheses not particularly well suited for his high-intensity athletic endeavors. So he was enthusiastic about enrolling in a U.S. Department of Defense-funded study at the USF School of Physical Therapy & Rehabilitation Sciences — traveling from Michigan to Florida to participate in the research.

The project is evaluating how well different multi-functional prosthetic feet work for rigorous and agile maneuvers soldiers must perform on the battlefield — from running and jumping to dodging, crawling and climbing.



Joshua Sparling

The advanced prosthetic research involving military amputees may ultimately benefit civilian amputees with physically challenging occupations or recreational pursuits, such as firefighters, police officers, construction workers, triathletes, marathon runners or rock climbers.

Photos: ERIC YOUNGHANS | USF Health



Joshua Sparling is one of 13 wounded warriors taking part in a USF School of Physical Therapy & Rehabilitation Sciences research study funded by the U.S. Department of Defense.



“Our findings will have implications not only for the rehabilitation of soldiers who seek to stay on active duty, but also for civilians with amputations who want to participate in activities at a more intense level,” says Jason Highsmith, the USF Health assistant professor of physical therapy leading the study. The knowledge researchers gain from evaluating high-end prostheses that can help soldiers move more

“It’s easy to forget you’re ‘disabled’ when the technology we have now can make the prosthesis comparable to a fully functioning foot.”

– BRIAN BEEM

efficiently across war zone terrain can also be applied to developing prosthetics for common movements like walking or jogging at a comfortable pace.

The USF researchers enrolled 28 physically fit people in the trial. Half are soldiers and veterans who wear prostheses for below-the-knee amputations. The other half are non-amputees from the local law enforcement SWAT team.

This spring, the military amputees were evalu-

ated wearing each of three different commercially-available high-tech prostheses. The study participants were tested in USF’s Human Functional Performance Laboratory, where they walked and ran on treadmills while researchers measured performance parameters, including range of joint motion, prosthetic foot power, oxygen consumed and energy expended.

At the Hillsborough County Sheriff’s Office training facility, the researchers evaluated obstacle course completion times, heart rates and perceived difficulty of performing such tactical maneuvers as charging up inclines, climbing ropes and slalom running requiring a combination of speed, agility and balance. Each participant was asked to rate the preferred prosthetic foot — both in the lab and in the field.

Non-amputees are presently completing the same testing. Researchers will compare the physical performance of the amputee group to the non-amputee control group, with the aim of identifying which prosthetic foot may be best suited for military applications. They expect to have results by the end of this year.

USF’s prosthetic research has the potential to transform the lives of a growing number of young wounded warriors, like Army Staff Sgt. Brian Beem, by giving them the option of returning to active service — possibly even the war zone — if they desire and can perform the functions required by the job.



Army Staff Sgt. Brian Beem, a participant in the prosthetic research study, hoists himself over one of the many obstacles at the Walter C. Heinrich training site.

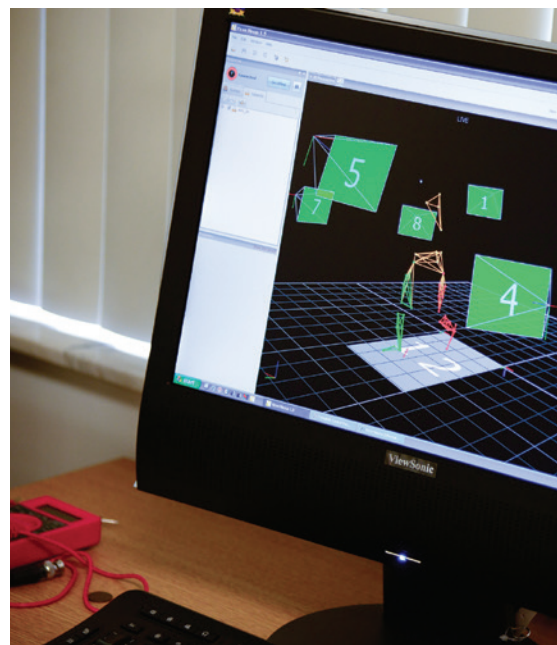
(bottom left) Balance and agility are among the skills evaluated as study participants complete the obstacle course.

(bottom right) Derek Lura, seated, a post-doctoral researcher in the Department of Mechanical Engineering, verifies heart rate and timing data with USF Health's Jason Highsmith, who is leading the study.



While deployed in Iraq in 2006, Beem, 35, lost his right leg below the knee following a roadside blast that claimed the life of a fellow soldier and friend. Despite the injury, he re-enlisted for the third time November 2011 at Forward Operating Base in Frontenac, Afghanistan, and continued to serve his country with other Calvary scouts. Beem, who calls himself a “career soldier,” now tests night-vision goggles, scopes and other devices at the Army’s Research and Development Center in Fort Belvoir, Va.

“I take it as a badge of pride that at one place I worked it took three months for my boss to figure out I was an amputee,” Beem says. “It’s easy to forget you’re ‘disabled’ when the technology we have now can make the prosthesis comparable to a fully functioning foot.”



“The advances made to this point have been pretty amazing. Nothing leads me to think it won’t get even better.”

– JOSHUA SPARLING

Sparling is impressed with the latest-generation prosthetics he’s been asked to help evaluate — all integrating varying degrees of rotational, shock-absorbing and energy-returning characteristics. “The advances made to this point have been pretty amazing,” he says. “Nothing leads me to think it won’t get even better.”

USF’s Highsmith specializes in research to improve prosthetic options for those who lose limbs from traumatic injury or diseases — including soldiers and veterans reintegrating into society. He works with USF physical therapy and engineering colleagues.

Highsmith is equally impressed with the wounded warriors and veterans like Beem and Sparling who volunteered for the DOD study and push themselves to perform at levels comparable to SWAT team members without amputations.

“They’re extremely inspirational,” he says. “They’ve left parts of their bodies overseas defending our freedom... It’s personally rewarding to spend time with these heroes, hear their stories, contribute in some way to their ongoing rehabilitation, and, hopefully, we’ll find out which prosthesis works best so they can continue to stretch their limits.” ■



In the USF School of Physical Therapy & Rehabilitation Sciences Human Functional Performance Laboratory, study participant Joshua Sparling, wearing one of the high-tech prosthetic feet being tested, runs on a split-belt treadmill as researchers monitor his gait and various performance indicators.



A computer monitors data and analyzes the movements of participants along the course.

Jason Highsmith specializes in research to improve prosthetic options for those who lose limbs from traumatic injury or diseases. He works with USF physical therapy and engineering colleagues.



Photos: ERIC YOUNGHANS | USF Health

World

USF graduate students partner with Malawi to develop a sustainable tourism plan.



Malawi's Liwonde National Park — the jewel of the national park system — is home to as many as 390 species of birds.

Classroom

By ANN CARNEY | USF News

Traveling thousands of miles from Tampa to one of the least developed countries in the world, USF College of Global Sustainability graduate students Darcy Everett, Anthony Pooley and Amanda Whatley didn't know what to expect.

But what they found during their six-week summer internship in Malawi was optimism, hope and the promise of a brighter future.

The students were on a mission to develop a draft master plan for sustainable tourism in the Liwonde National Park, the jewel of the national park system in Malawi, a landlocked country in southeast Africa bordered by Zambia, Tanzania and Mozambique.

The internship was the capstone course in the students' Master of Arts in Global Sustainability degree program. It was the first internship offered by the college in any of the world's least developed countries, where transportation, communication and other issues can often be a challenge.

"The experience was everything I envisioned for the students and more," says David Randle, faculty and director of the Sustainable Tourism Concentration in the College of Global Sustainability. "All of them really had their lives changed. They will never again look at these issues in the world in the same way. How can you ask for more than that?"

Working under the guidance of MacDonald Sembereka, presidential

Patel College students Anthony Pooley, Darcy Everett and Amanda Whatley traveled to southeast Africa for a six-week internship.



Photos: Pg. 34, Anthony Pooley; pg. 35, courtesy of Anthony Pooley

advisor to Malawi President Joyce Banda, and the International Fund for Animal Welfare (IFAW), the students conducted research and field studies to develop a plan designed to minimize impact on the environment and culture, while creating positive experiences, employment opportunities and income sources for the local community.

“There is such a lack of knowledge about the beauty of Malawi and the potential for tourism,” says Pooley, an environmental consultant who earned his undergraduate degree in environmental science and policy from USF in 2003.

The team hopes to tap into that potential to benefit Malawians.

“We want to teach them about conservation and sustainability,” he says. “We want to find a way to put park concessions in the hands of Malawians.”

A successful sustainable tourism plan could pave the way for economic recovery in the country known as “The Warm Heart of Africa.”



Situated at the southern end of Lake Malawi on the banks of the Upper Shire River, Liwonde National Park is one of five national parks in Malawi. It is one of the only parks in the world where visitors can see all of the “Big 5” — lions, leopards, rhinos, elephants and Cape buffalo — as well as antelopes, zebras, hippos, leopards, and as many as 390 species of birds. In addition to jeep safaris and walking trails, the 220-square-mile park offers riverboat safaris along the Shire River.

But for all its magnificence, the park faces significant challenges, says Everett, whose professional interior design background first piqued her interest in sustainability issues.

Among the challenges she lists with her colleagues are human-animal conflicts, lack of infrastructure, poaching, lack of coordination among tour concessions and interested parties, and a near-extinct lion population.



Whatley, a student in Randle’s spring 2012 sustainable tourism class, was intrigued when she first heard about a possible internship in Africa. She’d been to Africa before as a Fulbright Student Scholar studying life and culture in Tanzania, and was eager to return to the continent.

“Every time Dr. Randle talked about it, I got excited,” she



recalls. “When he presented it, I thought this is absolutely where I’m going.”

In January, Whatley signed on. Everett and Pooley followed. Together the students set the wheels in motion for their African experience — planning, coordinating with field contacts, and researching topics ranging from poverty and ecosystems to culture and tourism.

By semester’s end, with their legwork complete, the students were prepared to demonstrate the knowledge and skills they’d acquired in the classroom in a setting far from home.

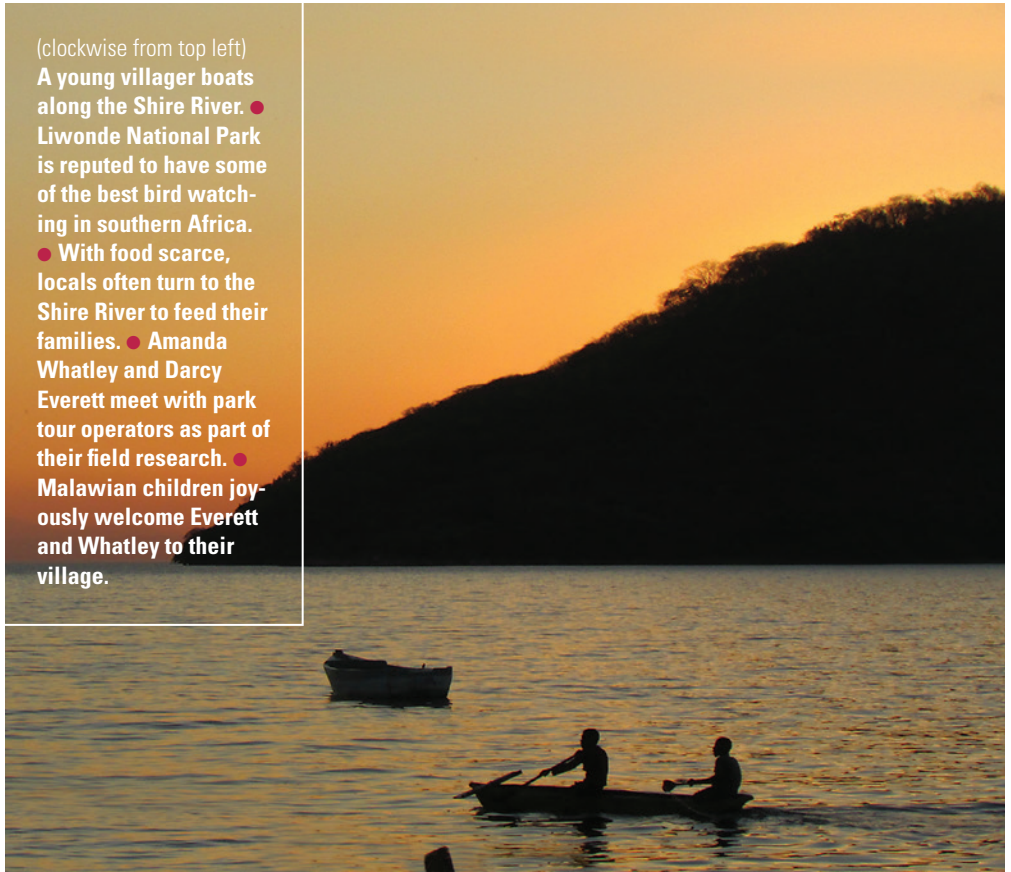
“We really try to give the students more than just a good education experience,” says Randle. “We give them an opportunity to do something and make a difference.”

On May 26, after nearly 20 hours in flight, Whatley, Everett and Pooley landed in Malawi’s capital city of Lilongwe. Mike Labuschagne, a project manager for the IFAW and the group’s on-the-ground contact, greeted the students.

“As soon as we met Mike, he said plans had changed and we were going to head to Zambia to get perspective on one of the country’s successful parks — South Luangwa National Park,” Whatley recalls. “I knew this was going to be great.”



(clockwise from top left)
 A young villager boats along the Shire River. ●
 Liwonde National Park is reputed to have some of the best bird watching in southern Africa. ●
 With food scarce, locals often turn to the Shire River to feed their families. ●
 Amanda Whatley and Darcy Everett meet with park tour operators as part of their field research. ●
 Malawian children joyously welcome Everett and Whatley to their village.

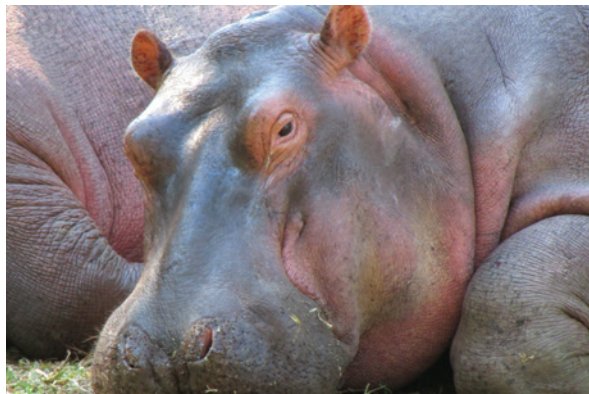
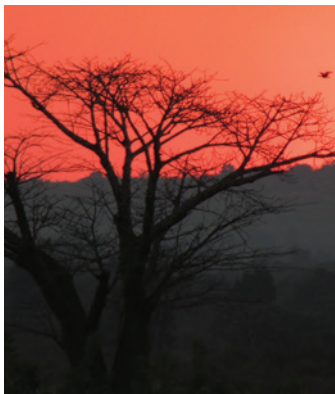


With Labuschagne as their guide, the students explored every facet of the park, spending two nights in Zambia before retracing their route back to Malawi. And while they witnessed up close a level of poverty they'd never imagined, the beauty and joy throughout the region was foremost in their minds.



At Liwonde National Park, the group's final destination, there was no typical day. The students met with tour opera-





tors; toured the Mvuu Wilderness Lodge, the park's only inside lodge and interviewed Peace Corps volunteers, park visitors and residents of the surrounding community. They created a survey to learn more about tourists in the region, reviewed marketing materials, walked the park's fence line and met with officials from the Malawi College of Fisheries.

One day, the students met with the German Ambassador to Malawi and toured a fish farm project led by Labuschagne and the IFAW. Germany is a stakeholder in the project, which aims to alleviate human/wildlife conflicts and provide alternative income streams for villagers, while ensuring the protection of elephants and other species in the park. The day included a boat safari where, along with hippos and elephants, the students saw Malawians illegally fishing in the Shire River.

"They have no other choice," says Pooley, explaining how overpopulation in the region is a "huge problem which snowballs into all problems, like poaching and overfishing."

Problems, he believes, that are best addressed with education and innovative programs, such as microloans, which empower women in Malawi to develop small commercial ventures that can help feed families, educate

children and inspire other women to help break the cycle of poverty.



Everett never expected to see people living so close to a national park. She was stunned to learn that residents of the Liwonde Park community live with wild animals at their doorstep — animals, like elephants, that penetrate the park's fences, consuming crops and endangering residents.

"A lot of people live right next to the park," she says. "I didn't quite understand that."

Everett believes involving the community is key, citing the success of the Majete Wildlife Reserve in the Lower Shire Valley, which until a decade ago, when the government intervened with a public-private partnership for the rehabilitation, development and management of the reserve, had no positive economic impact on the livelihoods of its surrounding communities.



In Njobvu, a village situated next to the park, Whatley,



(clockwise from top left)
 Visitors to the park can safari by jeep, foot or riverboat. ● Liwonde is home to the Big 5, including the African bush elephant. ● Villagers in Njobvu village pound maize. ● The park has a healthy population of hippos, as well as crocodiles, antelope and zebra. ● A sustainable tourism plan could pave the way for economic recovery for Malawi.

Everett and Pooley experienced village life. For Everett, the two-day stay was a highlight of the trip.

“There was no electricity, no running water. We saw villagers going to the borehole to pump water; women pounding maize by hand,” she recounts. “You hear about poverty, but just to be there and experience it firsthand is very eye-opening.”

“The culture was absolutely amazing,” Whatley adds. “What surprised me is the love and joy we experienced. Everyone wanted to talk to us; they were eager to figure out how we could help them — how our plan will be used.”

Despite very poor conditions, Pooley says, “Malawians are very happy to see you, to shake your hand, to talk to you. They have so much gratitude that you’re there.”



In July the students returned to Tampa, eager to put words to the plan Sembereka intends to present to government officials as a model for sustainable tourism in Liwonde National Park — and perhaps other parks in Africa.

“This internship has opened a long-term partnership between the university and the park as we strive to ensure that tourism translates into development of the students and the communities around the park,” Sembereka says. “This is a dream and we have to collectively work toward its realization.”

The internship, Randle points out, would not have been possible without a counterpart in Malawi to help make contacts on the ground, keep students safe and provide access to resources.

“MacDonald Sembereka deserves a lot of credit,” Randle says. “He grew up in the area and has a dream to protect and preserve it, and to use its resources as a means for economic development of the country.”

While the students focus forward, they have been forever changed by their Malawi experience.

“I wouldn’t trade it for anything,” Whatley says. “Every person we met, every experience we had, I will take with me forever, and believe it will help me be better at what I do in the future.” ■

Sports Highlights

Get On the Bus

First-year USF Head Coach Willie Taggart grabbed everyone's attention at his introductory press conference in December when he said: "What we have to do now is put everyone on the bus, put them in the right seat, and let Coach T drive this bus."

Coach T and his bus full of Bulls got the season rolling Saturday, Aug. 31 against McNeese State at Raymond James Stadium. USF follows with tests at Michigan State (Sept. 7) and gets FAU (Sept. 14) and Miami (Sept. 28) at home before jumping into league

play in the brand new American Athletic Conference.

The Bulls were predicted to finish fifth in The American's preseason media poll, but USF's new leading man is setting the bar much higher for his players.

"Our expectations are high. Our intention is to win a championship; that's what we want to do and we intend to do that," Taggart says.



Stories by TOM ZEBOLD | USF Athletics

Photos: Courtesy of USF Athletics



View Coach T's video
at gousfbulls.com

Soccer Season Openers

The USF men's soccer team looks to book a seventh straight trip to the NCAA tournament, starting with its season opener at home against Florida Gulf Coast University on Friday, Aug. 30.

The Bulls went 2-0 against FGCU last season and topped the Eagles in penalty kicks to advance to the second round of the NCAA tournament.

The USF women's team also started its season at home against Arkansas-Pine Bluff on Friday, Aug. 23. Season tickets are available by calling 1-800-GoBulls.





Koepka Plays in U.S. Amateur

Chase Koepka had one big order of business at hand before heading back to campus for a much anticipated season with the USF men's golf team.

Koepka qualified and advanced to the second round of competition at the 113th U.S. Amateur Championship that finished on Aug. 18 in Brookline, Mass.

Koepka helped the Bulls capture their first Big East championship before being named conference player and freshman of the year, marking the first time a player had accomplished the feat in league history.

The sophomore has been tirelessly working on his golf game this summer, competing in the U.S. Open qualifier and finishing third at The Players Amateur in Hilton Head, S.C., a day before he arrived at PGA National Golf Club in Palm Beach Gardens, Fla., for the first round of U.S. Amateur qualifying in July.

Koepka finished July off by competing at the Porter Cup in Niagara Falls before focusing his attention on the oldest golf championship in U.S. history that dates back to 1895.



Maya Trotz



Sustainable Vision

As a young girl growing up in Guyana, Maya Trotz was enamored with the notion of sustainability. “We probably didn’t use the term, but the concepts interested me,” she recalls. “We were short on water, short on electricity; foreign imports were banned. I grew up in a political context that was ‘make your own, grow your own.’”

In college Trotz would come to learn that the field of environmental engineering would give her the knowledge and skills necessary to develop solutions for the issues that interest her most.

Today, Trotz is an associate professor in the Department of Civil and Environmental Engineering at USF. She holds a bachelor’s degree in chemical engineering from the Massachusetts Institute of Technology, and a master’s and doctorate in environmental engineering from Stanford University.

Photo: RUSSELL WATSON | R STUDIO



QuickTakes

Your hero: My dad

Hobby: Multimedia

Classroom or field: Field

Caribbean or Gulf: Caribbean

You in a word: Motivated

Her teaching, research and service are at the nexus of water chemistry, community engagement and global sustainability.

Currently on sabbatical with the Caribbean Science Research Foundation (CSF) — an organization she helped found focused on science and technology in the Caribbean region — Trotz recently returned to Tampa for the inaugural STEM Ambassador Program. For 24 secondary-level students and teachers, the program was the culmination of the 2013 Sagicor Visionaries

Challenge, an initiative sponsored by Sagicor, the CSF and the Caribbean Examinations Council, that asks secondary school students across 12 countries in the Caribbean to develop a sustainable solution for a challenge facing their school or community using STEM concepts.

How can the U.S. partner with the Caribbean to address issues of sustainability?

In so many different ways! You could not ask for a better study site than an island when talking about issues of limited resources and vulnerability to issues of climate change.

What is the most important thing we can do to advance the sustainability agenda?

To personally live by it and give visibility and voice to its champions.

Did anything surprise you about the Sagicor Visionaries Challenge?

The enthusiasm and appreciation of people in the 12 countries. There really is room for so many more innovative STEM initiatives in the Caribbean region.

Why focus on K-12 education to address issues of sustainability?

We, as engineers, can't just come up with solutions that are band-aids, as we traditionally do. We have to be out there; we have to change education and the curriculum. Education at every level has to be an integral part of our research.

Why is STEM education so vital?

The challenges we face in the world require many disciplines to come up with a solution, many in STEM fields. In the U.S. and the Caribbean, the number of students going into STEM fields is small. The challenge is making these fields accessible and desirable so we have more problem solvers at the table.

What's next?

Pushing Caribbean - USF - Tampa Bay collaborations. So many folks want to be a part of what's going on. I think I have a voice to give, and people are very interested. My vision is for USF to be known as the leading institutional partner with the Caribbean for research and education in sustainability.

ANN CARNEY | USF News



UNIVERSITY COMMUNICATIONS
& MARKETING
University of South Florida
4202 E. Fowler Ave, STOP CGS301
Tampa, FL 33620-4301

Non Profit Org.
U.S. POSTAGE

PAID

Tampa, Florida
Permit No. 257



Photo: AIMEE BLODGETT | USF News



Members of the Class of 2017 begin their USF career during summer orientation in the Marshall Student Center. Scan the QR code at left or search "Getting Started" at www.usf.edu/news for a slideshow featuring USF's newest Bulls.

