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The Future of Health Care is Here Morsani Center Opens

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This summer, USF's Contemporary Art Museum was host to an exhibit of the original works of Robert Rauschenberg, one of the most influential and renowned artists of the last century. Rauschenberg, who died in May, created more than 50 editions of prints, sculptures and photographs with USF's Graphicstudio from 1972-1987. FOUR PROVIDENCE DE DISEON

MAGAZINE

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One-Stop Health Care

The opening of the Carol and Frank Morsani Center for Advanced Healthcare marks a new era in health care at USF.



Connecting Disciplines

Reaching across traditional lines of education and research, graduate multidisciplinary scholars are applying tools from a variety of disciplines to address problems of the past and seek innovative solutions to questions of the future.

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To Market

Students and their mentors at USF are transferring their inventions and research findings from the classroom to the marketplace, where their work has the greatest potential to change lives.

Guiding Hands

Since 1993, the Center for Autism and Related Disabilities at USF has been offering instruction and coaching to families and professionals to optimize the potential of people with autism and related disabilities.

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Nicole Torres says CARD-USF provided critical interventions to help her son, Chase, succeed. Story page 32.

COVER PHOTOS: ERIC YOUNGHANS, USF HEALTH MEDIA CENTER SCENE ON CAMPUS: JOSEPH GAMBLE

FTER A BUSY SUMMER on campus, a new academic year is under way. Along with a record number of new students, we welcome a new group of accomplished faculty members.

We begin the fall semester facing one of the most demanding times in USF history. With unprecedented cuts in state appropriations, we have been challenged to streamline the way we do business while preserving quality and strengthening the university's academic organization for the future. I commend Provost Ralph Wilcox and this university's leadership for their tremendous efforts in responding to this challenge-a challenge that is being faced by all 11 universities in the State University System. I am confident we will emerge from this a stronger university, singularly focused on the vision for USF set forth in our Strategic Plan 2007-2012.

In this issue of USF Magazine, you will meet a gifted group of students, multidisciplinary scholars who are working to solve some of the great challenges of the millennium. And, you will read about marketready technologies created by USF students to solve practical, real-world problems faced every day by people with special needs. In our feature on CARD-USF, you will learn how a vital, community-based resource center is helping to maximize the potential of children and adults with autism.

In this issue you will also read about USF alumna Ann Duncan. As a member of the state's Board of Governors, she is an integral part of the decision-making process for



Florida's 11 public universities, including USF. Ann's passion for higher education, combined with her background as a student, USF St. Petersburg founding campus board member and USF Trustee, as well as her professional and civic experience have uniquely prepared her for this all-important role.

With a season-opening win in August, we kicked off the most anticipated football season in USF history. Read our season preview and you can't help but feel the excitement.

I hope you will enjoy this issue of USF Magazine. As you read the stories of remarkable progress, life-changing research and initiatives that are changing communities, you will once again be reminded why USF is one of the top-ranked universities in the nation.

Judy *Senska ff* jdy genshaft, president

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USF Responds

IKE ALL OF FLORIDA'S 11 PUBLIC UNIVERSITIES, USF has been responding to sweeping and unprecedented cuts in state funding. The budget re-setting process at USF began early in the year with the reduction of recurring resources (largely through unfilled positions) and reductions in administrative and operating support. In addition, significant changes have been made in USF-wide business practices, including a contract for office supplies and office furniture; a transition to consolidated services, support and purchasing in Information Technology; and a university closure over the winter break.

In June, USF announced one of the most significant changes made in response to the challenging economic climate—a realignment of the university's academic organization, including new administrative structures for the College of Arts & Sciences and the Louis de la Parte Florida Mental Health Institute. The announced realignment preserves quality and strengthens the university's academic organization for the future.

The new structure in the College of Arts & Sciences is organized around three schools: Behavioral & Social Sciences, Humanities, and Sciences. The Department of Economics, the Institute on Black Life and the Institute for the Study of Latin America and the Caribbean will move into the College of Arts & Sciences. Selected professional programs—the Schools of Aging Studies and Social Work, as well as the Departments of Rehabilitation and Mental Health Counseling, Communication Sciences and Disorders, and Criminology—are being realigned with the Louis de la Parte Florida Mental Health Institute, which will become the College of Behavioral and Community Sciences.

Despite the budget cuts, USF has preserved all tenured and tenure-earning faculty positions, academic departments, schools and colleges, as well as all degree programs. The new, streamlined structure provides a flexible framework that will be able to provide for any future organizational changes needed to accommodate strategic progress and any future budget challenges.

Guided by institutional discipline and focus, USF will be positioned stronger, says USF Provost Ralph Wilcox. "We remain committed to meeting the needs of students currently enrolled at USF and supporting the research and scholarly agendas of our faculty." And, as the university seeks to further cut spending and generate new revenues, Wilcox says, "We will focus on the future, guided by our priorities, along the path laid out by our Strategic Plan 2007-2012."

College of Arts & Sciences – New Structure

School of Behavioral & Social Sciences Department of Africana Studies Department of Anthropology Department of Economics Department of Geography Department of Government & International Affairs Institute on Black Life Institute for the Study of Latin America & the Caribbean School of Library & Information Science School of Mass Communications Department of Psychology Department of Sociology Department of Women's Studies

School of Humanities Department of Communication Department of English Department of History Department of Humanities & American Studies Humanities Institute Department of Philosophy Department of Religious Studies Department of World Languages

School of Sciences Department of Biology – Cell Biology, Microbiolog and Molecular Biology Department of Biology – Integrative Biology Department of Chemistry Department of Geology Department of Mathematics & Statistics Department of Physics

College of Behavioral and Community Sciences Department of Aging & Mental Health School of Aging Studies Department of Child & Family Studies Department of Communication Sciences & Disorders Department of Criminology Department of Mental Health Law & Policy School of Mental Health Studies Department of Rehabilitation & Mental Health Counseling School of Social Work Louis de la Parte Florida Mental Health Institute

College of Visual & Performing Arts – New Name TBD School of Architecture and Community Design School of Art & Art History School of Music Institute for Research in Art School of Theatre & Dance



Getting Greener

OINING A GROWING LIST OF COLLEGES and universities around the country in the fight against global warming, USF President Judy Genshaft signed the historic American College & University Presidents Climate Commitment in April. The commitment is part of a campaign to assemble institutional pledges to neutralize greenhouse gas emissions and to accelerate higher education's research and educational efforts to equip society with the information and tools to re-stabilize the earth's climate.

Signing the commitment at the Getting Green by Going Green Expo at the USF Sun Dome, President Genshaft said, "It makes perfect sense for institutions of higher learning to help lead the way in addressing environmental problems, especially global warming. College and university campuses are teeming with the brainpower, the expertise and the passion to make a tremendous contribution to confronting climate change."

Sustainability initiatives abound among faculty and students throughout USF in the Colleges of Arts & Sciences, Business, Engineering, Public Health and Architecture and Community Design, as well as the Kiran B. Patel Center for Global Solutions. In fact, during 2007, a group of faculty, students and staff, known as the "USF Sustainability Partners," met regularly to discuss sustainability issues on the USF campus. Among the issues they discussed were LEED certified buildings, curriculum and awareness building on campus and in the community.

Since signing the commitment, USF has established a 30member Campus Sustainability Steering Committee and identified short-tem goals to help reduce greenhouse gasses.

– Barbara Perkins

News & Notes

Lisa Brown, assistant professor in the Florida Mental Health Institute's (FMHI) Department of Aging and Mental Health, has been appointed to the Disaster Mental Health Subcommittee of the Presidential Commission. Part of the Homeland Security Presidential Directive to establish a new National Strategy for Public Health and Medical Preparedness, the subcommittee will make recommendations to the Secretary of the U.S. Department of Health and Human Services relating to catastrophic health events.

Richard D. Gitlin has been named professor in the Department of Electrical Engineering. Gitlin was elected to the National Academy of Engineering in 2005 for his contributions to communications systems and networking. He joins USF from Hammerhead Systems, where he was chief technology officer. He also served as president of Innovatia Networks and vice president of technology for NEC Laboratories America. Widely published, Gitlin's academic positions include adjunct professor Electrical Engineering at Columbia University and Princeton University as well as visiting professor of Electrical Engineering at Columbia University.

Following a nationwide search, Alicia D. H. Monroe, M.D., has been named vice dean for Educational Affairs for USF's College of Health. Monroe joins USF from Brown University's Warren Alpert Medical School where she was associate dean for Diversity. A professor of family medicine, Monroe is well known for her publications and innovations in physician-patient communication, crosscultural communication and mentoring students and faculty. She has taught physician-patient communication and counseling skills to medical students and residents for more than 20 years.

■ Norine Noonan, an accomplished scientist with years of federal leadership experience, has been named regional vice chancellor of academic affairs at USF St. Petersburg. Noonan comes to USF St. Petersburg from the College of Charleston where she served as the dean of the School of Sciences and Mathematics. She previously served as executive director of the National Space Science and Technology Center and as the assistant administrator for research and development at the U.S. Environmental Protection Agency. She began her career as a charter faculty member at the University of Florida College of Veterinary Medicine.

Marking the close of a 33-year career with USF, 25 of those with the USF Foundation Business Office, USF alumnus and foundation CFO John Scott retired in July. During his tenure with the Foundation Business Office, the foundation's assets grew from \$5 million to nearly \$500 million, and the endowment grew from \$4 million to over \$400 million. In addition, more than 4,000 funds were established in the Foundation to support donor intentions and university priorities. Robert Fischman, who joined USF's Advancement team from the University of Georgia in April, assumes the post of associate vice president and CFO. At Georgia, Fischman was involved with the University of Georgia Foundation and the university's Arch Foundation.

Scholarly Recognition

IVE USF FACULTY MEMBERS have been awarded internationally renowned fellowships to expand their scholarship globally.

Michael Foley, Kerry Glamsch and Michael Timpson, all from the College of Visual & Performing Arts, received Fulbright Scholarships in the spring. The Fulbright Program is the flagship international educational exchange program sponsored by the U.S. government.

Foley, a dance professor, will teach in Mexico at the Escuela Profesional de la Danza de Mazatlán. He joins an internationally acclaimed contemporary dance company to work on a new project and will collaborate with dance conservatories across Mexico. Foley's efforts will help streamline coursework to academically correspond with American university standards as well as improve student exchange programs.

Glamsch, a theater professor, will teach a course at the University of Craiova in Romania in the American Studies program. In addition, he will teach acting classes in the university's new theater program.

Timpson, assistant professor of music composition, will conduct research in Taiwan for his book, *Writing for Chinese Instruments: Orchestral and Philosophical Approaches for Western Composers*, as well as interview performers and record audio and video of Chinese instrumental techniques.

Kevin Yelvington, an associate professor of anthropology, is the seventh professor in USF history to receive a Guggenheim Fellowship. Yelvington, one of 190 fellows named from more than 2,600 applicants, will use his fellowship to support his forthcoming book on Melville J. Herskovits, who started the first program in African studies at a major U.S. university, and the making of Afro-American anthropology. Guggenheim fellowships are awarded to U.S. and Canadian artists, scientists and scholars on the basis of stellar achievement and exceptional promise for continued accomplishment.

Noël Schiller, an assistant professor of northern Renaissance and Baroque art history, was awarded a Getty Foundation Postdoctoral Fellowship. Getty fellowships support emerging scholars whose work contributes to the understanding and preservation of the visual arts locally and throughout the world. Schiller's research for her book, *Engaging Laughter: Representing Perception*, *Sensation and the Passions in Seventeenth-Century Dutch Art*, will take her to various institutions in the United States and abroad.

"These highly competitive and prestigious grants are indicative of the exceptional quality of the scholars who work and study at USF," says Provost Ralph Wilcox. "We are immensely proud of these outstanding achievements and the honor they bring to our academic community."

– Barbara Perkins

Record Start

SF'S CLASS OF 2012 IS ALREADY breaking records. In August, the university welcomed a freshman class with the strongest academic credentials of any freshman class in USF history. Early numbers show 46,174 students enrolled at the university, including

3,868 new freshmen, 4,675 new transfer students and 2,433 new graduate students.

The newest Bulls have impressive grades and test scores. The average grade-point average of the new freshman class is 3.73, with an average SAT score of 1160 and ACT score of 25. USF Honors College enrolled more than 400 members of the class of 2012 with and average SAT score of 1353, a 25 point gain from last year.

"The class of 2012 is incredibly prepared for the challenges they will face at one of the nation's leading research universities," says Provost and Senior Vice President for Academic Affairs Ralph C. Wilcox.

In addition, graduate enrollment and diversity are on the rise—an indication of USF's intentions to strengthen its position as Florida's number two research university.

"Last week, U.S. News and World Report named USF one of the nation's top 20 'Up and Coming' colleges. This is because we're quickly creating the learning and research environment of the future," says USF President Judy Genshaft. "Some of the best students in the nation know that USF is the place to find top quality academics and exciting campus life."



Global Reach

Partnership allows students to earn a USF business degree in Singapore.

SF'S GLOBAL REACH NOW EXTENDS to Asia thanks to a new partnership with Singapore's Center for American Education (CAE), where students can earn a bachelor's degree in business administration from USF, with concentrations in international business and marketing. Allowing aspiring business leaders to earn a four-year American degree without leaving the region, this new partnership is also an opportunity for stateside business students to study abroad, paying USF tuition and earning credits toward a USF degree.

Passionate about education, CAE sought out the partnership because they believe students in the American system are exposed to different ideas and a breadth of knowledge, as opposed to students in the British system who have fewer choices, explains Jackie Nelson, who leads USF's undergraduate business programs.

Associate professor Sajeev Varki headed to Singapore



in June to teach in the inaugural fiveterm program. Most courses will be taught by USF marketing faculty

who, like Varki did this summer, teach a typical 16-week course in just three weeks through twice-daily extended class and lecture periods.

Varki said the three-week immersion model offers multiple benefits. As business travelers today must work across teams and across cultures in the workplace, interacting with peers in a multi-cultural, multi-national classroom would help students realize more clearly the advantages and disadvantages American students enjoy, he says. "Since Asia is on the move, the timing is especially right for business students."

"Travel itself is an education!" Varki adds, joking about a few things he learned early into the trip. "I learned that a 'course' in Singapore refers to a major (or course of study) while what we consider a course is referred to as a module. Also, ethnic fast food restaurants don't provide napkins; you're expected to carry your own tissues."



Nelson agrees that stateside students benefit from travel. "Students say they know the value of studying abroad, but are hesitant to take an entire semester off to do so," says Nelson. With this short summer term taught by USF faculty, it is as if they were taking classes in Tampa, she says, so students will remain on track.

College of Business Dean Bob Forsythe is quick to note that this is also an educational experience for faculty, calling Singapore a bustling business center. "By visiting Singapore for a few weeks, faculty can immerse themselves in the environment, participate in corporate visits with international businesses, and learn about business in Southeast Asia," he says. "They bring this knowledge back to the Tampa classroom."

Student benefit is a primary reason the partnership with CAE was attractive but there are other benefits, including a financial benefit for the college itself.

"This will not involve any state funds," says Forsythe. "This self-sustaining program is fully funded through the Singaporean fees and is expected to return revenue to the business school."

- Lorie Briggs



A New Name

N JULY 1, THE CAMPUS KNOWN for more than 20 years as USF Lakeland officially became USF Polytechnic. According to USF Polytechnic CEO Marshall Goodman, USF Polytechnic will offer a distinctive approach to undergraduate and graduate education, including an emphasis on applied learning and research, strong technology-driven programs and dynamic community partnerships focused on economic development.

The polytechnic model emerged as a result of intense community engagement, says Goodman. "We asked our stakeholders what they needed from their state university and they told us. What they described, without using the word, was a polytechnic. And that is what USF is now giving them."

USF Polytechnic is the state's only polytechnic university. It is now in the process of building a new campus at the eastern intersection of I-4 and the Polk Parkway, between Lakeland and Auburndale at the heart of Florida's High Tech Corridor.

According to Goodman, the polytechnic model is not limited to a particular place. "USF has an outstanding tradition of delivering high quality, even as it expands access. Our students and partners will access USF Polytechnic on our current campus, on our new campus, on the Internet and in points throughout our service area."

- David Steele



Transforming Learning

USF is featured on Apple's iTunes U.

UST AS COMPUTERS CHANGED THE WAY we live, work and communicate, the Internet today is changing the way we teach and learn. At USF, digital resources, available through iTunes U, are just the tip of the iceberg in an educational revolution.

USF is one of a number of universities nationwide featured on iTunes U—a section of the iTunes store, where some of the nation's top schools share content with students, faculty and the world, free of charge. Content ranges from course materials, recorded lectures and teaching resources to sports updates, podcasts, campus events and more. At iTunes U, "users can easily search, download and play content, just like they do music, movies and TV shows," according to the iTunes U site. accommodates all learning styles in her classroom.

"I decided to use iPods for testing because several students were removed from the classroom setting on test days to have the test read to them as an ESE (Exceptional Student Education) accommodation. It is not fair for students with reading difficulties to have their grades affected in other subject areas," says Papke, who teaches sixth grade language arts, math, science and technology at Learning Gate Community School in Lutz, Florida.

"iTunes U allows us to tap into a huge audience that is starting to share content in ways that it wasn't shared before." -Michael Hoad

USF College of Education graduate Crystal Gasell, a seventh-grade composition teacher at Pinnacle Charter School in Federal Heights, Colorado uses Apple's iTunes U interface to teach her students. Gasell utilizes the stories and poems in the "Lit2Go" section of

USF College of Education graduate Allison Papke uses USF on iTunes U to enable her students to demonstrate knowledge at their own pace by using an Apple iPod. Papke

teaches in an inclusion classroom that accommodates students with

special needs in addition to

general education students. As a result of the challenges that testing in this environment can create, Papke developed a method that allows all students to have an individualized testing experience. By recording test questions and directions as audio files and uploading them onto a class set of iPods, Papke

USF on iTunes U can be accessed from a variety of devices—online from a computer, on an iPod or other portable MP3 player or an Internet-enabled cellular telephone.

ISFon

the USF College of Education's iTunes U site to model good writing in her classroom.

"iTunes U provides me with a teacher's toolbox of resources. It allows me to customize my curriculum to meet the needs of each learner. I think today's learners thrive on technology," says Gasell.

"iTunes U allows us to tap into a huge audience that is starting to share content in ways that it wasn't shared before, says Michael Hoad, vice president for University Communications. "We are just exploring the beginnings of it; it's bigger than we even know."

And just the beginnings of it are nothing short of remarkable. Since launching its site on iTunes U in April of 2007, USF already has several times registered some of the top weekly downloads for all of iTunes U including H.G. Wells' *War of the Worlds*, and other classic literature audio podcasts in the Lit2Go section in the College of Education's iTunes U site.

USF College of Education Dean Colleen S. Kennedy sees iPods and iTunes U as a channel for positive change.

"It's so exciting to see the innovation that's taking place. iTunes U is a marvelous dissemination vehicle with a global reach," she says. "It gives us a platform to showcase the research of our faculty and provide high-quality digital content for our students, as well as a growing community of K-12 teachers."

The College of Education is leading the iTunes U initiative at USF with a pilot program for the university. Faculty in the college now incorporate podcasts in their curriculum and thousands of educational podcasts have been uploaded to the site.

USF Health is on board as well. In November, USF Health will host a national conference to set the standard for how iTunes U will be used to educate future medical professionals.

Why is iTunes U so successful?

The answer is simple according to James Welsh, director of Contemporary Literacies Integration in the College of Education's Florida Center for Instructional Technology: "iTunes U stimulates communication and collaboration and that's the heart of education."

To visit USF at iTunes U, go to: itunes.usf.edu

- Kim Tucker and Andrew DeLong

International Hosts

uring the summer, faculty and leadership from the College of Business at USF St. Petersburg lectured a new class of "students" on the college's academic specialty: corporate responsibility. The class comprised representatives from 17 different countries including Malawi, Mali, Sudan and Egypt all international leaders from the U.S. Department of State's international visitor program.

The business leaders from around the globe came to the campus to learn about best practices relating to the triple bottom line, a framework for measuring business performance that focuses on environmental and social performance in addition to economic success. In particular, faculty from the business college's Social Responsibility and Corporate Reporting Program of Distinction shared an academic perspective on how responsible corporate reporting and governance can eliminate fraud.

USF St. Petersburg's College of Business has demonstrated significant leadership in integrating social and environmental issues into its MBA program. In 2007, the program was ranked 34th by the Aspen Institute in its Beyond Grey Pinstripes list of the global top 100 schools for emphasizing social responsibility and corporate reporting.

USF St. Petersburg was selected from more than 90 cities and regions that compete annually to be part of the Department of State's international visitor program. This year's guests were invited to the United States for three weeks and visited five cities during their stay.

– James Kneblik

David Klement, director of the Institute for Public Policy and Leadership at USF Sarasota-Manatee was part of the 16-member Florida delegation that traveled to Holland for a water course at UNESCO-IHE.

Global Connection

ALL IT KEY WEST MEETS THE HAGUE. Or South Beach meets Rotterdam.

Don't look for wooden clogs on Duval Street or Atlantic Avenue anytime soon. But expect to hear a lot more about Dutch hydraulic expertise and storm forecasting as a result of a budding relationship between Florida and The Netherlands. Called The Florida-Holland Connection, the partnership is a formal agreement between the governments of these geographically and culturally distant entities to share knowledge about water management, climate change and land use in an era of rapid climate change. USF is in the forefront of the partnership.

Florida and Holland have much in common as the rate of global warming accelerates previous polar icecap-melt projections, with a concomitant bump in projected sea level rise. Both have low, densely populated coastlines vulnerable to ocean storms. Both face flooding or drought conditions as traditional weather patterns turn increasingly aberrant. Both have extensive records of poor water resource management.

Two USF campuses, Tampa and Sarasota-Manatee, are involved in the Florida-Holland Connection. This spring in Tampa, the Dr. Kiran C. Patel Center for Global Solutions hosted 17 international students from the UNESCO Institute for Water Education (IHE) in Delft, Holland, on a two-week study course in Tampa Bay and South Florida. The Patel Center in June signed a memorandum of understanding with UNESCO-IHE to "develop mutually strengthening and enriching international educational and research experiences for faculty and students."

Earlier, the Institute for Public Policy and Leadership at Sarasota-Manatee was represented among a 16-member delegation of Floridians attending a water course at UNESCO-IHE. That delegation, consisting of engineers, attorneys, academics and private citizens, spent a week learning about Holland's strategies for coping with the consequences of climate change and visiting some of the country's extraordinary flood-control structures. IPPL plans to use the knowledge and contacts acquired on that visit to expand public understanding of climate-change consequences in the Tampa Bay region.

The U.N. views the partnership as a potential model for international cooperation on climate change issues that could be replicated around the globe. Since 1957, the IHE at Delft has been training graduate students from underdeveloped nations to cope with water supply problems that leave some 1.1 billion people around the world without access to clean drinking water. It has graduated more than 13,000 students, who then return to their homelands to improve water conditions now and prepare for climate and population upheavals that the U.N. estimates will leave 40 percent of the world's people without adequate water by 2015.

The Florida-Holland Connection seems ideally matched with USF's strategic plan of becoming one of the nation's leading research universities and of fulfilling its goal of involvement in world-class interdisciplinary research and globally competitive academic programs. Research to cope with the complex problems created by global warming demands the best minds of many nations in many disciplines.

– David Klement

Curbing Commutes

Internationally recognized center assumes nationwide commuter program.

INCE IT WAS INITIATED IN 2002 by the U.S. Environmental Protection Agency (EPA) and the Department of Transportation, the Best Workplaces for Commuters (BWC) program has reduced the number of miles driven by commuters by 9 million a year. It has saved 177 million gallons of gasoline and \$430 million in fuel costs, and prevented the release of greenhouse gas emissions by 1.5 million metric tons annually.

Given the program's widespread economic and environmental impact, when the government needed an organization to take it over, USF's renowned Center for Urban Transportation (CUTR) was an ideal match.

For starters, CUTR and EPA had been close collaborators on BWC since its inception. Additionally, CUTR's expert Transportation Demand Management (TDM) researchers were already performing many complementary activities: operating



the National TDM and Telework Clearinghouse, maintaining a listserv of more than 1,250 professionals and database of hundreds of solutions to TDM-related issues, hosting numerous netconferences that allow hundreds of people to learn more and travel less each year, and offering the Florida Commuter Choice Certificate Program—one of the most comprehensive TDM training programs in the United States.

"We felt certain CUTR has the national presence and expertise in TDM and in effectively communicating on TDM-related issues to ensure that the program's impact and relevance would be sustained and grow in the future," says EPA Environmental Scientist Mary Walsh. "CUTR is an internationally recognized resource for transportation policy and education and is well-positioned to effectively carry on the BWC mission and message."

Philip Winters, CUTR's national manager for BWC, says "BWC is consistent with our objective to enhance the performance and relevance of public transportation and alternative forms of transportation. It is also part of USF's commitment to research and community engagement."

BWC recognizes companies who offer employees significant incentives and programs to encourage commuting alternatives. CUTR will continue to identify and recognize companies that meet the BWC National Standard of Excellence.

Winters says the number of employers supporting the goal of reducing drive-alone commuting has risen sharply since the program's introduction. "USF became a BWC-recognized business last year," he says, adding that CUTR traditionally has "walked the talk" in regard to best commuter practices. He cites numerous examples including the Bull Runner shuttle system, U-Pass free and reduced bus transit, carpooling and even bicycle racks and eateries on campus. On the horizon are additional initiatives including a car-sharing program, priority parking for car pool participants and van pools.

While taking over the program is a major undertaking, Winters believes the networking opportunities it creates with hundreds of businesses around the country will open the door to future partnerships and research.

Besides, in light of current energy challenges, Winters says that recognizing companies that are doing "the right thing" will help continue the trend toward energy and dollar savings—a trend with significant global impact.

"We see BWC as an opportunity to make a difference."

– Mary Beth Erskine

One-Stop Health Care

USF Health opens the Carol and Frank Morsani Center for Advanced Healthcare on the Tampa campus.

HE CLOSE OF SUMMER MARKED THE beginning of a new era in health care at USF with the opening of the Carol and Frank Morsani Center for Advanced Healthcare. The new facility includes a full, free-standing ambulatory surgery center with eight operatand five endoscopy suites

ing rooms and five endoscopy suites.

"This building mirrors what makes USF great. We have a vision of the future, we have a terrific donor, and now we can all go and get the best health care in the world," says USF President Judy Genshaft.

The Morsani Center allows USF physicians to provide world-class health care with the most sophisticated medical

equipment in the region. Designed around a one-stop shopping experience, patients are offered convenient, highquality health care with an emphasis on customer service.

"This building models our response to the challenge of the

future of health care," says Dr. Stephen Klasko, vice president of USF Health and dean of the College of Medicine. "We believe our colleges can transform how we understand the full spectrum of health. We believe our education will transform how our students change the world. And we believe that transformational research will drive how we do everything."

Located on the USF Tampa campus at the corner of USF Holly and USF Magnolia Drives, this six-story structure boasts 194,400 gross square feet and serves as the gateway to the USF Health quadrant of the USF Tampa campus.

USF's new ambulatory surgery center is located on the second floor of the Morsani Center. Physicians will offer outpatient care in a number of specialties including breast surgery; gynecology; ear, nose and throat; general surgery; orthopaedics; physical therapy; and plastic surgery.

The in-house imaging center on the first floor offers fully

ultrasound, fluoroscopy, nuclear medicine and bone densitometry services will open in the coming months. An in-house Sweetbay Pharmacy located on the first floor allows USF Health patients instant access to over-the-counter

ray. Women's diagnostics featuring mammography and

digital diagnostic imaging, 3T MRI, 64 slice CT, and basic x-

and prescription medication. USF physicians and providers have the ability to send all prescriptions electronically from exam room to computers directly in the downstairs pharmacy, making the entire health care visit all-inclusive.

"The whole concept surrounding the Morsani Center is to make the experience patient centric," says Rick Green, executive director of the USF Physicians Group and COO of the

> Centers for Advanced Healthcare. "Our goal with this new facility is to provide world-class health care and education with the most sophisticated medical

Instead of patients moving

equipment in the region,"

from doctor to doctor, doctors will move room to room. Patients won't have to schedule three different appointments at three different locations for their annual exam anymore, because everything can be taken care of in just one visit.

Green says.

In the future, patients will have access to sophisticated electronic health records, saving them the time and hassle of filling out paperwork. Patients will also be able to request and schedule appointments, send e-mail messages to doctors and request prescriptions online.

The Morsani Center offers more than 50 clinic exam rooms, a patient outreach and education center and a full service eatery on the first floor featuring healthy options for patients and staff. The facility was completed with funding from the state, the community and a bond from the USF Physician's Group at a total cost of \$67 million.

– Susanna Martinez Tarokh





COMMUNITY









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Blueprints to Footprints

Architecture students design and build a unique green pavilion.

OR SOME USF GRADUATE STUDENTS, a project involving months of physical labor and steadfast commitment was no walk in the park. Their efforts, however, will help provide a pleasant walk in the park for people in a local community. From design to digging, 12 students in the

School of Architecture and Community Design made a new pavilion and amphitheater a reality at Riverfront Park in the city of Temple Terrace. The project was part of the school's Design/Build program, which bridges the theoretical realm of the studio and the physical realm of the community by providing students with the opportunity to construct their design proposals.

"Giving students a hands-on experience with building provides a visceral connection to construction materials and methods," says assistant professor Stan Russell who initiated the undertaking. "It also enables them to make a critical connection to the community—to see that architects and planners can and should play a key role in improving communities."

With plans for limited development, Riverfront Park's primary features will be trails and boardwalks. According to Dana Carver, parks planner with the Temple Terrace Leisure Services Department, the pavilion will serve as the connecting location for the trails, the site from which a bat tower can be viewed, and a central meeting area for educational programs. The city provided \$20,000 for materials and supplies. Additional funds came from a \$5,000 grant from the USF Collaborative for Children, Families and Community and contributions from local businesses.

Partnering with USF was an easy call, according to Carver. "The city received a green structure of unique design at a bargain price." In addition, Carver says he was "pleased with the attitude, commitment and professionalism exhibited by the students."

Students spent the fall semester designing the structure, collaborating in a way that enabled everyone's ideas to contribute to the final proposal, and presented their plan to the



city council. After receiving approval and a building permit, they traded their models and drawings for hard hats and hammers and spent the spring semester in the field. They completed every task and fabricated each structural piece themselves, including clearing the site, spreading concrete, placing gravel, assembling rebar, cutting and welding steel connectors, and constructing and stress-testing support beams.

The most difficult physical challenge—raising 600pound support beams—created the pavilion's most striking feature. The six, gently curved, glulam beams gracefully rise 12 feet from the brush and extend forward 30 feet. Constructed by gluing together multiple layers of timber, the beams give the appearance of resting on air but are supported by a series of bamboo struts anchored to five concrete piers.

According to Russell, providing a service-learning project was one objective of the project. Another was to introduce students to principles of sustainability by showcasing a variety of green materials such as bamboo and glulam. Benches were made from recycled wooden pallets, and an 8-foot buffer wall of rammed earth provides a display area for information about the park.

"I think that the famous quote by legendary architect Mies van der Rohe, 'God is in the details,' has new relevance for all of us," says student Matthew Gaboury.

"It's one thing to read and study material in the classroom, but until you can apply that knowledge in an actual application, it is only theory. It is very cool to be able to stand under a structure that you not only helped design, but built." - Mary Beth Erskine

High-Tech Pioneer

USF biotechnology spin-off pioneers new cancer and viral disease drug development.

RX THERAPEUTICS, A PRIVATELY HELD company that started with technology licensed exclusively through USF, is on a fast track to help in the battle against cancer and viral disease. The company's lead product for cancer treatment, IRX-2, or citoplurikin, is now in advanced clinical trials. And, after raising another \$25 million through stock offerings, bringing its total in private financing to \$65 million, the company's future looks bright.

IRX-2 is aimed at stimulating a coordinated cellular immune response to enable a patient's immune system to fight disease while improving survival and quality of life. The product contains multiple natural cytokines, a category of signaling proteins used in cellular communication, including interferons, natural proteins produced by the immune system.

Citoplurikin has been tested in phase one and two clinical trials where the drug was being tested for safety in increasingly larger numbers of volunteers with head



and neck cancer. Reports said the drug was "well tolerated" with no major side effects and a clinical response rate of 38 percent as overall survival doubled to 48 months. The company is planning phase three trials where its efficacy in treatment will be further tested.

Citoplurikin has been given "fast track" and "orphan drug" status by the U.S. Food and Drug Administration (FDA). The fast track designation is a formal mechanism to interact with the FDA and is intended for products with claims that it addresses an unmet medical need. The benefits of fast track include scheduled meetings to seek FDA input into development plans, the option of submitting a new drug application in sections rather than all components simultaneously, and the option of requesting evaluation of studies using surrogate. Orphan drug status is a special status for drugs aimed at treating rare diseases.

According to John W. Hadden II, president and CEO of IRX Therapeutics, the new funding will be used to further develop its cancer and viral disease product platform. "USF, the USF Research Foundation and USF's Division of Patents and Licensing have been supportive partners since the company's founding," says Hadden.

Those at USF who have helped get IRX Therapeutics off the ground are excited about its potential and the potential for its products to help fight disease and improve the lives of those with diseases such as cancer and some viral diseases.

"IRX Therapeutics is a great example of the success that occurs when strong technology is coupled with experienced and capable management," says Valerie Landio McDevitt, director of USF's Division of Patents and Licensing. "These are the kinds of successes USF is focused on facilitating."

- Randolph Fillmore



The new tracking device detects movements characteristic of individuals with dementia.

tracked by Ultra Wideband (UWB) sensor technology installed in the rooms and hallways. The results show changes in movement speed and directions of travel.

"Our results so far clearly show movement pattern differences for each person and stability in an individual's patterns across days," says Kearns. "Those normal movement patterns, and changes in movement patterns, can be analyzed by computer programs and may ultimately give

"real time" updates to ALF administrators to warn them of a resident's impending departure."

Kearns, whose research is funded by the Johnnie Byrd Alzheimer's Center and Research Institute, says the study's findings will be published soon and on-going studies are aimed at perfecting the monitoring technology.

- Randolph Fillmore



Safe Return

NEW TRACKING SYSTEM—developed specifically for tracking patient movements and identifying potential wanderers or those who may be about to wander from their assisted living facility (ALF)—may help family members and caregivers to breathe a bit easier.

William D. Kearns, a professor in the Department of Aging and Mental Health in the Louis de la Parte Florida Mental Health Institute at USF, and colleagues have adapted sensor technology to detect various movements characteristic of individuals with dementia. They currently have an ongoing study to test the system's effectiveness.

According to Kearns, about 140,000 Floridians are being cared for in nursing homes or ALFs.

"In the past five years, the number of residents in these facilities with dementia has increased from 40 percent to 60 percent," he says. "It's estimated that six million Americans have dementia and during their illness 60 percent may wander, which can lead to injury or death."

The study will gather movement data from 30 residents who move about in congregate areas within their ALF, says Kearns. During waking hours, each resident wears a tag shaped like a wristwatch and their movements are

A First Step

International study shows that a new drug may provide greater benefits for patients with early Parkinson's disease than the standard therapy.

> NEW STUDY IN PATIENTS WITH EARLY Parkinson's disease demonstrated that the drug Stalevo provides better symptom control and greater improvements in activities of daily living than Sinemet, the most widely used treatment for patients. University of South Florida neurologist Dr. Robert A.

Hauser, principal investigator for the international study, presented the findings this spring at the American Academy of Neurology Annual Meeting in Chicago. Dr. Hauser directs the USF Parkinson's Disease and Movement Disorders Center, designated as one of only 41 National Parkinson's Foundation Centers of Excellence worldwide.

FIRST STEP (Favorability of Immediate-Release Carbidopa/Levodopa vs. Stalevo: Short-Term Comparison in Early Parkinson's) was a double-blind, randomized clinical trial that included 423 patients with early Parkinson's disease in the United States, Canada and six other countries. USF was one of the Florida sites for the study, sponsored by Novartis.

In a healthy brain, certain cells produce the chemical dopamine, which helps the body coordinate its movements. In Parkinson's disease, these dopamine-producing cells falter and die—leading to movement-related or motor symptoms such as tremors, muscle rigidity, balance problems and slowness. To control these symptoms, patients with early Parkinson's are commonly prescribed the drug Sinemet, which combines the drug levodopa with carbidopa. Levodopa is converted into dopamine in the brain while carbidopa lessens the side effects of levodopa.



This standard drug is very effective, but eventually Sinemet works for increasingly shorter time periods, so that patients begin to experience impaired movement before their next scheduled dose of medication. The reemergence of motor symptoms accompanying this "wearing off" may make it difficult for patients to perform even the most basic functions, such as walking and dressing. In addition, over time patients tend to develop sensitivity to Sinemet resulting in involuntary and uncontrollable twisting, turning movements known as dyskinesia.

Combining Sinemet with entacapone, Stalevo boosts and extends the amount of levodopa getting to the brain over time but is currently approved only for advanced Parkinson's patients who experience end-of-dose wearing off. Researchers wanted to find out if the drug might benefit even more patients—including those early in the



USF neurologist Dr. Robert Hauser was principal investigator for the FIRST STEP study.

disease process who were not yet experiencing end-ofdose wearing-off response fluctuations.

The FIRST STEP study compared the drug Stalevo with the same dose of Sinemet in patients within five years of Parkinson's diagnosis. Stalevo demonstrated significant improvement in activities of daily living such as eating, bathing and dressing, and a reduction in motor symptoms like rigidity and tremor compared to Sinemet.

"The goal of treatment is to provide the best possible function and quality of life to patients for the longest period of time," Dr. Hauser says. "While levodopa/carbidopa has been considered the most effective treatment for motor symptoms in patients with early Parkinson's disease, this study indicates that Stalevo provides greater benefits for these patients without increasing motor complications such as dyskinesia."

The study findings are intended to support regulatory filings with the Food and Drug Administration for the approval of Stalevo in patients with early Parkinson's who have not been treated with levodopa.

Established in 1986, the USF Parkinson's Disease and Movement Disorders Center treats patients with Parkinson's disease and other movement disorders, including dystonia, tremor, Huntington's disease and restless legs syndrome. One of the country's leading sites for testing new medications to combat movement disorders, the center is also working on new surgeries and innovative cell-based therapies that may offer hope for patients who no longer benefit from drug therapy. In addition, USF researchers are looking for ways to determine those at high risk for Parkinson's, so that the degenerative brain disorder can ultimately be prevented before it starts.

"We are working to identify innovative therapies that will slow, and perhaps one day stop, the progression of the underlying disease," Dr. Hauser says.

Current research includes a landmark National Institutes of Health clinical trial to determine whether the nutritional supplement creatine can slow the development of Parkinson's disease and a study evaluating an infusion pump that continuously administers levodopa/carbidopa to the gut as opposed to having patients take a pill every few hours. USF researchers are also looking for firstdegree relatives of individuals with Parkinson's disease for a U.S. Department of Defense study testing whether loss of smell is an early indicator of Parkinson's, even before motor symptoms become apparent.

For more information, call USF Parkinson's Disease and Movement Disorders Center at 813-844-4455.

– Anne DeLotto Baier

Powering the Future

A renewable energy system being tested at USF St. Petersburg is revolutionizing the power grid.

> HO CAN FORGET THE MASSIVE power outage that blacked out huge portions of the northeastern United States and Canada in 2003? Transportation failed, cell phone towers went out, so did the lights,

the TV, elevators and the Internet. New York City shut down and much of the nation went to its knees as a cascade of events crashed the power grid.

"The continental-sized energy grid is the most complex system developed by mankind," says Alex Domijan, professor and the director of the College of Engineering's Power Center for Utility Explorations (PCUE). "Its growth is directly linked to our national economy and has brought us our modern era."

Since the crash of 2003, what's being done to transform the power grid and improve the security and quality of electrical energy distribution and reduce our dependence on oil throughout the nation? At USF, a lot is being done in the College of Engineering's Power Center for Utility Explorations where a program called SEEDS (Sustainable Electric Energy Delivery Systems) promises to find revolutionary ways to bring the power grid into the 21st century system.

SEEDS is a renewable energy system that combines photovoltaic panels, or other renewable energy sources, to produce electrical energy from solar energy coupled with an advanced battery system to supply green energy during power system peaks.

"We need a system flexible enough to prevent blackouts, a system that incorporates renewable energy sources in harmony with conventional energy sources, and a system that encompasses the climate change issues now



being discussed," explains Domijan.

Domijan and colleagues are demonstrating SEEDS through a partnership with Progress Energy, the Florida High Tech Corridor and the City of St. Petersburg. Two SEEDS units were recently installed on the USF St. Petersburg campus and the nearby Albert Whitted Park. The units are gathering solar energy, converting it to electricity and storing the power in batteries where it can be used by Progress Energy anywhere it is needed.

"We want to be able to send energy back into the grid system," explains Arif Islam, PCUE deputy director and SEEDS project manager.

The need to improve the power grid and energy distribution is becoming dire. As Domijan points out, the outdated power grid that barely dealt with the additions of air conditioning in the 1960s is being taxed by the increasing demands placed by the Internet in the 1990s. The power grid will soon have to accommodate increased demand when more people start recharging their hybrid cars.

"Electric vehicles will have to be charged quickly, and



Project manager Arif Islam and Alex Domijan, director of USF's Power Center for Utility Explorations, are monitoring and testing the new system.

we can't do that from the utility grid because of the large voltage drops," predicts Domijan.

How can SEEDS help? First, the SEEDS concept and technology aids in the development of a 'smarter grid' that can redirect stored energy. Second, SEEDS technology can store the greener energy created by renewable sources such as solar, wind or ocean power—fossil fuels need not apply.

Because SEEDS energy is greener from square one and can be stored or sent elsewhere in the system, SEEDS can save a lot of money, says Domijan. Once more, he predicts that the development of the SEEDS concept and associated technology will lead to an international revitalization and revolution of energy "demand-side management" that features renewable energy use, advanced storage systems, peak load sharing, energy efficiency, lower costs and lowered $\rm CO^2$ emissions.

"SEEDS is like a virtual power plant," explains Domijan. "The batteries and how you use them are key. Instead of building yet another coal-fired power plant, we can build more SEEDS units and create a smarter grid."

USF's PCUE is also in the business of developing the next generation of power engineers. According to Domijan, local industry is actively involved in developing the power program and includes PCUE founding board member firms, Tampa Electric, Florida Power and Light, Progress Energy, Sumter Electric, Seminole Electric, and Tampa Armature Works.

"USF is also developing the next generation of power engineering professionals, the only dedicated specialty that deals with energy issues," says Domijan.

Analysis of the performance of the two SEEDS units is now under way, says Islam, and some real data about the benefits of storing renewable energy is forthcoming.

– Randolph Fillmore



BY MARY BETH ERSKINE

Connecting Disciplines

Graduate research scholarships promote interdisciplinary collaboration to address global issues.

UNISIA RILEY HAS A HEART THAT IS MOVED BY PEOPLE who suffer and fervor for justice and social change. That zeal compelled her to leave her editorial position at *Science* magazine in Washington, D.C. last year to follow her passion: a career where she could make a difference in the lives of people who may lack the social or economic resources to succeed in life. Accepted into USF's master's program in women's studies, she is moving toward that goal as a member of a multidisciplinary research team investigating how to improve long-term health in communities. It's an expansive and complicated issue and, there-

fore, the team includes representation from widely diverse fields of study.

Society continues to become more complex and its most pressing problems too complicated for lasting solutions to be developed by experts in a single field. "The next generation of problem-solvers—the scientists, engineers, educators, artists and scholars who will become the leaders in research, industry and academia—will need to apply tools from a variety of disciplines to address persistent problems of the past and to seek innovative solutions to global questions of the future," says Ralph Wilcox, USF provost and senior vice president for Academic Affairs.

"This reality requires a new paradigm in graduate education and research—one that transcends traditional disciplinary lines and equips Doctoral student Emma Farrell works in two labs, under the direction of biology professor James Garey and chemistry professor David Merkler.



students with the broad technical, professional and personal skills future careers will demand and employers will expect."

At USF, this effort has taken shape over the years through numerous programs and projects that promote interdisciplinary collaboration. Most recently, new scholarships for graduate study that promote research across disciplinary lines have become available to students as part of the Multidisciplinary Research and Graduate Education Enhancement Initiative.

Interested students or students nominated by a faculty member are selected as Graduate Multidisciplinary Scholars (GMS) based on a variety of criteria per-

taining to their specific field. Award recipients receive tuition and a stipend of \$15,000 to \$20,000 a year and work 20 hours per week conducting multidisciplinary research under the supervision of experienced faculty members. These innovative research projects possess the capacity to provide students with master's thesis and doctoral dissertation

topics and data while simultaneously affording publication opportunities and valuable work experience. The initiative currently encompasses four areas of research: fundamental and applied life sciences; computavey data. Working with faculty who bring expertise from a variety of perspectives, including those of an economist, anthropologist and physician, Riley has been learning the value of addressing an issue from every angle.





"A multidisciplinary team brings a range of important perspectives to any project," says Cheryl Rodriguez, associate professor of Africana Studies and director of USF's Institute on Black Life. Also on the team are Kim Vaz, chair of the Women's Studies Department; Linda Lucas,

women's studies professor;

Nagwa Dajani, assistant professor in neuroscience; and graduate student Jennifer Earles, who is also majoring in women's studies.

Drawing on her undergraduate and graduate work in women's studies, Riley has been able to provide the team with insight into why there are health disparities between women of color and the rest of society. "In return, I have been learning how to interact with a multidisciplinary team," she says.

"Learning how to talk to each other in a language we all understand takes time. I've learned to be flexible, more broad-minded and to listen"—all skills she believes will be invaluable to her future career.

[•]My goal is to bring the multidisciplinary approach to research, which is a more holistic approach to learning, to future students.[•] – Emma Farrell

tional tools for discovery; global sustainable healthy communities; and functional multi-scale materials by design.

Riley's research team, for example, is investigating how women receive and exchange knowledge about health issues, specifically cardiovascular health, and how that process can contribute to better health practices. She has been assisting with the development of a survey instrument for the study, in addition to analysis of the surWhile some people look at the world through rosecolored glasses, scholarship recipient Emma Farrell's are multicolored. A fourth-year doctoral student in chemistry whose undergraduate degree is in biology, Farrell is predisposed to multidisciplinary research, approaching problems and solutions and life, in general, from a multifaceted viewpoint.

It's no surprise, therefore, that research she is conduct-

ing through the Florida Center of Excellence-Biomolecular Identification and Targeted Therapeutics (FCoE-BITT) finds her in both chemistry and biology labs. Like Riley, Farrell's experience also will provide her with the foundation to reach career goals: to share her passion for science and multidisciplinary research as a university professor. "My goal is to bring the multidisciplinary approach to research, which is a more holistic approach to learning, to future students," she says.

Currently under the direction of David Merkler, chemistry professor, and James Garey, biology professor and department co-chair, Farrell divides her time between the two science labs. Farrell analyzes chemical reactions in the chemistry lab and studies gene expression and DNA sequencing in the biology lab to determine how certain signaling molecules are created in the body. Doing so would enable researchers to identify

drug targets to help combat illness.

"When you combine the disciplines of biology and chemistry, you can do all sorts of new things that you couldn't do from a traditional, single disciplinary approach," says Farrell.

According to Garey, advances in biotechnology, particularly in biomedicine and cancer, have caused biologists to focus more at

the molecular level and chemists, on the other hand, to look increasingly at the role chemistry plays in a cell.

"The twenty-first century will be the century of biological discovery, particularly at the molecular level, so students must be trained broadly in all the sciences. A chemist who understands biology, or a biologist who understands chemistry, can contribute far more than a more narrowly trained person. They have the proper tools and the broader perspective necessary to ask the right questions."

A native of Guyana, South America and a chemist at heart, Ryan Michael fully understands the value of developing a broad perspective. He recently completed USF's master's program in civil and environmental engineering and is currently enrolled in the university's doctoral program in environmental and occupational health. The recipient of a GMS award, Michael is part of a multidisciplinary research team that is focused on the global environmental sustainability problem caused by

Ryan Nichael

mercury contamination and is performing the systems modeling tasks related to the study.

Michael says that he would like to become as "multifaceted as possible in order to contribute as a problemsolver in environmental health." His research understanding why some groups of people are exposed to greater levels of mercury contamination than others and how to mitigate the effects on both human beings and the environment—is a complicated problem requiring a comprehensive approach. He explains that is why the team comprises experts such as Amy Stuart, an assistant professor in environmental and occupational health, as well as faculty members Maya Trotz and Fenda Akiwumi and graduate students representing civil and environmental engineering and geography.

Coming to USF as a chemist, Michael studied engineering to earn a master's degree. "I could develop a

chemistry-based solution to a problem, or an engineering fix to a problem. But as I've seen through my experience on this project, you could spend a lot of time doing that, but if you don't consider the impact on society and if people will accept the solution, then it's not going to really fix the problem."

Michael uses his chemistry background to understand how

mercury changes once it enters into the environment and his engineering and mathematical skills to conduct systems modeling activities. In addition, according to Stuart, Michael is able to work with others, to understand, appreciate and incorporate their expertise, and to see the ultimate issue of making the world a better place.

"If you're looking at a problem from just one discipline, then you're too narrowly focused," says Stuart. "There could be issues outside the boundaries you have set that won't be addressed, and you end up passing the problem off to the next group and never really getting to a solution that will work and be accepted by the community.

"Solving any of the grand challenges of the millennium is going to require a multidisciplinary approach."



To Market

Technology transfer brings high-tech brainpower to solve practical, real-world problems while supporting local economic development.

HANKS TO A CONCEPT CALLED "TECHNOLOGY TRANSFER," the brilliant ideas and inventions of students and their mentors that take shape and substance in the classroom are going on to be patented and licensed. Increasingly, thanks to "spin-offs" or "start-ups," as they may be called, the inventions are also finding their way to the marketplace and into the homes, businesses, schools and factories where they are needed.

According to Valerie Landrio McDevitt, director of USF's Division of Patents and Licensing, technology transfer is the process of transferring scientific research findings out of the university for the purpose of further design and commercialization.

"The majority of this research is very early stage," explains McDevitt. "What follows is the formulation of marketing strategies and licensing to existing private sector companies, or creating new, start-up companies based on the technology."

The process, says McDevitt, is important to USF's mission.

"We want our discoveries recognized for a number of reasons," she spells out. "Recognition helps us attract and retain talented faculty. We also like it when there is the possibility of one of our technologies aiding local economic development. Successful products also attract corporate research dollars. Finally, the fees from licensing the technology provides us with support for further research and for our

Professor of engineering Stephen Sundarrao and graduate student Josh Lujan are turning the wheels of progress to solve practical, realworld problems for people with disabilities.

JOSEPH GAMBL

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educational mission."

Technology transfer starts in labs and classrooms that are home to some special courses. For example, Stephen Sundarrao, associate director of USF's Center for Rehabilitation Engineering and Technology in the College of Engineering, in 2003 began offering a course titled "Capstone Design Course for Mechanical Engineering."

BY LARA WADE AND RANDOLPH FILLMORE In the Capstone Design class, undergraduate senior mechanical engineering students learn how to solve rehabilitative engineering problems by creating innovative technologies—many utilizing robotics—and then applying the innovations to solve practical, realworld problems for people with special needs and those who face difficult challenges coping with the daily tasks of life.

"Students in the Capstone course are divided into groups and are charged with solving a problem that someone with a disability faces every day," says Sundarrao, who helped start the center in 2001. "I've been impressed by the level of dedication and determination demonstrated by these students. When they unleash their creativity, they make real differences in people's lives."

Since its inception, the Capstone course has become a mini-factory for ideas and products. For example, students have developed and patented a rugged off-road wheelchair for hunters, people who fish, beach goers and others who don't want to be kept away from nature. They built a sideways wheelchair that can roll sideways into a tight spot with no turning restrictions because of wheel base. Their convenient folding crutch is making life easier for some. Finally, a backpack retriever makes it easier to reach for and grab items that would otherwise be out of reach for wheelchair and power chair users.

With the help of USF's Office of Patents and Licensing, many ideas and products have gone on to be patented. Both the students and USF receive patent royalties. Some students have become intimately involved with a new USF spin-off company called "Rehab Ideas" that Sundarrao initiated in 2006.

"The energy to move forward was there," he recalls.

The products were already there, and with a little encouragement from McDevitt and others, an idea was sealed into a "deal."

"It just all came together," says Sundarrao. "We incorporated in 2006 and will be selling products in August or September of this year. We began getting orders on various items as soon as word got out about the business, even before we set prices. Clearly, there are not many people or corporations doing what we're doing and for whom we are doing it."

It sounds simple, but it was a more complicated and step-wise route to realization.

Sundarrao sought out investors and gained capital.

"Rehab Ideas is truly win-win for everyone. But, most importantly, USF student-created projects will be sold worldwide to people who want and need them." – Stephen Sundarrao

Next he worked with McDevitt to get patents for five students' projects. They procured space in the USF Research Park. Lastly, they found a local manufacturer, Tampa Brass and Aluminum, a long-standing and well-known, family-owned Tampa business. They will manufacture the products that had once been a seed in a senior student's mind and a sketch on a pizza shop napkin.

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"Rehab Ideas is truly win-win for everyone," explains Sundarrao. "But, most importantly, USF student-created projects will be sold worldwide to people who

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Student Ingenuity

A number of USF student-created solutions for people with special needs will be available worldwide through Rehab Ideas, a USF spin-off.

Off-Road Wheelchair Kit

The Off-Road Wheelchair Kit is designed with a base platform powered by the wheels of a power wheelchair, but its rugged construction allows the user to access outdoor recreational areas that are typically not accessible in a standard wheelchair, such as beaches, parks, trails and wilderness areas.

No Limitations Sideways Wheelchair Kit

The Sideways Wheelchair Kit is designed to be attached to a rear wheel drive power wheelchair. Although normal movement of a wheelchair is limited to forward and backward with left and right turning capability, this device enables the wheelchair to move sideways, permitting wheelchair users to access tight spaces.

No Dependency Backpack Access Kit

This kit enables powered wheelchair users to easily retrieve items from behind the backrest. A unique linkage design requires minimum side clearance during deployment, does not increase overall width of the wheelchair, and can be mounted on left or right side with universal application for most chairs.

Folding Crutch

This crutch folds so that it can be stored in small spaces. It is made of

want and need them."

Since Rehab Ideas has gotten off the ground, Sundarrao has hired several former students to work as engineers at the USF Center for Rehabilitation and Technology, including former student Josh Lujan, whose Capstone class team designed the Sideways Wheelchair Kit.

"We liked the idea of the sideways wheelchair," recalls Lujan. "We brainstormed awhile and decided that the best way to achieve a lateral motion was by developing a six-bar device at the back of the chair that could lift the wheels while a motor drove the chair left or right."

According to Lujan, the device helps users move into a tight row in a movie theater, parallel park, or slide in behind a desk—maneuvers that could not be carried out with a traditionally designed powerchair.

"That our project could help somebody—or a lot of people—is deeply rewarding," says Lujan, who is now a staff member and works with Sundarrao on a daily basis. "I tell my family every night that I have the best job in the world."

Sundarrao adds that while developing robotics, vehicle modifications and mobility devices is the focus of the center as well as Rehab Ideas, they keep an eye on the bigger picture. "Many of our innovations are aimed at improving not just daily life and independence for people with challenges, but improving their employment options as well," he says.

According to McDevitt, start-ups like Rehab Ideas have a better chance of success and are more likely to benefit the community when experienced management is at the helm.

"We are happy that Rehab Ideas is rooted in the local



aluminum with a cuff that surrounds the forearm just below the elbow, which reduces arm strain.

No Restrictions Trayaway

A unique design (pictured at right) allows tray to fold out from below the armrest so that it can be used as a tray in front or side of the chair and the width of wheelchair remains the same. The Trayaway can be mounted on left or right side and fits most chairs.



Persistence, creativity and dedication also have their own, more intangible rewards. This year, Sundarrao was recognized by the American Society of Mechanical Engineering's Florida West Coast Section as "Engineer of the Year," and he also received the 2007 Florida Governor's "Point of Light" award. PHOTOS: JOSEPH GAMBLE

Chairman 2<mark>5</mark>

Guiding

USF's Center for Autism and Related Disabilities helps optimize the potential of people with autism.

> OR NICOLE TORRES, A FIRST-TIME mother, the behaviors seemed odd at first—screaming at the sound of a barking dog, repetitive hand-flapping and paralyzing fear if he fell in sand at the playground. Odd, yes, but surely her 2year-old son, Chase, was fine. Surely he was just a sensitive boy.

Or so she thought, until a pediatrician began to question Chase's inability to

speak. And a speech therapist began to ask questions like: Does he put strange things in his mouth? Does he self-injure? Does he lick things? Did he have language at some point?

"I wondered, what does this have to do with speech," Torres recalls. "Then I began to research and realized these are the questions you ask when you suspect a child has autism. I panicked."

Torres, a single mother and 33 at the time, made an appointment with a neurologist, and then another. After extensive testing, her fears were confirmed. Chase was diagnosed with severe autism.

A developmental disability with widely varying severity, autism affects the brain resulting in communication, social and sensory dysfunction. The disability, which typically appears in the first three years of life, affects the way people perceive the environment and the way they act. Estimates suggest more than 400,000 people in the United States today are living with autism.

Determined to learn all she could about the neurobiological

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Nicole Torres says CARD-USF gave her the tools to support the special needs of her son, Chase, who has autism.



disorder and do everything possible to meet the special needs of her son, Torres gave up her executive job, moved in with a friend and applied for food stamps. She signed up for Medicaid to get Chase the speech, occupational and physical therapy he desperately needed.

"There was nothing I wouldn't do," she recalls. "One way or another I was going to get my son through this."

At Early Steps, a local program for children up to age 3 with developmental disabilities, Torres was assigned a family resource specialist. That's when she learned about CARD the Center for Autism & Related Disabilities at the University of South Florida.

"My family resource specialist helped me to attend a CARD conference," she says. "I was desperate for information."

The annual conference to help participants understand the nature of autism and related disabilities is just one of the many services provided by CARD-USF, a community-based resource center serving children and adults with autism and related disabilities. Established in 1993 and funded by the Florida State Legislature, CARD offers instruction and coaching to families and professionals through training designed to optimize the potential of people with autism and related disabilities. CARD-USF is the oldest of seven university-based regional CARD sites and serves 2,200 families in 14 counties in southwest Florida. Its Web site, with links to information, resources, training events and special programs, has recorded more than 750,000 hits since May 2006. Shelton Gilyard, CARD Consultant, demonstrates the use of visual tools with Hillsborough County School District Resource Teacher for Autism, Suzan Fine, as a third-grader looks on.

Center Director Dr. Karen Berkman says CARD provides services in four areas: direct assistance, technical assistance and consultation, professional training, and public education and awareness. Most importantly, she says, the services are provided free of charge.

For Torres, direct assistance began with a home visit by a trained consultant.

"She was wonderful; she listened to all of my concerns. She listened to the dreams I had for my son's future and provided me with information, like the importance of using visuals," Torres says. "She never worked with my son directly. It was more about giving me the tools so I could work better with him. It was such a needed support."

That kind of assistance is exactly what CARD provides, according to Berkman.

"We help people walk through the first steps, to focus on right now, the things they are eligible for, what assistance they may need. We provide them with simple tools and strategies like breaking tasks down to the smallest steps and an endless database of autism-specific resources," she says. "CARD is a place where you can go and tell your story and we get it, no matter what changes. And because we get it, we provide continuity over time." CARD does not offer treatment, diagnosis or crisis management. It builds in the training and technical assistance to enhance existing services and resources for people with autism spectrum disorders and their families.

When Chase moved into the public school system at age 3, CARD-USF was there, conducting classroom-based observations and offering strategies and suggestions like a visual schedule to help Chase understand and break down simple tasks. When social or behavioral concerns arose, Torres' consultant offered helpful information and strategies.

Torres was successful at using the learned interventions interventions which made positive changes in their lives. Today, at age 7, Chase is in a regular education classroom earning straight A's. He doesn't have an aide. "CARD-USF has played an important role in his success," says Torres, now a CARD-USF Constituency Board member and a family resource specialist for Infants and Young Children of West Central Florida and the Early Steps Program. "I could go on and on about CARD."

In addition to providing direct assistance to parents like Torres, CARD-USF provides training and consultation to schools, employers, health care workers and agencies that have direct interaction with individuals on the autism spectrum. Training is focused on awareness, skill development and capacity building.

"CARD is action," says Holly Sutherland, Low Prevalence Facilitator for Polk County Public Schools. "They come out and support the teachers. They give us strategies to use for different behaviors and different strategies for different students on the autism spectrum. They also come out and support the parents. They'll come to the home and see what behaviors are happening or what support the parents need and give them help with that."

Cindy McKinnon, ESE Program Specialist for Sarasota County Public Schools, was introduced to CARD-USF earlyon when she called for assistance with a particular student. "They came in and provided all kinds of services to us," she recalls, services the district continues to use today. "CARD has assisted us on providing training to our staff coming into our schools—helping individual teachers as well as groups of teachers, and we've also sent teachers to training in the Tampa Bay area that CARD has provided."

An annual summer institute offers training to new and experienced teachers on research, innovations and effective programs for students. And, through a special program funded by the Florida Department of Education, CARD provides training and technical assistance to teachers to enhance the educational program for students with autism spectrum disorders.

"People with autism have much more going on inside

than they are able to communicate or that people give them credit for," says Berkman. "They are intelligent. They want to have relationships. They can love people; they want to engage with people."

But despite their abilities and desire to be included, children with autism are often left out. Through various projects and initiatives, CARD-USF is working to change that.

Last summer, working with the Hillsborough County Parks, Recreation and Conservation Department, CARD consultants visited six local camps to provide instruction and best practices for including campers with autism. And, in collaboration with the City of Tampa Parks and Recreation Department and a parent support group, CARD helped design an after-school social skills and recreation program for children with autism spectrum disorders at the Loretta Ingraham Recreation Complex. CARD consultants provided weekly training, materials and strategies for staff counselors.

"It's time that everything is available to everyone," says Berkman, who in March was named to a state-level task force on autism spectrum disorders by Florida Governor Charlie Crist. "It doesn't take a lot to make it work."

While Berkman and her staff have made significant inroads, she says adults with autism have great difficulty finding meaningful and gainful employment. About 85 percent of people with autism are unemployed.

"Part of the problem is the barriers that exist to people with autism accessing opportunities," she says. "People with autism can be reliable, motivated and very accurate. Employers are frequently searching for individuals who can focus on quality outcomes and can be long-term workers. Our constituents can be those successful employees with the right set-up and supports."

That support can be multi-faceted, according to Berkman. To help adults with autism transition to work, for example, CARD consultants may conduct a worksite visit. By gaining a comprehensive understanding of the job and its responsibilities, the consultant can break down every aspect of the job and help ensure the constituent's success.

But it takes a willing employer.

"We need to change the mindset. We must dispel the myths that exist so people with autism can be offered opportunities to be full citizens of our communities," she says. "We need to imagine the possibilities of what people with autism can do," says Berkman.

For Torres, that's not a problem.

"My vision for Chase is to one day be completely independent—to hold a job, to have his own place and to be happy. I want him to live a full and productive life," she says. "And I'm never going to give up on that."

Education Advocate

USF alumna is a voice for higher education throughout the state.

W DO YOU MAKE A PERSON UNDERSTAND how good you feel when you help someone?" It's not the question you'd expect from a typical 11-year-old, but for Katlyn Duncan, the oldest child of USF alumna Ann Duncan, it's a reflection of learning by example. Already the fifth-grader has helped raise more than \$150,000 for three pediatric programs in the Tampa Bay region.

"I'm so proud that's her mindset," beams Ann, who says giving is a family affair. Six-year-old Carson gets in on the act, too. He's raising money for the Special Operations Warrior Foundation which provides scholarships for children of deceased special operations personnel.

Duncan's philosophy on giving back reaches beyond fundraising to public service and civic involvement. In 2005, she was appointed by then Governor Jeb Bush to the Florida Board of Governors (BOG), the governing body for the State University System of Florida, which includes all public universities.

Duncan is a student of higher education. She was a founding member of the USF Board of Trustees and inaugural chair of the USF St. Petersburg campus board. She was instrumental in developing the USF St. Petersburg master plan and recruiting more than 60 faculty and 13 administrators to the campus.

That experience, she says, provided her with an understanding of the business side of higher education. "USF is an enormous enterprise. I gained a full and encompassing perspective of the university—budgeting, funding sources, faculty issues, student perspectives," she says. "Understanding the branch campus environment has been both applicable and invaluable on a statewide basis."



As a member of the BOG, Duncan is part of the decision-making process for the state's 11 public universities. Strategic planning, performance accountability, legislative funding and tuition are just some of the issues the 17-member board tackles head-on.

"When I first started doing this job, Carol Roberts [BOG member] said, 'If you do this job right, you will fall in love with all 11 institutions.' She was right," says Duncan, who calls herself an "advocate for the whole system and all institutions."

"I so believe that higher education is a critical component to the success of our state," she says. "To be competitive, we need to produce a high number of quality graduates."

In the current challenging economic environment, Duncan believes Florida's public universities must remain focused and committed. "Rather than trying to build a system that is all things to all people, we must focus our resources to achieve pockets of excellence in complementary areas. We must be smart about how we grow."

Duncan, who lives in Tarpon Springs with her husband



blessed, you give back," she says. And that means getting involved. Her history of civic involvement began with the Clearwater Chamber of Commerce where her efforts to improve access to education in Pinellas County were instrumental in the establishment of Palm Harbor University High School in 1996.

"If you aren't willing to stand up for what you believe, then you deserve what you get," she says. "I grew up with three older brothers. I was never intimidated about jumping in and being around older adults." So it comes as no surprise that Duncan was the youngest and first woman chair of the Clearwater Chamber of Commerce and the first woman to join the Clearwater East Rotary Club.

Duncan is currently an advisory board member for Charity Works and a member

of the Florida Chamber. She is an alumna and past statewide director of Leadership Florida, an organization she says has had a huge impact on her life. She is past president of the National Association of Industrial and Office Parks' statewide board of directors, past charter chair and board member of the Pinellas County Environmental Foundation and a former member of the Florida Chamber of Commerce Board of Governors. She also is a past chair of the Tampa Bay chapter of the National Conference (NCCJ) and a former director of the Ruth Eckerd Hall Foundation. She completed the Six Sigma program at Villanova University resulting in her Black Belt designation, and in 2005 received the Outstanding Alumni Award from USF.

The university is near and dear to her heart. "It is fascinating to hear all that is going on there," she says. "From a student life perspective, the athletic program has had a huge impact on the culture and vibrancy of the entire campus. As an alumna, I am amazed at the growth in research and medicine. USF is a significant player locally and globally."

– Ann Carney

"I so believe that higher education is a critical component to the success of our state. To be competitive, we need to produce a high number of quality graduates."

Ronnie, a Pinellas County Commissioner, graduated from USF in 1987 with a bachelor's degree in finance. While she uses her finance skills every day, she says she gained something even more valuable from USF—the ability to learn. "USF prepared me to be a good learner. Learning how to learn is the greatest skill set."

Today, Duncan is president and founder of Vertical Integration, a commercial real estate brokerage and consulting firm that represents corporate and public sector entities. In March, she was honored with the Enterprising Women of the Year Award by *Enterprising Women* magazine. The award recognizes North America's top women entrepreneurs.

Duncan was raised to give and to do. "If you are

Are You Ready?

After a memorable 2007, Bulls get underway with the most anticipated football season in USF history.

N 100 YEARS, THE 2007 SEASON will have its own chapter in the annals of USF football.

The landmark party-crashing wins.

The torrid rise in national respect and to No. 2 in the national rankings for the program still shy of its teenage years.

The awakening of a dormant college football city, which never had a ranked hometown team to rally around.

The hype, momentum and energy of a packed stadium with one of the most raucous student sections in college football.

With many of the landmarks now in the rearview mirror, the 2008 version of USF football will look to take the next step with a BIG EAST Championship and first ever BCS Bowl appearance. And the team will look to rid themselves of the bitter aftertaste from opportunities and wins left on the field in 2007.

And as the greatest champions in sports history have always said, "Once you taste success, it makes you want it even more."

The coincidence in all these lessons is that once the Bulls hit the field in 2008, it will probably have a

SEASON TICKETS JUST \$88! 800-GOBULLS

very familiar feel to 2007, but it may be set up even better for success.

There is the marquee nationally televised, nonconference game on Friday, Sept. 12 against Kansas. Bulls fans will reminisce about the 2007 trip to Auburn, where USF pulled off an overtime win over the nationally ranked Tigers.

The advantage in 2008 is that the Bulls will play the Jayhawks at Raymond James Stadium in early September when the sweltering Florida summer should still be burning strong.

Cue the bitter taste when the Bulls open up conference play on the night of Thursday, Oct. 2 against Pitt. Bulls fans will be haunted by the memories of their loss to Rutgers... on a Thursday night ... while ranked number two in 2007.

Again, the difference in 2008 is the Bulls will be hosting the Panthers for Chris Fowler, Doug Flutie, Craig James and company, instead of traveling to hostile territory. And they may see a very similar team to their previous selves in Pitt, who is a national favorite to be a surprise contender in 2008.

Perhaps the stars are aligning for the Bulls to learn from their lessons of 2007 and the schedule gods may have given USF a break.

FEEL IT?

Yet the slate still includes another Thursday night

LAN



Be Respect-A-Bull

The University of South Florida in partnership with the student body, alumni and fans has initiated the "Be Respect-A-Bull" campaign aimed at promoting a higher level of pride, sportsmanship and honor. Please welcome the players, coaches and fans of our opponent with great respect and the wonderful hospitality that can and will be the hallmark of Bulls everywhere.

game at Cincinnati, a trip to Louisville and the season finale on Championship Saturday at West Virginia.

The experience on offense is hard to ignore with 10 starters returning and a wealth of depth at every position. Potent weapons QB Matt Grothe, WR Taurus Johnson, WR Carlton Mitchell and RB Mike Ford enter camp healthy and give USF a ton of options after setting numerous program records in 2007.

Defensive coordinator Wally Burnham expects his unit to be as potent as ever. After leading the country in turnovers in 2007, the Bulls lost three NFL defenders. Burnham thinks the secondary may be the strongest unit on defense. He also has confidence that LB Tyrone McKenzie, DE George Selvie and LB Brouce Mompremier will be able to plug holes up the middle where graduation hit the defense hardest.

– Chris Freet



One to Watch

EEP YOUR EYES ON USF SENIOR KEVON NEAVES, who was named to the 2008 Men's Missouri Athletic Club Hermann Trophy Watch List in August. The award is given annually to the top collegiate men's soccer player in the country.

Last year Neaves, a midfielder, finished with six goals and eight assists, and was named to the 2007 National Soccer Coaches Association of American (NSCAA) Men's Division I All-Northeast Region first team and to the BIG EAST Weekly Honor Roll. In the second half of the season, he was ranked as high as 21st in the nation with .47 assists per game and 52nd in the country with 1.18 points per game. He was a 2007 first team All-BIG EAST Conference player and was selected to the 2008 preseason all-conference team.

The MAC Trophy award is considered the highest individual honor in intercollegiate soccer. Winners are selected by Division I head coaches who are current members of the National Soccer Coaches Association of America. A list of 15 semifinalists is selected by a coaches committee in November, with three finalists announced in early December. The winner is announced in January.

Neaves, a communication major, is from Mt. Hope, Trinidad.

- Ann Carney

David Mann

Marine bioacoustician studies hearing and sound production in fishes and marine mammals.

AVID MANN, associate professor of biological oceanography in the College of Marine Science, is a very good listener—if you're a red grouper, a lobster or a West Indian manatee, that is.

Being a marine bioacoustician means Mann is all ears when it comes to the ocean. His Marine Sensory Biology Lab at USF St. Petersburg focuses on sound production and hearing sensitivity in marine animals, from fishes and sea turtles to dolphins and whales. "Our goal is to understand how marine mammals and fishes use sound in the natural environment and the constraints the environment poses on communication," he says.

Mann joined USF in 2001 from the

Mote Marine Laboratory in Sarasota, where he was an adjunct scientist. Prior to that, he was with Tucker-Davis Technologies in Gainesville, an auditory neuroscience instrumentation company where he was vice president. Widely published and an internationally requested speaker on fish bioacoustics, Mann completed his doctoral studies at MIT/Woods Hole Oceanographic Institution. He conducted postdoctoral research at the University of Maryland studying hearing in fishes and ultrasound detection by shad.

Being able to combine his passion for marine life with his zeal for technology is one of the aspects of being a scientist and researcher Mann enjoys most. He has developed several software applications to aid in passive acoustic research, received a patent for the development of a process for manufacturing electrostatic speakers, and has produced a CD of manatee sounds.

Since Mann co-teaches the biological oceanography core course, he is able to get to know all of the students in the college, another favorite aspect of his job.

USF: When did your interest in marine biology start?

Mann: In kindergarten, I wanted to be a zoologist. In college, I studied molecular biology and while I found that intellectually challenging, I wanted to connect to the organisms I was investigating. So during my first year as a graduate student, I switched to biological oceanography. I'd much rather be on the water than on land.

USF: How do people react when you tell them you listen to fish?

Mann: Most people don't believe me because they don't really think about fish producing sound. Still, everyone knows that frogs and insects and birds make sounds, so it shouldn't be so surprising that fish can, too.

USF: Tell me about your current research.

Quick Takes

Favorite marine animal: Jawfish

Seafood or steak: Seafood, but I feel guilty about it

Your hero: Aquaman

Marine life with the best hearing: Catfish

The Professor or Gilligan: Gilligan

Mann: Right now, we have 15 different projects. For example, we're studying red hind grouper near Puerto Rico, goliath grouper in shipwrecks in the Gulf of Mexico, and dolphin distributions in the gulf. Basically, we want to determine if a fish makes a distinct sound that we can detect and the behavioral context in which that particular sound is made.

USF: Any surprising discoveries?

Mann: We recently placed an autonomous video camera about 240 feet deep in the Gulf of Mexico and were able to observe the courtship behaviors of red grouper and hear the unique sounds associated with that behavior. This was the first time ever that those behaviors and sounds had been heard and recorded, so it was very cool.

USF: Why is this important?

Mann: The link between adult fish and juveniles has always been a big black box. Fish spawn their eggs into the water and those eggs float away. So where the larvae develop and settle into a habitat is different from where the adult fish are. Our goal is to put all of these data into a physical model and integrate what we know about ocean currents to determine where the fish can be found.

USF: What are the applications of your investigations?

Mann: It helps us identify when and where the fish are spawning from year to year, which is important for fisheries management.

USF: What kind of instruments do you use?

Mann: Passive acoustic monitoring systems include long-term acoustic recorders, hardwired hydrophones and a remotely operated vehicle to observe fish behavior. We build most of the devices that we use.

USF: What role does technology play in marine research?

Mann: Modern acoustical technology allows us to can gather data in lots of different places continuously and simultaneously. Right now, we have 20 acoustic recorders in different locations, and next year we'll have 80. The Gulf of Mexico is a fantastic field site, and it's great to live where you do your research.

USF: What's your dream job?

Mann: Exactly what I'm doing now, working with students and doing research.

– Mary Beth Erskine



Students cross paths at USF's new Marshall Student Center which opened to the public on August 20. The new building features an expanded dining room, food court, meeting space, a 1200-seat ballroom, multipurpose room, lounges and the first Beef O'Brady's restaurant on a university campus. A 700-seat theater is scheduled to open in September.



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