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A MESSAGE FROM THE REGIONAL CHANCELLOR

USF St. Petersburg is defined by our relentless pursuit of exploration and collaboration. Throughout the years, our students and faculty have expanded the collection of knowledge in their respective fields — working across disciplines to revolutionize our understanding of early Florida history, publishing award-winning literature, challenging our comprehension of infant psychology — in order to benefit humanity. We have also forged new partnerships to foster a broader understanding of our region, our country and the globe.

In this magazine, we celebrate our university’s continued dedication to innovation. From groundbreaking research that highlights the number of microplastics in Tampa Bay to the experiments conducted in the College of Education’s STEM Inquiry Lab to the many connections forged through international programs, we are constantly pushing boundaries in the name of discovery.

We’re just getting started. In the months and years ahead, we will continue to innovate in even bolder and more daring ways. As we continue our journey as a university, I urge you to stay connected with us. Send us your ideas. Propose new strategies for collaboration. As William Butler Yeats once said, “Education is not the filling of a pail but the lighting of a fire.” Together, we will keep that fire burning brightly at USF St. Petersburg.

Regards,

Martin Tadlock, PhD
USF St. Petersburg Regional Chancellor

THE BUILDING BLOCKS OF OUR SUCCESS

USF ST. PETERSBURG RESEARCH FUNDING DOLLARS ARE INCREASING

FUNDING AGENCIES
Our distinguished faculty receive research grants from some of the most prestigious institutions such as:

- National Science Foundation
- National Institutes of Health
- Fulbright Scholar Program
- Florida Department of Education
- Juvenile Welfare Board

PARTNERSHIPS
Our work is enhanced by the valuable partnerships in our community and beyond, including:

- USF St. Petersburg Regional Chancellor
- Catherine Cardwell, Associate Regional Vice Chancellor of Academic Affairs and Dean of the Nelson Poynter Memorial Library
- Patricia Helton, Regional Vice Chancellor of Student Affairs and Student Success
- Helen Levine, Regional Vice Chancellor of External Affairs
- Deborah Read, Regional Vice Chancellor of University Advancement
- Nicholas Setteducato, Interim Regional Vice Chancellor of Administrative and Financial Services
- Jacob Diaz, Regional Assistant Vice Chancellor of Student Affairs and Student Success and Dean of Students
- Shari Schwartz, Regional Assistant Vice Chancellor of Enrollment, Planning and Management
- David Everingham, Regional Associate Vice Chancellor of Administrative and Financial Services
- Michelle Madfon, Campus Diversity Officer and Director of Institutional Effectiveness and Assessment
- Carrie O’Brien, Director of Communications and Marketing
- Sridhar Sundaram, Dean of the Kate Tiedemann College of Business
- Magali Michael, Dean of the College of Arts and Sciences
- Brenda Walker, Associate Dean of the College of Education

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Taking Action on
Climate Change

Dyllan Furness

From sea level rise and increased flooding to the threat of stronger hurricanes, Southwest Florida is already grappling with the effects of climate change. Faculty at USF St. Petersburg are taking action to study this global phenomenon and unravel its impact on the local community and beyond. Through targeted research and community outreach programs, their aim is to better understand the factors contributing to climate change while educating citizens about their role in mitigation and resilience.

In the Atmospheric Chemistry and Climate Laboratory of Dr. Yasin Elshorbany, an Assistant Chemistry Professor and a former NASA scientist, researchers use state-of-the-art technology to probe the complicated mechanisms related to climate change. “Climate change is happening. It’s not just predictions,” Elshorbany said. “And the patterns we are seeing suggest that it is human-based.”

In April 2019, Elshorbany was part of an international research team that published a sobering study in the journal Nature Communications. The researchers determined that global warming is likely to accelerate as carbon is released into the atmosphere through the loss of Arctic permafrost, which could hold secrets to fighting global climate change. Along with Professor Zhiqiang Zhou of the State University of New York at Albany, Elshorbany collected aerosol particles from breaking waves at the Tudor Hill Marine Atmospheric Observatory in Bermuda. The researchers will then use those measurements to construct 3D earth system models that simulate what happens to atmospheric pollutants, such as aerosols, in a bid to better understand the budget of oxidants, which help break down those pollutants.

“If we don’t take steps to mitigate climate change, there will be a very real cost that must be paid and will have a significant impact.” He and his colleagues hope their study will highlight the socio-economic risks related to climate change and guide policy makers towards prudent decisions on emission reduction targets. “These results will provide more accurate and more realistic scenarios on how to prepare for the impact of climate change,” he said.

Elshorbany’s research didn’t stop there. A few months after the permafrost study was published, the National Science Foundation tapped the chemist as part of an $800,000 grant to examine spray from the ocean’s waves, which could hold secrets to fighting global climate change. Along with Professor Zhiqiang Zhou of the State University of New York at Albany, Elshorbany collected aerosol particles from breaking waves at the Tudor Hill Marine Atmospheric Observatory in Bermuda. The researchers will then use those measurements to construct 3D earth system models that simulate what happens to atmospheric pollutants, such as aerosols, in a bid to better understand the budget of oxidants, which help break down those pollutants.

“Having a better understanding of the chemistry of these aerosol particles will help us develop better global atmospheric models,” said Elshorbany, who received $260,000 of the overall grant. “This research is relevant to larger questions of air quality and global climate change.”

You don’t have to travel far to observe the impacts of global climate change. The consequences are in our own backyard. From sea level rise and increased flooding to the threat of stronger hurricanes, Southwest Florida is already grappling with the effects of climate change. The consequences are in our own backyard. At the Initiative on Coastal Adaptation and Resilience (iCAR), USFSP faculty conduct cutting-edge research and community outreach aimed at informing critical decisions about our vulnerable coast.

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Led by Executive Director Dr. Bamali Dixon, Director of Research Dr. Donny Smoak and Director of Community Outreach and Education Dr. Rebecca Johns, iCAR combines insight from the sciences, engineering and policy to investigate interactions between water, land, the climate and the built environment. The team hosts numerous public outreach projects, including the citizen-oriented Climate 101: Community Climate Change Education Series and the annual iCAR workshop, which brings together hundreds of community members, scholars, students and policy makers to discuss threats and strategies for protecting coastal communities.

Beyond their outreach, Dixon, Johns and Smoak conduct regular research into climate impacts, mitigation and adaptation. This summer, iCAR empowered middle and high school students from south St. Petersburg to perform environmental research of their own. Supported by a grant from the American Geophysical Union, the seven-week Mapping Flood Vulnerabilities and Solutions workshop gave 18 students hands-on experiences learning to analyze flooding events and developing technological skills to assess causes and effects. At the end of the program, the participants presented infrastructure solutions and recommendations to local officials and city planners.

“This workshop provided a free opportunity for kids from south St. Petersburg to learn some technology skills in the context of flood risks in their own neighborhoods,” said Johns, a Professor of Geography. “The project was amazing and the kids were awesome.”

Equipped with high-end GPS systems, students mapped and recorded flooding in streets and neighborhoods around the city during two days of fieldwork. They were tasked with identifying landscape features that might impact the way water flows following a storm and were challenged to consider what changes could be made to reduce flooding. During lab days on the University campus, the students input their fieldwork data into software that helped them to create reference maps of where flooding is likely to occur. Students were also encouraged to recommend solutions for ways to mitigate the flood risks they observed.

“We have a lot of good information about the science of climate change but the challenge now seems to be to move forward quickly with policies to build resiliency on the ground,” said Johns. “We need to work together as a community to make sure all people are protected and prepared for the changes that are coming.”

Through workshops and keynote talks from notable figures such as Robert Meyer, co-author of “The Ostrich Paradox,” a book that examines why people fail to properly prepare for disasters, and Heather Booth, activist and political strategist, the event gave participants the tools needed to motivate action on climate change.

“We’re at this moment where we need to see change happen now,” said Johns. “We’ve started to feel the effects of climate change right here in our area. We have the science and policymakers, we just need to do it.”

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THE COSTLY PRICE TAG OF DOMESTIC VIOLENCE

Matthew Cimitile

When Lariana Forsythe became the executive director of CASA, she set out to advance the dialogue around domestic violence.

Domestic violence is a topic and a crime that is largely a private matter and mostly taboo, even though it is prevalent. In Florida, other than theft, domestic violence generates the most police calls in the state, according to the Florida Department of Law Enforcement Uniform Crime Report. The same report indicates Pinellas County has the sixth highest rate of domestic violence crimes. Neighboring Hillsborough is fifth.

Data suggest many cases go unreported. There is a large discrepancy between the number of victims who indicate abuse in surveys and those who actually report it to authorities. According to the National Domestic Violence Hotline, humiliation, fear of retribution and emotional attachment are among the factors that contribute to under reporting. The hotline also calculates that among reported incidents, there are on average seven unreported incidents that occur before a victim finally reports abuse.

“We need better ways to talk about domestic violence so people can understand the true depth and breadth of how large of a problem it is,” said Forsythe. “And money talks.”

CASA, a domestic violence center and service provider that has operated out of Pinellas County for more than 40 years, reached out to USF St. Petersburg researchers with a proposal.

They wanted to calculate a local price tag, quantifying the economic impact of rape, physical assault, stalking and other acts of domestic violence to individuals, families and the entire Pinellas County community. It would be one of the first studies to capture the costly impact of such violence at the local level.

Information Systems Professor Dr. Han Reichgelt and Economics Instructor Dr. Rebecca Harris spent months reviewing local and national economic data on costs of medical care, emergency housing and lost wages as a result of domestic violence. They combined those figures with the 6,228 incidents of domestic violence that were reported in Pinellas County in 2017 – eight of which were fatalities.

They calculated a startling number: the cost of domestic violence in Pinellas County is $132 million a year, or roughly $21,000 per victim.

“This analysis helps to put a conservative dollar value on what domestic violence costs the community, and really highlights the many types of costs there are when it comes to domestic violence,” said Harris.

Many of the costs associated with domestic violence are hard to measure, due to unavailable data or intangible costs. USF St. Petersburg researchers gathered and analyzed data from CASA, local agencies that support domestic violence victims and local law enforcement reports and figures. Where local data was unavailable, the team used national data on domestic violence costs.

Once they determined the findings, they categorized the costs into five major buckets:

- **Cost to community** at $81 million: such as days missed from work, children in foster care, court and law enforcement resources used and even lost wages of those who commit the abuse who are now in jail.
- **Cost of long-term impact** at $37 million: including loss of lifetime earnings due to premature death and the value of lifetime suffering from abuse, for which researchers utilized a similar calculation that juries and insurance companies use to assess damages.
- **Cost of health care** at around $5.5 million: such as emergency room visits, ambulance, physical therapy and mental health care.
- **Cost of emergency housing** and lost or damaged supplies at $4.5 million: including shelters, food, transportation, childcare and valuables left behind.
- **Cost of support services** at $3.5 million: programs and interventions that help victims and their children and try and prevent future abuse.

“The costs aren’t just to the victims of domestic violence and their children, but they are borne by society,” said Harris. “We end up paying for law enforcement who are protecting victims and for court costs of judges and bailiffs involved in these cases. The employer pays the cost of finding new employees or filing shifts and rearranging schedules for those who miss work.”

The findings were presented to local city councils and county commissioners. The study was provided to donors, helping to increase CASA’s fundraising over the last year and serving as a springboard for a series of community conversations around the taboo subject. And it inspired others to do the same; currently a YWCA in Tennessee is raising funds to conduct a similar economic study in the region.

For USF St. Petersburg researchers and CASA, this is just the beginning of what they hope is a fruitful partnership that produces a series of key papers and findings as well as spurs necessary conversations with the public. Future work will look into the toxic stress of domestic violence on children, with results informing CASA of potential new services to provide, and whether income and class influence the reporting of domestic violence to police.

The researchers’ ultimate goal is to uncover many of the intricate and hidden layers around domestic violence. Including whether income and class influence the reporting of domestic violence to police.

“Violence can only thrive in silence. To change the domestic violence paradigm, we must erase the stigma and silence that protect it and this study is helping do just that,” said Forsythe.

“When you start talking about the impact to our tax dollars, our healthcare system and to the bottom line of local businesses, domestic violence no longer seems invisible or easy to ignore.”

| Cost of public services and resources, plus lost wages | $81m |
| Long term impact | $37m |
| Health care costs | $5.5m |
| Housing & living expenses | $4.5m |
| Support services | $3.5m |

Lariana Forsythe, CASA CEO

USF ST. PETERSBURG
Ethiopia is the site of some of the oldest human habitation on the planet. Perched high above the African Rift Valley in Ethiopia are the Gamo highlands, the home to one million people today. The scenic Gamo region weaves together a lush landscape of rolling pastures, fields of grain and forested mountaintops.

An extensive human history and a vibrant living culture is what drew anthropologist Dr. Kathryn Arthur here. She has been working in southern Ethiopia for more than 20 years. The place is a second home, where every summer she conducts fieldwork with her husband and brings their daughter along for the journey.

Working with the Gamo people, a mostly agrarian population, Arthur explores how knowledge and technology are learned and embedded in constructs such as gender, religion and caste. Recently, she has focused on the Gamo’s heritage, discerning what is important to them and how they perceive their own history.

"Understanding one’s history and creating a connection between the past and present is crucial to a people’s identity,” said Arthur.

History is just what Arthur uncovered back in 2015. It was in a cave in these highlands that Arthur and her husband, fellow USFSP Associate Professor of Anthropology John Arthur, made a once-in-a-lifetime discovery: the first complete ancient African genome from a skeleton.

Now she is leading an international team of researchers hoping to shed light on a global issue that is growing in importance. Arthur was awarded $270,000 by the National Science Foundation to investigate the relationship between mass human conflict and the preservation of natural resources.

Collaborating with the Gamo people, the research team will document the impact of their history, local practices and religious beliefs on the protection of natural resources in the region.

"Does incredible conflict lead to not caring about a resource or being unable to? Or does incredible conflict somehow lead to a society protecting that resource for economic reasons, as well for providing healing through memorializing a landscape connected to their ancestors?” asked Arthur.

The team will spend the next four years exploring more than 200 forests in southern Ethiopia. They hope to discern whether the large-scale tragedy of the slave trade from the 13th through 19th centuries greatly degraded the region’s forests, or led to preservation of the forests and human healing.

What they find out could provide essential guidance on managing natural resources today, as societies deal with large-scale changes from climate change to overpopulation.

“Through this study, we hope to learn from an indigenous community about their present and past practices concerning their forested environments, to examine how people responded in the face of conflict and whether their actions led to forests being conserved or destroyed,” said Arthur.

Forests provide timber, paper, fuel-wood, clean air, habitat and biomedicine while also stabilizing soils for agriculture. Scholars have debated whether the forests of Ethiopia have always remained pristine environments preserved through conservation efforts by local communities or if the forests have changed dramatically over time due to conflicts.

“Africa is thought of as this pristine place, and there is a belief that forests have been there forever and never changed,” explained Arthur. “But at the same time, Africa is the continent where people have lived the longest and with a history of conflict.”

Arthur and researchers from the U.S., Italy, France and Ethiopia hope to provide answers through a variety of means. Some researchers will map and conduct small scale testing of the forests by retrieving soil samples and artifacts to date and reconstruct the environmental and cultural history of the forests. Others will conduct environmental assessments of the living forests to determine the biodiversity and whether there are native species in the forests. Still others will study hundreds of years of ceramic and stone tools, identifying the chemical composition of these objects to trace the source of materials and trade networks and see how this has changed over time.

"These sacred forests are a source of great importance for the Gamo people, and I believe the history of these forests has a lot to tell them as well as us,” said Arthur.

"Understanding one’s history and creating a connection between the past and present is crucial to a people’s identity."
What if solving brain games and puzzles on a computer could reduce the chances of developing dementia such as Alzheimer’s? What interventions can be devised to help couples in romantic relationships struggling with problem drinking? How can the stigma around HIV be reduced so youth who contract the disease are more likely to seek and stick with treatment?

Reducing the Risk of Alzheimer’s

As one ages, cognitive functions associated with thinking and memory can decline. Dementia is a general term for a decline that interferes with daily life, and Alzheimer’s disease is the most common form of dementia. An estimated 5.7 million Americans are living with Alzheimer’s. By 2050, the number is projected to rise to nearly 14 million, according to the Alzheimer’s Association.

The primary investigators of the new study are Dr. Jerri Edwards with the University of South Florida and Dr. Jennifer O’Brien with Michigan State University. They are overseeing four training sites in Tampa Bay and Michigan that will each host up to 400 older adults, who are learning a mental exercise routine focused on brain function for this rising population. Using a $2.7-million grant from the National Institute on Aging, the research team will target these cognitive functions, that continue to challenge a person and adapt with performance across time are beneficial to improving quality of life. Currently 650 older adults have enrolled in the trial, including more than 160 on the USF St. Petersburg campus.

The clinical trial consists of a variety of brain games on a computer in which participants are asked to indicate what they saw or heard and solve puzzles. Each participant visits a training facility three times to learn how to follow the mental regimen. Over the course of three years, they will complete a total of 45 hours of computerized training exercises on their own. Researchers will monitor for cognitive improvements or signs of decline.

“Cognitive training enhances mental quickness and visual attention, improves gait speed and balance, promotes safer and prolonged driving mobility and maintains health and well-being, including protection against depression,” said Dr. Alisa Husek-McWeeth, the coordinator of the clinical trial at USF.

Ultimately, researchers hope this short-term study will show enough feasibility for a longer, more rigorous clinical trial in the future. If the researchers can enroll 1,600 older adults in the trial, the research team will apply for a larger grant to train and monitor a cohort of participants for five to seven years.

“We will be looking across time to see who ends up with dementia and who does not,” said O’Brien. “We estimate that even if this intervention delays onset of dementia by only one year, that would be 9.2 million fewer cases across the next 30 years.”

Interventions Address Alcohol Consumption in Young Adults and Couples

According to the National Institute on Alcohol Abuse and Alcoholism, 38 percent of full-time college students engage in binge drinking, defined as five or more drinks on an occasion. More than 10 percent engage in heavy alcohol use, binge drinking on five or more days in a month.

Through her research, Dr. Lindsey Rodriguez, Assistant Professor of Psychology, is hoping to construct a better understanding of the issues people drinking can cause, including disrupting romantic relationships through less quality time spent together, financial difficulties and increased conflict.

“Many people in a relationship don’t know how to bring up issues with drinking, and often they don’t talk about it if it is already a problem,” said Rodriguez. Whether the drinking is considered a problem by the partner is also important. Whereas 15 drinks a week may not be a problem for one partner, even three drinks a week could be a problem for another.

One of Rodriguez’s current projects involves using personalized feedback to correct misperceptions around drinking. Using representative data from different campuses about alcohol consumption, Rodriguez works with students to identify common myths about student drinking to impact behavior for the better.

“People tend to overestimate how much others are drinking. For example, a regular drinker might estimate other college students drink an average 15 drinks a week, when in fact they drink four. Heavy drinkers overestimate even more, thinking the average student drinks maybe 20 drinks a week,” said Rodriguez.

By communicating objective information on how much peers actually drink, individuals are more likely to align their behavior with the norm.

“We don’t realize how important the influence of other’s actions is on our own behaviors,” added Rodriguez. Another intervention involves guilt and expressive writing. Students are asked to write about a negative experience they had with drinking.

By reenacting a traumatic experience involving intoxication and likely regret, students typically respond by wanting to do better for themselves and those closest to them.

Working to Improve HIV Testing and Treatment Among Youth

Prior studies have shown youth with HIV who have a greater understanding of, and appreciation for, their disease are more likely to seek treatment and stick with the medical regimen. For Dr. Tiffany Chenneville, Professor and Chair of the Psychology Department, researching the emotional issues and stigma affecting youth with HIV and accessing their capacity to understand the disease and make medical treatment decisions has been a career focus.

“How much do kids understand HIV and how it impacts their own lives, and are they able to apply logical thought processes to make their own decisions on treatment and services? These are important questions to be answered,” explained Chenneville.

HIV and AIDS may not receive the primetime headlines they once did in the 1980s, but they still pose significant health risks. According to the Centers for Disease Control and Prevention, more than 1.1 million people over age 13 in the United States are living with HIV, with nearly 15 percent undiagnosed. Florida is number one in new HIV infections in the nation.

The World Health Organization reports that one million people died from HIV-related causes while nearly two million people became newly infected with the disease globally in 2016. Sub-Saharan Africa is ground zero, carrying close to 70 percent of the disease burden. Overall, the disease disproportionately affects the poor, who often have limited access to treatment.

Through these numbers look bleak, they do show positive trends compared to previous decades due to medical advances in treatment and prevention measures, as well as work to lessen HIV and AIDS stigma, a known barrier to testing and treatment.

“We have made some huge strides with HIV. We know how to treat it and with treatment it’s a chronic illness and not a deadly disease,” said Chenneville.

“We know exactly what to do, but stigma and other barriers to testing and treatment remain.”

In recent years, Chenneville has traveled to Kenya to work on the HIV SEERs (Stigma-reduction Through Education, Empowerment, and Research) Project, a collaborative initiative between USF St. Petersburg and Springs of Hope Kenya, an orphanage for children affected by HIV. The community-based research project seeks to address HIV-related stigma among youth with the disease. Nearly 10,000 youths between the ages of 13 and 24 have received training in local schools and communities in Nakuru, Kenya.

In 2018, Chenneville received a Fulbright Specialist Award to continue her research with the Perinatal HIV Research Unit, an affiliate of the University of the Witwatersrand in Johannesburg, South Africa. She spent several weeks training medical faculty on HIV decisional capacity for treatment with research and minors. Ultimately, Chenneville would like to establish an HIV youth ambassador program where young people living with or affected by HIV would travel to different parts of the world to conduct peer-led initiatives to reduce stigma surrounding HIV.

“I think it is really important for people with the lived experience of the disease to have a voice in this research, to act as research partners,” Chenneville said. “Those who actively participate feel valued for their involvement and the research implications from the study reach them faster.”
LA FLORIDA UNCOVERS SPANISH FLORIDA

Dyllan Furness

Before Florida was the southernmost state in America, it was the Spanish territory La Florida.

From 1513 until 1821, the territory was home to a melting pot of people, including Native Americans, free and enslaved people of African descent, and Europeans from Germany, Ireland, Greece and elsewhere. The stories of these early Floridians were largely forgotten for hundreds of years. Now, a team of historians led by USF St. Petersburg’s Dr. J. Michael Francis have brought these stories back to life through La Florida: The Interactive Digital Archive of the Americas.

“La Florida provides the details, visuals and stories to present Florida’s unknown history in a compelling and entertaining way that is unprecedented,” said Francis, the Hough Family Chair of Florida Studies.

La Florida has undertaken a number of groundbreaking initiatives over the past year. In April, the team joined forces with USF Tampa’s Institute for Digital Exploration (IDEx) to document a historic gravesite in St. Augustine, Florida. Using 3D imaging technology, the researchers created a digital rendition of the Tolomato Cemetery, the site of which has been used for burials for hundreds of years. Preservationists aim to use the 3D models to assess and monitor conditions at the site. The hope is that the digitization will allow them to provide guidelines for restoration and reconstruction in the case of damages.

The La Florida team recently launched Europeans Indians and Africans: Lost Voices from America’s Oldest Parish Archive, 1594-1821, an effort to digitize 8,000 pages of handwritten documents covering 227 years of St. Augustine’s colonial history.

“Our long-term goal is to make the collection of record, some of the oldest records in the United States about the United States, accessible to a global audience and to capture the information contained within them,” said Rachel Sanderson, Associate Director of La Florida.

Through interactive and curated content, the exhibit aims to offer a museum-quality experience that appeals to teachers, students, scholars and the general public via La Florida’s digital platform. Once complete, Lost Voices will allow users to view transcriptions and translations of the entire collection of St. Augustine’s colonial ecclesiastical archive.

The Lost Voices collection includes records and information on some of the individuals buried in the Tolomato Cemetery, as well as their families, enabling historians to connect individuals in the cemetery to their actual historical records and start geotagging events in those individuals’ lives. The people documented in these records will also be added to a searchable population database, allowing users to link individuals to the original records in which they appear.

La Florida’s overall mission is to preserve stories from Florida’s Spanish colonial past for the edification of future generations. To do so, Francis and his handpicked team of historians and paleographers (people who study ancient writing) have combed through well over 100,000 pages of original documents in archives in Spain, Italy, England, Mexico and the United States.

“The fundamental philosophy behind this archive is taking the very best in cutting edge technology and combining that with the very best in humanities research so history is accessible to the 4th grade Florida history teacher, the college student and anyone who wants to know more about Florida and its important role in American and global history,” Francis said.
EXPLORING THE OCEAN DEEP

Carrie O’Brien

One of Dr. Heather Judkins’ most vivid childhood memories is a trip to the Miami Seaquarium with her sister and grandparents when she was just 6 years old.

“She saw the dolphin trainer and I thought, ‘That’s it. That’s what I want to do with my life,’” said Judkins, laughing.

The visit sparked a love of the ocean and marine life that continues to be the driving force in Judkins’ life and career today. An Associate Professor of Biology at USF St. Petersburg, she has earned international recognition for her research on cephalopods, an animal group that includes squids, octopus and cuttlefish. Last year, she was named president of the Cephalopod International Advisory Council (CIAC), a global organization that seeks to stimulate and accelerate the direction of cephalopod research.

Over the summer, during an expedition in the Gulf of Mexico, Judkins was part of the first research team to film a giant squid in its habitat in U.S. waters. In fact, it was Judkins herself who helped identify the elusive creature. The story — and accompanying video — made headlines around the globe.

Now, with the 10-year anniversary of the infamous BP oil spill around the corner, Judkins is preparing for her seventh excursion in the Gulf of Mexico with a group of researchers dedicated to developing a better understanding of the impact of the environmental disaster.

But even after decades of work in marine science, Judkins said she’s still just as fascinated by the sea as she was as a child. She still gets a thrill from sharing her love of marine life in hopes of inspiring a similar passion in others.

“I love sharing marine science topics with my students,” said Judkins. “It’s fun to grasp them out about something that they don’t know about in invertebrate zoology, or share my research experiences with them so they actually know that scientists are real people. We go out and do research but yet we still come back and teach on Monday morning.”

A love of the ocean and the classroom

Judkins never planned to become a teacher. After graduating with a degree in Marine Affairs from the University of Rhode Island, she moved to Florida with a friend and took a job in Lakeland working with freshwater fish at a local agency.

After just a couple of months, she received a call from the Principal at Seminole High School in Pinellas County, asking if she might be interested in teaching marine biology and environmental science. Judkins went in for an interview but considered herself a longshot.

“I answered all of the education questions wrong,” she said. “I had never taken an education class, ever.”

But the school was impressed with her biology knowledge and offered her a job. Judkins wound up teaching at Seminole High for 17 years.

She also coached JV girls basketball and soccer. While she enjoyed her job, by 2003, Judkins began to feel restless.

“I loved what I was doing,” she said. “The courses were fine and the students were great. But in marine biology, a shrimp is always a shrimp and the currents always move in the same direction.”

She approached a colleague at the USF College of Marine Science to discuss the possibility of pursuing a doctorate. The professor, Joseph Torres, agreed to take her on as a graduate student. But she struggled to find a research subject.

After researching two very different topics in search of a project, Antarctic toothfish and Bryozoans, and deciding they weren’t for her, Judkins knew she needed to go in a different direction. A chance meeting with Dr. Clyde Roper, a Smithsonian zoologist and the world’s leading expert on giant squid, convinced her to start studying cephalopods.

“Cephalopods fit in so many other pockets,” she said. “You could come at it from a physiology angle and there’s great physiology studies going on. Or you could look at contaminants with cephalopods. There’s a lot of places in the oceans where cephalopods play crucial roles.”

After earning her PhD in 2009, Judkins accepted a position at USF St. Petersburg in the Department of Biological Sciences. She teaches both undergraduate and graduate classes, advising Conservation Biology and College of Marine Science students as they work toward their masters degrees.

Then, in 2010, a drilling rig in the Gulf of Mexico called Deepwater Horizon exploded, dumping thousands of gallons of oil into the water. The spill gave Judkins a new focus for her research.

The DEEPEND Consortium

Judkins began working in the deep sea in 2011 through the Natural Resource Damage Assessment Program (NRDA) which continued through 2016 as a result of the BP oil spill.

By 2015, the DEEPEND consortium was launched with funding from the Gulf of Mexico Research Initiative. The researchers involved in the multi-year program collect faunal data, trace contaminants from the BP oil spill and study the impacts on food webs to determine changes in the ecosystem and to marine life from the largest oil spill in U.S. history. The work adds to a better understanding of marine life and ecosystems below 200 meters in this still largely mysterious body of water.

In addition to Judkins, the consortium includes researchers from Nova Southeastern University, Florida International University, the National Systems Lab at NOAA, Florida Atlantic University, Florida International University, Texas A&M University, the Florida Research Center and USF College of Marine Science.

“We’ve been together for so long and we work really well together,” said Judkins. “It’s great that we get to keep the program going and continue building one of the largest data sets in the world.”

The group recently received a $2.7 million grant from the RESTORE Act, which will fund three DEEPEND cruises over the next five years. The RESTORE Act earmarks funds from the BP settlement to study, restore and protect natural resources and ecosystems in the Gulf Coast region.

While life at sea can be exhausting, Judkins said she’s looking forward to the upcoming excursion. Each trip uncovers a new trove of data and findings – even giant squid – that can be used for publications, graduate student research and educational lessons to share with her students.

“I don’t feel that we found it all yet,” she said. “I think we’re still in that true exploration stage.”

I LOVE SHARING MARINE SCIENCE TOPICS WITH MY STUDENTS. IT’S FUN TO GROSS THEM OUT ABOUT SOMETHING THAT THEY DON’T KNOW ABOUT IN INVERTEBRATE ZOOLOGY...
Students listened attentively as Dr. Sandra Vernon Jackson walked them through the steps to program the insect-like plastic robots on the tables in front of them.

“Robots are a tool that we can use to help students learn a specific type of math or some of the concepts related to math, like distance and units,” explained Vernon Jackson, the Director of the STEM INQ. lab at USF St. Petersburg’s College of Education and an instructor in STEM education.

The class — SEC 4313 Science for All — is being conducted in the STEM INQ. lab, a state-of-the-art space that includes virtual and augmented reality tools, 3-D printers and AutoCAD. Opened in October of 2018, the lab is designed to encourage experiential and inquiry-based models of learning, which means more hands-on experimentation and less time reading textbooks.

The education students that day were preparing to guide participants at the St. Petersburg Science Festival through a demonstration of VEX robotics, which have snap-together parts and are easy to use. The robots can be programmed to move forward and backward, spin around and pick up small objects.

Since it opened, the lab has been used for a variety of purposes, including training aspiring educators and current faculty to infuse the latest in science, technology, education and math (STEM) into their teaching methods. The lab is home to a STEM robotics summer camp, which attracts students in grades 5-8 from throughout Pinellas County and beyond for a week of diverse activities, including computer science, engineering, robotics, applied math and marine science. This past year, Vernon Jackson added a week-long camp exclusively for girls, who are traditionally underrepresented in the STEM field.

In July, the College of Education also hosted a STEM boot camp in the lab for 49 Pinellas County teachers and five teachers-in-training. The goal was to help all of the educators use technology in their classrooms to reach populations who may not have much experience with STEM.

“The long-term design is to build a model of mentorship for female faculty and doctoral students of color that is applied to STEM fields but can also be modified for other disciplines,” she said.

Increasing the number of women teaching in STEM fields

Despite recent gains, women of color are still significantly underrepresented in STEM-related tenured faculty positions. Only 5.7 percent of those with STEM doctorates who are assistant, associate or full professors at four-year colleges or universities in the United States are women of color. That’s despite the fact they make up 15 percent of the population among working-age adults.

A new alliance between five Florida universities, led by USF St. Petersburg, is striving to reverse that trend by accelerating the advancement of women of color in STEM tenure-track positions and those earning doctorates across the state’s higher education ecosystem.

The group, called the Florida Acep Pathways Alliance, was awarded a $2.4 million grant from the National Science Foundation to work with 300 doctoral, post-doctoral and early-career minority women faculty to advance their careers in STEM.

About $1.3 million of the grant will go to USF St. Petersburg and Florida A&M University (FAMU), with the remainder going to Florida International University, Florida Memorial University and Bethune-Cookman University. A driving force behind the alliance is Dr. Alyson Watson, who is currently the dean of FAMU’s College of Education and was the former dean of the College of Education at USF St. Petersburg. Watson is the author of the grant and a lifelong educator with a strong interest in STEM.

“This is a unique partnership among Florida higher education institutions, including three of the four HBCUs (historically black colleges and universities) in the state,” said Watson. “The partners within this research team will work collectively to recruit and retain minority women in STEM fields, enhancing productivity across the state in STEM research by building the professorate.”

Starting in Fall 2019, the alliance will hold three research boot camps per year in north, south and central Florida. The camps will be modeled after week-long, intensive sessions that have been happening at USF Tampa for five years.

Senior scholars will be matched with doctoral and early-career faculty during the sessions to provide mentorship and help guide research, from the idea stage to submission and publication in a preeminent journal. The boot camps not only provide hands-on training and skill development, they also help participants build a network of support among tenured faculty.

Dr. Brenda L. Walker, the Interim Associate Dean for the College of Education at USF St. Petersburg and the Principal Investigator for the project, said the goal for the first cohort is to prepare them to be more competitive in STEM fields and to take on faculty positions as they move through the ranks for promotion.
FULL STEM AHEAD, CONTINUED

Helping STEM teachers better communicate with culturally diverse students

For students to get excited about STEM, it matters whether their teacher can explain the concepts in a way that resonates with them, no matter their background, race or diversity.

That’s the thinking behind a new initiative being developed by College of Education professors aimed at helping teachers trained in STEM better connect with culturally diverse students.

Funded by a $75,000 National Science Foundation Noyce grant, the professors are developing curriculum that will incorporate culturally responsive STEM principles into the certification program for math and science teachers at USF and USF St. Petersburg, said Dr. David Rosengrant, an Associate Professor of STEM education and the principal investigator for the grant.

“It’s being respectful to all cultures and taking the extra steps to ensure STEM is something that is achievable for everybody and that everyone has made contributions to it,” said Rosengrant. “It’s not viewed as something that’s only for a select group.”

The USF St. Petersburg professors are partnering on the project with Pinellas County. The racially, ethnically and culturally diverse county has a demonstrated need for more teachers trained in STEM subjects. Of the 493 STEM teachers hired in Pinellas between 2014 and 2018, more than 100 are teaching a subject that is out of their field, Rosengrant said. Other teachers burn out and leave the industry, he added.

Culturally responsive teaching is a practice that recognizes the importance of including students’ cultural references into all aspects of learning. To become culturally responsive, teachers and students must acknowledge the differences and similarities between individuals and groups. Other characteristics include cooperative and small group settings, music and movement and collaboration and student talk.

The goal of the program is to do more than simply develop best practices. Instead, the organizers want to shift the mindset surrounding STEM education. For example, the program will be looking beyond well-known figures such as Albert Einstein and Ernesto Fermi to identify STEM pioneers who have made significant contributions to the field but have been traditionally overlooked, Rosengrant said.

“One you start exploring, you uncover this rich history of women and minorities and their involvement in STEM,” he said. “That modifies the way that you teach these subjects.”

Other members of the USF St. Petersburg team developing the program are Karina Hersberg, Assistant Professor of Mathematics Education; Amanda Alberton Gunn, Assistant Professor of Education; and James Ivey, Instructor of Environmental Policy and Studies.

In addition to fostering a better atmosphere in the classroom, they believe the curriculum will be a powerful tool to help develop more culturally diverse teachers.

“The current STEM teacher workforce doesn’t reflect the population they are serving,” said Rosengrant. “If students don’t have role models that look like them, they won’t have the desire to continue in the field. We’re here to say that STEM is for everyone.”

BREAKING NEW GROUND:

SANDRA VERNON-JACKSON IS PAVING THE WAY FOR STUDENTS IN STEM

Dr. Sandra Vernon-Jackson still remembers the feeling of isolation she experienced as the only woman of color in her college meteorology class when none of the other students were willing to be her lab partner.

Frustrated and lonely, she called her father and told him she wanted to drop out. “He said, ‘You’ve earned your spot. They invited you,’” recalled Vernon-Jackson. “Now you just need to prove you belong.”

Vernon-Jackson heeded those words and went on to earn her undergraduate degree from State University of New York (SUNY) Oneonta. Today she is an instructor in STEM education and Director of the STEM INQ. lab in the USF St. Petersburg College of Education.

Throughout her career, she has always helped to open doors for others who, like her, have been made to feel like an outsider, particularly in the area of STEM.

“In order to be heard, you have to take a stand,” said Vernon-Jackson. “If you’re the only voice crying in the wilderness, be so it.”

Born outside of Kingston, Jamaica, Vernon-Jackson moved with her family to the United States when she was in high school. She had always been interested in science, particularly meteorology and the space program. She dreamed of being the first Jamaican woman on the moon.

After earning her undergraduate degree in 1985, Vernon-Jackson got a job at the Weather Channel in Atlanta, where she worked as a climate analyst specializing in tropical forecasts. She said she learned a lot from her colleagues, who were passionate about weather.

“They eat, sleep and drink weather,” said Vernon-Jackson, laughing. “It was good for me because I started to connect the theories I had learned in the classroom to what was actually happening in the atmosphere.”

After five and a half years, Vernon-Jackson decided to pursue her love of teaching. She became an earth science teacher at Rajah Bunche Middle School in Atlanta and later started writing science curriculum for the Atlanta Public School System.

Vernon-Jackson earned a master’s degree in mathematics from Clark Atlanta University and a PhD in mathematics from Georgia State University.

Her husband’s job in the corporate world led them to Florida, where Vernon-Jackson taught in the Duval County Public School system, then later at St. Petersburg College and USF St. Petersburg.

When she heard about the need for a director for USFSP’s new STEM INQ. lab, she leaped at the chance.

“I really liked the idea of building something,” said Vernon-Jackson. “We were charting new territory. That was really exciting to me.”

Since the lab opened in October 2018, Vernon-Jackson has pioneered new and exciting ways to use it. Both within the College of Education and in the community, in 2018, she developed a STEM robotics summer camp for students in grades 5-8. The camp is designed to inspire young students while promoting critical thinking and problem-solving skills through diverse activities in computer science, engineering, robotics and applied math.

In 2019, the camp was expanded to include a special session exclusively for girls, who are traditionally underrepresented in STEM fields.

“We worked very hard to ensure all student voices were included,” said Vernon-Jackson. “We were especially mindful to include voices that are mostly silenced or ignored from the STEM disciplines.”

Her efforts were recognized with an award from INSIGHT Into Diversity magazine, which named the camp as one of the 2019 Inspiring Programs in STEM. The award honors colleges and universities that encourage and assist students from underrepresented groups to enter STEM fields.

In 2019, Vernon-Jackson helped lead a STEM boot camp for Pinellas County teachers that was sponsored by Duke Energy. She was also named 2019 STEM Woman of the Year by Girls Inc. Pinellas.

She said it’s gratifying to see the university and members of her team earn recognition for their efforts. But her primary focus will always be on helping students.

“The work we are doing is good and people are going to benefit from it,” said Vernon-Jackson. “Where there is a will, there is a way and we keep pushing the boundaries to get things done.”
NEW STUDY REVEALS THE HEAVY PRESENCE OF MICROPLASTICS IN TAMPA BAY WATERS

For more than a decade, marine scientist Dr. David Hastings led research cruises around Tampa Bay to collect water samples and plankton. While analyzing the conditions of the largest open-water estuary in Florida, Hastings and his students were picking up something unusual.

“We were expecting to examine plankton, which form the basis of the marine food web, but when we put the samples underneath the microscope, we were astonished to find so many brightly colored pieces of microplastic,” said Hastings, Courtesy Professor at USF College of Marine Science and retired Professor of Marine Science and Chemistry at Eckerd College.

Microplastics are tiny plastic particles less than 1/8 of an inch; barely or not at all visible to the eye. They come from the breakdown of larger plastics, such as water bottles, fishing gear and plastic bags, or from synthetic clothing and other items that contain elements of plastic. Previous studies have found microplastics, allowing them to enter the food chain. Toxic particles in both water and sediment are thread-like fibers that are generated by washing clothes, fishing lines and nets. Synthetic fibers are released from clothes while they are being laundered, discharged to wastewater treatment plants and eventually released into the bay.

The result of their work is a new study from the University of South Florida St. Petersburg and Eckerd College that estimates there are four billion particles of microplastics in the waters of Tampa Bay, raising new questions about the impact of pollution on marine life in this vital ecosystem.

The research is the first measurement of microplastic abundance and distribution in the region. Researchers hope the findings will provide necessary data to inform the debate around policies to reduce plastic in the marine environment.

“Very little is known about how much microplastics are out there and the full consequences of these particles on marine life,” said McEachern, the first author of the study who recently graduated with a Master’s degree in Environmental Science & Policy. “But emerging research indicates a range of impacts on marine ecosystems from the large accumulation of microplastics.”

Since these particles are similar in size to plankton, filter feeders such as oysters, clams, fish and even birds can ingest microplastics, allowing them to enter the food chain. Toxic particles and metal fibers stuck to their surfaces, making ingestion potentially even more damaging.

The study revealed that the predominant type of these particles in Tampa Bay – in both water and sediment – are thread-like fibers that are generated by washing clothes, fishing lines and nets. Synthetic fibers are released from clothes while they are being laundered, discharged to wastewater treatment plants and eventually released into the bay.

The next largest source are fragments that come from the breakdown of larger plastics.

“These plastics will remain in the bay, the gulf and ocean for more than a lifetime, while we use most plastic bags and bottles for less than an hour,” said Hastings, the Principal Investigator of the study. “Although it is tempting to clean up the mess, it is not feasible to remove these particles from the water column.”

“Only by removing the sources of plastic and microplastic particles can we successfully decrease the potential risks of plastics in the marine environment,” added McEachern.

Researchers found the largest concentrations of microplastics in water occurred after intense and long rainfall events. On average, the study found four pieces of microplastic per gallon of water at all sites. Extrapolating these findings to the entire Tampa Bay estuary, the researchers estimated there are approximately four billion particles in the water.

“This is a very important study in that it is the first for our region and shows the extent of the problem,” said Alegria. “It also provides a solid baseline on total numbers and distribution. We can see whether future actions and policies are effective at reducing these particles in our environment.”

Plastic pollution in the marine environment has been a concern for decades. However, only recently have scientists started to uncover the widespread abundance of microplastics in the environment. With mounting physical evidence of plastic pollution, there have been greater calls for action in coastal communities around the world. Recently bans on plastic bags and single-use plastics have been enacted by some local governments in Tampa Bay to reduce marine pollution and protect Florida’s largest open-water estuary.

The findings of billions of particles of microplastics in Tampa Bay waters could bring even greater calls for action and influence future decisions in the region and beyond. Researchers at USF St. Petersburg and Eckerd College are conducting further studies to more fully understand the impact of microplastic pollution in the marine environment.
SPOTLIGHT ON

AUGUSTINE HAILE

Augustine Haile, a senior Anthropology major, studies the life cycle of Pre-Columbian vessels and gold at the St. Petersburg Museum of Fine Arts (MFA). Through a thesis project focused on Panamanian artifacts, she explores how, why and for whom these ancient items were created.

“I’ve always been intrigued by archeology of the anthropological field,” said Haile. “I want to give more story and narrative to particular pieces.”

Pre-Columbian artifacts often depict hybrid figures and fantastical creatures, which can be difficult to decipher, even for the trained eye. “It’s kind of a game figuring out which animals all the different features belong to,” Haile said.

In addition to her thesis project, Haile hopes to organize an exhibition as a way of introducing the wonders of pre-Columbian culture to a broader audience.

“The artifacts are so interesting and beautiful,” she said. “Working with the MFA has shown me how valuable it is to have this archeological knowledge and provide interpretation for these types of collections.”

JACLYN DELL

Jaclyn Dell, a recent graduate of the master’s program in Psychology, studies how drug addiction impacts the brain. She was awarded a prestigious Fulbright scholarship to pursue PhD studies on the psychology of drug addiction at the University of Birmingham in the United Kingdom.

Dell was drawn to psychology research after she enrolled in cognitive and physiological psychology classes at USF St. Petersburg.

“The faculty and classes here really sparked my research interest, and once I saw what the research was, that was all she wrote,” she said. “You can do this for life and people will pay you? Sign me up.”

At the University of Birmingham, Dell will use brain imaging to identify neural mechanisms of addiction. She hopes results from her research will guide the development of innovative addiction treatment.

CALI POHLMAN

Cali Pohlman, a senior Education major, studies alternative teaching approaches for students with special needs. Working with three 3rd grade students with autism over an eight-week period, Pohlman made daily assessments to identify learning deficiencies in her students and used data-driven instruction models to guide her lesson plans the following day.

Pohlman’s students each had unique learning needs, requiring her to break down and compartmentalize her teaching approaches.

“I looked into various strategies, including hands-on, visual and auditory learning,” Pohlman said. “I also considered their emotional and social well-being, how they work in small groups and how they react to working with somebody who is new to their classroom. It was a lot more involved than just creating lesson plans.”

As the program neared its end, Pohlman said she saw improvements in her students and hopes to continue applying this progressive teaching approach in the future. Pohlman was born and raised in Pinellas County and plans to teach locally upon graduating.

“I love our school system,” she said.

CElia Hagerman

Celia Hagerman, a senior Business Management major in the honors program, studies the effectiveness of nonprofit organizations. Hagerman brings to her research more than 20 years of experience working with nonprofits in Spain.

“Since I am professionally a fundraiser, I started digging into the fundraising side of nonprofits for long-term sustainability,” she said. “From the fundraising point of view, I decided to research how to reach out to diverse communities and engage those communities to become donors.”

Although still in the early stages of her research, Hagerman said she recognizes that nonprofits are going to need to adapt to demographic changes in order to survive and flourish in the future. Through her studies she hopes to uncover how best to foster growth through these changes.

Hagerman represents USF St. Petersburg’s cohort of nontraditional students, who are committed to the pursuit of higher education in their own way.
Ashe’s life is an amazing story, and there is nobody else who can communicate the world of sports and activism. “Arthur Ashe: A Life” is the product of nine years of research by Professor Dr. Ray Arsenault. Arsenault’s book is the first comprehensive biography of Ashe, from segregated Virginia to cosmopolitan figure who transformed the world of sports and activism. “Arthur Ashe: A Life” is the product of nine years of research and more than 150 interviews with the asthmatic’s family, friends and tennis rivals.

“Arthur Ashe: A Life” is the product of nine years of research and more than 150 interviews with the asthmatic’s family, friends and tennis rivals. Why do people do the things they do? It’s an age-old question that has long puzzled Psychology Professor Dr. V. Mark Durand. Motivated by this question and the desire to understand the behavior of autistic children, Durand developed a treatment called Focal Contingency Training (FCT) that has been replicated in hundreds of laboratories, treating a wide range of diagnoses including autism spectrum disorder, attention-deficit hyperactivity and traumatic brain injury. FCT has been recognized as one of 27 evidence-based practices by the National Professional Development Center on Autism Spectrum Disorder and has been cited more than 2,250 times in various psychology papers. The treatment has been replicated in hundreds of laboratories, improving the lives of hundreds of thousands of individuals with development disorders over the past three decades.

In 256 pages, Lafollette raises and evaluates commonly held positions related to firearm regulation. For example, he considers whether guns are necessary for self-defense and challenges the validity of data suggesting that more guns make communities safer, while also claiming some arguments for gun control are overstated. Lafollette rejects the idea that there are two “sides” to the gun control debate. Rather, he sees the issue as a spectrum. That said, with a title like “In Defense of Gun Control,” it isn’t hard to see which side of the spectrum Lafollette stands on.

“Before I made it clear up front exactly what the book is about,” he said. “I do support gun control but not complete control on all people and in all circumstances. I support limiting access to some guns, as well as restrictions on the guns they own.”

Lafollette stressed that the positions he takes in the book are not radical. “They will be familiar to some people from having some guns, as well as restrictions on the guns they own.”

Assistant Professor of Anthropology Dr. Heather O’Leary is a champion of citizen science, empowering amateurs to cultivate their sense of wonder and study the world around them.

In a letter to his instructors, 34-year-old inmate Marcus Holliday shared his story. “It’s been an experience I will cherish and appreciate for the rest of my life,” Holliday wrote. “In such a short time, I’ve learned more than my entire life of schooling.

“This class gave me so much hope and determination to better my literacy,” he continued. “I can see the vision clearly now. This program has bettered me in so many ways.”
The Family Study Center

PROMOTING STRONG FAMILIES AND HEALTHY CHILDREN

Carrie O’Brien

Tucked into the corner of the USF St. Petersburg campus, a small group of dedicated family scholars and child development professionals have quietly been partnering with and learning from members of the community to help change the way families are seen and served.

The Family Study Center (FSC), already well-known to family researchers nationally and globally for its groundbreaking research on coparenting in diverse families, has embraced a second, much more home-grown aim, collaborating with Pinellas County agencies to help integrate coparenting models into their everyday ways of work.

Coparenting is an emerging child development model that expands the concept of “traditional” family units (biological mothers, fathers and children) to focus on children’s actual family units, which include all caregivers who develop close bonds and are responsible for the upbringing of children. In millions of families in the United States and around the world, coparents include grandparents, relatives, other parents and sometimes even daycare providers who often care for babies and toddlers 10 or more hours each day.

It’s a concept that is transforming the way agencies see families in Pinellas County, especially those families whose coparenting efforts may go unseen or be misunderstood, such as families where biological parents don’t share a residence, families where parents are unmarried or divorced, or families where a spouse is deployed with the military or incarcerated.

Led by Dr. James McHale, the founding chair of the university’s Psychology Department and an internationally recognized foremost in the field of infant and family development, the FSC celebrated its 15th anniversary in February 2019. The Center marked the milestone with a breakfast ceremony that brought together more than 100 community leaders and collaborators.

Now the group is looking to the future, continuing to provide influential new research illuminating how families coparent, but also seeking to be of better service to families locally. The FSC has intensified partnerships both with area families and community leaders, and with family-serving agencies in Pinellas, to better support mothers, fathers, infants and families.

“The Family Study Center’s message has always been a simple one,” said McBride. “Every family coparents, and has the potential to coparent, and strengthening families by strengthening coparenting can give every child a better chance to grow up healthy, nurtured and supported by their families and communities.”

Figuring It Out for the Child

One of the FSC’s longer-running community-embedded programs is its “Figuring It Out for the Child” (FIOC) initiative. In 2010, with the support of the Juvenile Welfare Board (JWB) and later, the Brady Education Foundation, the FSC partnered with African American community leaders to design a new program for mothers and fathers expecting a first baby together.

Community members offer prenatal supports for mothers, but far fewer for fathers. And the rare programs that do try to engage fathers as well as mothers seldom serve the parents together, as coparents. This is especially so if the father and mother are not married or do not live together.

Community leaders helped FSC better understand the strengths of African American families and design a program that celebrated and built on these strengths. The program sought out and brought together experienced African American service professionals – fatherhood program staff, home visitors, health educators, and other mentors – to work directly with expectant mothers and fathers together. These mentor teams offered a series of six prenatal workshops for the mom- and dad-to-be in which they discussed helping build the strongest coparenting alliance possible for their baby. Meanwhile, a resource and referral specialist stood ready to help connect mothers and fathers with other community agencies, programs and resources if the parents felt such supports might be useful to them.

JWB- and Brady-funded efforts served nearly 50 area families from 2010-2015, and since 2015, 150 new families have taken part in programming funded by the National Institutes of Health (NIH). In 2018, St. Petersburg’s Collective Impact 2020 Plan acknowledged the FSC and its FIOC program as one of the area’s most impactful programs in support of area families.

The most important test of a program, though, is what the families it serves have to say about it. Both men and women who have taken part in the FIOC program have consistently rated their experience very highly on surveys completed at the end of the program. Many even referred their own family members and friends to the program.

“Almost unanimously, parents are reporting meaningful benefits,” said McBride.

“Most parents are understandably cautious and skeptical when starting in a new program. What determines whether they stay is whether they find benefit. Parents over the years – both moms and dads – have told us that programs like FIOC have been absent from our community, and that there is real value they find there.”

While FIOC is rooted in and has been deeply committed to families in St. Petersburg and Pinellas County, results from the NIH-supported program will help the FSC determine whether it’s a model that could productively be extended to Hillsborough County and beyond. “One last aim would be to establish if it’s possible to implement programs like FIOC on a wider basis to help support babies and families everywhere,” said McBride.

The Infant Family Center

The FSC’s primary focus is on identifying and celebrating family strengths, with the aim of supporting strong coparenting alliances in every child’s family. However, its work also addresses the challenges many infants and families face stemming from socially determined factors like poverty, homelessness, discrimination and racism, and other forms of community and family adversity. To help support families in which infants and young children have been adversely affected by trauma or other forms of severe social stress, the FSC partnered with Johns Hopkins All Children’s Hospital to create the Tampa Bay Area’s first Infant-Family Center (IFC), thanks to an initial investment from the Florida Legislature and ongoing funding support from the Juvenile Welfare Board.

As a university-affiliated Center, the IFC actively promotes interdisciplinary training, research and practice that helps improve the social and emotional development of children who have experienced trauma and adversity during their first five years of life.

What makes the Infant Family Center different is the emphasis on the coparenting framework, bringing all family adults into the treatment strategy to provide family-level intervention, said Lisa Negri, the FSC’s Chief Operating Officer and Clinical and Training Director for the FSC.

“We are seeing reduction in parenting stress, improvement in the quality of relationships both between parent and child and between the coparents overall,” said Negri. “This approach is showing positive results, not only for the children but for all members of the extended family. It’s just a new way of looking at infant mental health – it’s broader and more family-oriented than the approaches that have been traditional in our field.”

Originally located in the Audiology Department at Johns Hopkins All Children’s Hospital, the IFC relocated in September 2019 to USF St. Petersburg’s campus, right across from the Family Study Center’s main offices. The new location has made it easier and more convenient to coordinate services with various partnering agencies, said Negri.

“We were really excited to bring the center over onto the USF St. Petersburg campus so that we could merge together the research, training, professional development initiatives and direct clinical services that we’re providing through the Family Study Center and the Infant Family Center,” said Negri.

A Trauma-Informed Infant-Family Mental Health Collaborative

In expanding its aims to collaborate more fully and effectively with area agency partners on behalf of infants, young children and families, the Family Study Center undertook a major new initiative in 2017. The Trauma-Informed Infant-Family Mental Health Collaborative, supported by an $800,000 award from the Foundation for a Healthy St. Petersburg, brings together multiple agency partners to build skills, knowledge and understanding of how to best provide trauma-informed, family-centered services to families presently through their child’s third birthday.

Coordinated by the FSC, the initiative began partnering with the Healthy Start Coalition, Family Enrichment Services/Adoption Related Services, Community Health Centers of Pinellas, Operation PAR and the Maternal and Child Home Visiting Programs of the Tampa Bay Department of Health in Pinellas County. Together, the group charted a path toward helping agencies become more trauma-informed and build stronger capacities to serve whole families.

Being “trauma-informed” means helping all staff members at all agencies – from those providing direct services to those interacting with families over the phone or checking them in for services – understand that people often have experienced trauma in their lives, such as neglect, abuse, sexual assault, addiction or chronic stress. Such experiences powerfully affect how trauma survivors navigate their day-to-day lives and interact with others. Without developing an understanding for the enduring effects of trauma, even well-meaning care providers or other agency staff could unintentionally re-traumatize survivors.

“Children and families who have experienced adversity have important needs that often go unmet, especially if care providers themselves are not trained or adequately equipped to identify and respond to signs of traumatic stress,” said McBride. “Bringing a comprehensive, evidence-based framework to guide the way community programs and service providers understand and treat stress can be a major step toward ensuring better care for children and families.”
have a deep impact for infants and families. 
If service providers have had opportunities to receive trauma-informed training, they are more likely to create a space that is emotionally, mentally and physically safe for survivors. Such trainings help build agency capacity to deliver holistic patient care that is sensitive to how life experiences may impact current health status or behaviors.

According to McHale, the initiative is also helping agencies transform their approaches to focus on the child’s entire caregiving circle. When trying to assist families as they encourage babies and young children develop healthy pathways, agencies need to improve their outreach to and support of children’s fathers. Fathers are often involved in their babies’ lives but are seldom actively integrated into agencies’ treatment plans. Other important coparents might also be considered, such as caregiving grandparents or other relatives, or day-care providers.

“Rather than centering plans and services almost entirely on a mother and relatives, or day-care providers. 

In addition, more faculty at USF St. Petersburg who teach online classes are already certified or in the review process, while OLITS Encouraged to receive training to teach online.

Strategic Plan for Online Education outlines two goals for universities to meet: that all online courses be certified by 2025 and that faculty should be encouraged to receive training to teach online. The TIIFMH Collaborative’s first step was surveying current practices at each of the partner agencies. Now each partner is participating in training and consultations, led by the Family Study Center’s Learning and Development Facilitator Dr. LaVerne Butler. The initiative’s innovative framework is helping agencies transform so that they can build on-site expertise, mentoring, coaching and reflective supervision into their policies, practices and procedures. 

“Earning Quality Matters certification is really important to our faculty and students taking those courses, as it ensures our students that they are receiving training to maximize learning outcomes for their students through this medium. More than 130 faculty and staff at the university have completed online learning training, with some even credentialed to be a Quality Matters reviewer.

In the coming years, the university will invest even more in online learning to meet the growing demand while ensuring adherence to new state-wide standards. The Florida Board of Governors 2025 State University System Strategic Plan for Online Education outlines two goals for universities to meet: that all online courses be certified by 2025 and that faculty should be encouraged to receive training to teach online.

USFSP is well positioned to meet both goals. Nearly two-thirds of online classes offered are already certified or in the review process, while OLITS Encouraged to receive training to teach online.

The increased emphasis on ensuring our online courses are reaching students to maximize learning outcomes for their students through this medium. More than 130 faculty and staff at the university have completed online learning training, with some even credentialed to be a Quality Matters reviewer.

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Dr. Thomas Hallock, Professor of English, is always looking for opportunities to build bridges between cultures and foster more collaboration between students and faculty. In Fall 2019, he spent the semester as a Fulbright Scholar in Cholula, Mexico, where Hallock assumed the role of Garcia Rubes Chair of U.S. Studies at the Universidad de las Americas Puebla (UDLAP).

Throughout the semester, Hallock’s students at UDLAP exchanged emails with students in a senior capstone course at USFSP and discussed things that make their cultures both similar and unique. The students used these correspondences as the basis of writing assignments, which explored aspects of their culture that might be challenging for outsiders to understand. In that way, the students were taught to write about themselves and each other.

“The idea fits within the learning outcomes of our English major at USFSP, which include reaching across cultures,” said Hallock. “We explored questions like, ‘How do you communicate despite cultural differences?’”

Hallock saw his role in Cholula as a combination between scholar, educator and liaison.

“We’re in an area of rampant caricatization of Mexico and Latin America,” Hallock said. “As a Fulbright, I’m technologically working as a cultural ambassador for the State Department. By putting students in touch with one another, we develop real knowledge and understanding, as opposed to clichéd perceptions of one another’s culture.”

There’s a lot we can learn by viewing the planet from above, and the best bird’s-eye view is often captured via satellite. Dr. Barnali Deyon, Professor of Geographic Information Systems and Remote Sensing, brought her expertise to Chonburi, Thailand this past fall, where she served as a Fulbright Specialist at the country’s Geo-Informatics and Space Technology Development Agency (GISTDA). GISTDA is getting ready to launch the THEOS II space satellite, which Thailand will use to collect data that will inform future policy decisions.

Deyon, the Executive Director of the Initiative on Coastal Adaptation and Resilience (ICAR) and the Director of Geo-Spatial Analytics Lab at USFSP, had various responsibilities during her Fulbright. She helped prepare the graduate curriculum at the Sirindhorn Center for Geo-Informatics to incorporate THEOS II data into policy. She provided feedback on reports regarding policy solutions related to THEOS II. Deyon also gave a number of presentations, including at the week-long Thailand Space Week in a northern suburb of Bangkok.

“This Fulbright allowed for an enormous exchange of information,” Deyon said. “They learned from me and I learn from them. The capacity building and exchange of new ideas was incredible.

Once THEOS II is launched, GISTDA will need to implement ways to analyze and apply the data captured by the state-of-the-art satellite. Deyon helped develop application solutions using THEOS II data, as well as integrate intelligence policy solutions into the Sirindhorn Center’s graduate curriculum. Her goal was to create a foundational and forward-thinking curriculum with specialized policy degree tracks, which partner universities can use to build upon for their own programs.

For years, USF St. Petersburg has cultivated a community where students and faculty from diverse backgrounds can share their unique perspectives inside and outside of the classroom. At the forefront of that effort is Global Initiatives, a program that helps foster a globalized campus to increase international opportunities, partnerships and student representation.

“We live in a global society and we need international students to help us become who we want to be,” said Regional Chancellor Martin Tadlock. “At USF St. Petersburg, we believe we need to have our students interact with those who live in different parts of the world, who come here and bring their culture, interests and passions.”

Global initiatives have recently launched several international projects, including partnerships with universities in Malaysia and China. In addition, students have participated in study abroad programs in Vietnam, France, India, Spain and elsewhere.

The University currently hosts 36 international students from 25 countries, including Sweden, Saudi Arabia, the Turks and Caicos and the United Kingdom. USFSP also recently hosted two Fulbright Scholars from Brazil and Russia.

Angélica Rodríguez Jiménez, International Student Advisor, said the University plans to create even more opportunities for outreach in semesters to come. She is currently working on a professional development program called the Global Scholar Academy, which will be designed to bring more international talent to campus.

Although many international students are a long way from home when they study at USFSP, the University puts the utmost priority on providing a safe and comfortable environment. “We want to make sure our students always have a home away from home, by striving to provide the necessary support for their success while they’re here,” said Rodríguez Jiménez.

Winter break is typically a time for students to return home and unwind before beginning another semester. For 12 students in the USF St. Petersburg Honors Program, a recent break was instead an opportunity to fly across the world and immerse themselves in the history and daily life of China.

The students spent two weeks traveling through China, where they visited renowned cultural destinations, such as the Great Wall and the Forbidden City. Their trip took them from the provincial city of Weifang to the country’s capital, Beijing.

During the day, students took classes on Chinese language, calligraphy and history at the University of Weifang. Their nights were spent connecting with peers and experiencing Chinese life first-hand.

“This was the best thing I have done in college thus far,” said Allison Senne, an Environmental Science and Policy major. “We learned a lot about the nation’s history and current environmental issues, and the students we met there couldn’t have been nicer.”

As only a couple hundred foreigners visit the city of Weifang each year, the students were “treated like rock stars,” according to Nayda Payne, a Political Science major. “Whenever we went outside, people wanted to take pictures with us and really engage with us. They even threw me a surprise birthday party.”

“I never had an appreciation for where I came from until I went to China and saw how beautiful the country and people are,” Meyers said. “I brought home a sense of pride for myself. I’d never been proud to be Chinese until now.”

Since launching last year, the CLC has allowed high-achieving students to travel across the globe, to places like China and the Cayman Islands, where they are immersed in the local culture and taught the value of international connections.

“It’s a formative experience,” said Caryn Nesmith, Head of Special Projects for the Regional Chancellor’s Office, who traveled with Meyers and her cohort to China. “Many of the students haven’t traveled abroad, so to be somewhere that is so different is very eye-opening. We live in a globalized world and it’s important to get that global experience and realize what’s going on in other countries.”

While at Beijing Jiaotong University in Weifang, students partnered with local students, who taught them Mandarin’s basic alphabet and tones.

Another cohort of students joined Dr. Kathleen Gibson-Doe, Chancellor’s Assistant for Strategic Initiatives, on a trip to the Cayman Islands, where the focus of the experience was on sustainability. CLC study abroad experiences are part of Regional Chancellor Dr. Martin Tadlock’s desire to make education abroad opportunities available for everyone on campus.

As a kid, Emme Meyers felt she was different from many of her peers. Meyers was born in China, adopted and moved to America before her first birthday. She did her best to blend in. It wasn’t until Meyers, a mass communications major, traveled to China in May as part of the Chancellor’s Leadership Council (CLC) that she began to cherish her heritage.

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Walk into the Research Labs building at USF St. Petersburg and you might hear something scurrying around. That’s because you’re not alone. The building is home to creepy-crawly insects and cold-blooded creatures studied by animal scientists such as Drs. Deby Cassill and Sean Doody.

Deby Cassill’s lab is full of ants. She likes it that way. Cassill is an ant expert, and while most people think of ants as pests, Cassill considers them to be highly social insects that are a lot more human-like than we tend to give them credit for.

“I see ants as a self-organizing social system, much like humans,” said Cassill. “For example, people have bosses, but how they get their jobs done depends on things like their personality, their mood, levels of hunger, sleep deprivation and local conditions. Ants do the same thing.”

Over the years, Cassill’s work has been covered by outlets such as the Tampa Bay Times and the BBC, where her studies on ant sleep were the subject of an Earth News documentary. Cassill previously discovered that queen fire ants like to doze off for an average of nine hours every day, while worker ants get just half as much sleep and tend to rest in short power naps. This difference in sleep patterns, Cassill suggested, may explain why queens live for years and workers live for just a few months.

Cassill has since branched out from biology. Inspired by her ant observations, her recent work has been focused on developing unifying theories of ecology, evolution and economics. Earlier this summer, Cassill published the first paper of this ambitious series, which laid out a unique classification model to explain why some species spawn millions of offspring, while others give birth to just one at a time.

Just down the hall from Cassill’s office, a wall of lizards greets visitors in Sean Doody’s lab. Doody, a reptile-expert, studies threatened and invasive species, and researches how climate change may impact these species in the future.

“Although invasive species are ‘bad,’ we take advantage of the fact that there are lizards in Florida that belong all over the world,” he said.

Through field work and careful laboratory observations, Doody studies how changes in climate impact the hatching conditions of species such as soft shell turtles, river cooters and gopher tortoises.

“Where a mom lays her eggs is critical,” he said. “Adults can move into the shade as temperatures rise but eggs cannot, so we want to answer the question, ‘Will mothers put their eggs in the shade as the climate continues to warm?’”

Doody also studies species outside of Florida, including in Australia, which he visits every summer to conduct research on the impacts of invasive cane toads on native animal communities. His reptile research has appeared in publications such as The Atlantic and Scientific American.

In the future, Doody plans to study reptiles up the east coast of North America to understand if and how species have adapted to climate change in various environments.

“Summers in Maine are very different than summers in Florida,” he said. “But since eggs have the same temperature requirements between there and here, the moms have to be doing something different. We want to see what’s in their repertoire for responding to climate change.”