



2016 ANNUAL  
Research  
REPORT

**UNIVERSITY of** | Research and  
**WEST FLORIDA** | Sponsored Programs



# Summary

**Above:** UWF assistant professor Dr. Alexis Janosik searches for evidence of the endangered Alabama sturgeon using environmental DNA. See story page 6.

**Cover:** UWF graduate Katelyn Houghton pipets water samples at the Environmental Protection Agency's Gulf Ecology Division Laboratory on Pensacola Beach. See story page 22.

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## Welcome from the Provost

Martha Saunders, Ph.D.



I am grateful to be part of a faculty that values the creation of knowledge. Our research activity at the University of West Florida continues to distinguish us as a significant asset to the state of Florida and Gulf South region.

This year, in an effort to facilitate an enhanced culture of scholarship at UWF, we have made some positive changes. For example, in filling the position of director of sponsored research, we have taken an important step toward providing the support needed for a robust, institutional research agenda.

Assistant Vice President for Research Mark Roltsch is a highly skilled, motivated, and motivating individual who understands the grant process. In partnership with Dr. Rick Harper and the entire Center for Research and Economic Opportunity team, good things are happening for our faculty and the research we do.

This is only the beginning. The University will continue to identify, support and promote the scholarly activities of the faculty, and will develop a strategic research agenda incorporating our strengths and comparative advantages.

I expect a highly productive year.  
 All the best,

Martha Saunders, Ph.D.



Photo by John Blackie

## Research & Sponsored Programs Introduction

Rick Harper, Ph.D.



The Office of Research and Sponsored Programs is part of the University of West Florida's Center for Research and Economic Opportunity, which I direct. It has been my pleasure to serve as Dr. Mark Roltsch's supervisor since he arrived at UWF last November as the new assistant vice president for research and director of RSP. Mark's impact on the campus research environment has already been profound, as his energy, warmth and easy-going nature complement his detailed knowledge of grant programs. Mark and his team are building on existing strengths in RSP and across campus, and helping create new ones.

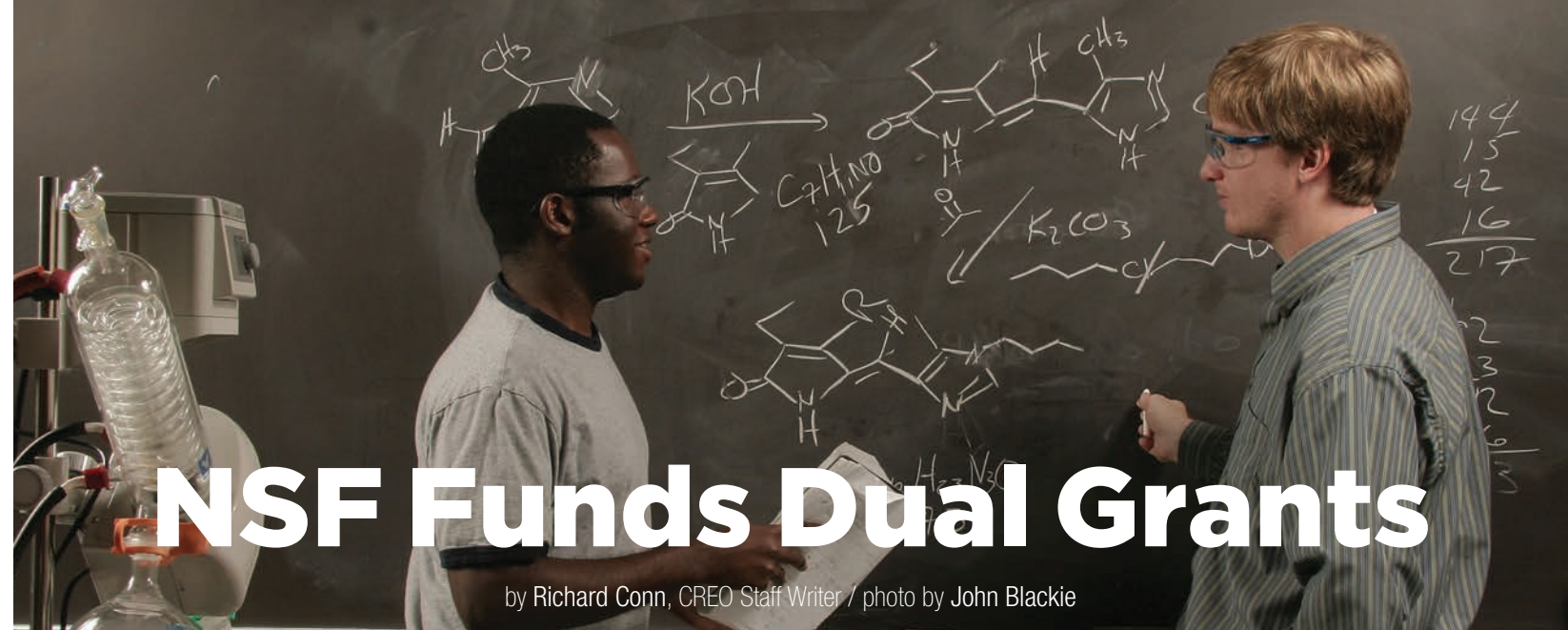
We have a very good opportunity to build research capabilities over the coming years at UWF. Our Board of Trustees supports growth in research. We have a brand-new college of health, with affiliated new faculty with research aspirations. At the same time, CREO and the University are now entering the second year of a recurring state appropriation directed at improving the quantity and quality of research and economic development in Northwest Florida.

This funding has enabled CREO to implement meaningful incentives to stimulate both funded research by faculty as well as faculty research and creative activities more generally. These funding initiatives have included initiatives such as the Florida Research Fellow award program, startup of a Phase III/IV clinical trials site, grant proposal-writing workshops, and, pro rata support for replacing the State University System's oceanographic research vessel Bellows. As many as 28 new CREO-supported post-doctoral fellows will be on staff supporting faculty research as you read this publication.

CREO funding also supports the excellent team of writers, editors, photographers and other media experts who produced this report, and who are ready, willing and able to help UWF faculty and staff experts publicize their research. We are particularly eager to highlight the role that motivated students can play when working with faculty researchers. The future for high-quality research is bright for faculty and students at UWF.

Sincerely,

Rick Harper, Ph.D.  
Associate Vice President for  
Research and Economic Opportunity



# NSF Funds Dual Grants

by Richard Conn, CREO Staff Writer / photo by John Blackie

Two departments at the University of West Florida were awarded separate National Science Foundation grants this year totaling almost \$900,000.

The Department of Chemistry received a grant for \$650,000 from the National Science Foundation to provide scholarships, research opportunities and professional development for academically talented, financially disadvantaged students in the fields of science, technology, engineering and mathematics.

The grant is being used to establish a "Scholarships in STEM" program, as well as create a "STEM for Life Seminar Series" within the Hal Marcus College of Science and Engineering.

"Our goal is to provide a holistic education to our students by integrating social, academic, mentoring and research components into a single program," said Dr. Karen Molek, associate professor in the Department of Chemistry and administrative fellow for student engagement in the Hal Marcus College of Science and Engineering. "Literature and UWF data suggest that synergizing resources into a single program will increase retention, graduation rates and success beyond UWF and ultimately bridge the college attainment

gap experienced by students from financially disadvantaged backgrounds."

Molek said research also shows that students who are economically disadvantaged are less likely to pursue a career in STEM. She said the goal of the four-year seminar series is to help students recognize their potential while learning what resources are available to assist them with hard and soft skills necessary for career success.

The program will include a research component in addition to student support. The research will attempt to determine the impact of the various activities and STEM for Life Seminar events on student retention and graduation, as well as employment and graduate school acceptance.

"The knowledge and best practices gained from the program and research study will empower UWF and national institutions to sustain and expand this model," Molek added.

The Department of Earth and Environmental Sciences, in partnership with colleagues in the UWF Department of Chemistry and Office of Undergraduate Research, was awarded a \$294,000 grant from the National Science Foundation that will be used to enhance interdisciplinary undergraduate research.

"Specifically what we're trying to do is set up earth science projects that collaborate with one or more other departments and that will involve students in earth sciences working

with students and faculty in other departments on a multi-disciplinary project," said Dr. Matthew Schwartz, chair of the Department of Earth and Environmental Sciences.



Molek

Those multidisciplinary projects to be selected have "at their core" an earth science component, Schwartz said.

These projects coincide with the Hal Marcus College of Science and Engineering's larger efforts to provide interdisciplinary academic opportunities for students to gain exposure and hands-on experience in fields outside of their own. Such experiences yield skills that provide students with a comprehensive foundation for professional success in STEM fields.

The National Science Foundation grant provides funding over a three-year period. The funds will support summer research stipends for students, as well as equipment costs to support their research. The grant will also provide opportunities for travel, as students and faculty from Earth and Environmental Sciences and other departments will be able to travel to national level geoscience conferences.

"Almost all of the funds are going directly to supporting students," Schwartz said. "This is an exciting opportunity for our faculty and students. We're looking forward to seeing what we can accomplish with these new resources."

# Rare Fish Found Using eDNA

by Richard Conn, CREO Staff Writer  
photos by Michael Spooneybarger



**Above:** UWF graduate research assistant Katie Vaccaro and assistant professor Dr. Alexis Janosik sample water with Alabama River and Stream Fishes Program Coordinator Steve Rider and senior biologist aide Travis Powell from the Alabama Division of Wildlife and Freshwater Fisheries.

**Below:** Graduate research assistant Amy Brower filters water samples as part of the environmental DNA extraction process.



The Alabama sturgeon is critically endangered, so much so that some believed the species had become extinct.

The last documented capture of the freshwater fish was on April 3, 2007, on the Alabama River by biologists with the Alabama Department of Conservation and Natural Resources. An Alabama sturgeon was last spotted near Robert F. Henry Lock and Dam on April 23, 2009, but was not netted.

However, Dr. Alexis Janosik, an assistant professor in the Department of Biology at the University of West Florida, has discovered that, though the Alabama sturgeon may have dwindled greatly in numbers, it's not extinct.

Using the science of environmental DNA, Janosik has found evidence that the sturgeon still dwells in the Alabama River.

Water samples were taken from the Alabama River in the state's southwestern region, which were then taken back to the lab to filter to try to find the Alabama sturgeon's DNA from scales, feces, urine, gametes – any trace the fish might have left behind.

In December 2014, 30 water samples were collected near and throughout the Alabama River, and one of those samples tested positive for the Alabama sturgeon. From April to July 2015, another 100 water samples were collected, and 17 of those samples tested positive for the critically endangered fish.



**From left to right:** UWF graduate research assistant Katie Vaccaro, Alabama river and stream fishes program coordinator Steve Rider and UWF assistant professor Dr. Alexis Janosik.

*“This helps inform people to say, ‘It’s still there. This isn’t lost. We still have to make an effort.’”*

Janosik said the main goal of the research was to promote conservation efforts to help preserve the Alabama sturgeon.

“This helps inform people to say, ‘It’s still there. This isn’t lost. We still have to make an effort,’” Janosik said.

Janosik’s research is slated to be published in *Global Ecology and Conservation*, a peer-reviewed, open-access journal.

The research project is being funded by the Alabama Department of Conservation and Natural Resources, and Janosik collaborated with Mariah Pflieger, a former UWF graduate student, Dr. Carol Johnston, a professor at Auburn University, and Steve Rider, River and Stream Fishes Program coordinator with the Alabama Division of Wildlife and Freshwater Fisheries.

Several factors have caused the Alabama sturgeon’s numbers to shrink, Rider said.

“They were overfished. And then once the dams came in, that was kind of the nail in the coffin for these fish,” Rider said, after accompanying Janosik and one of her students on one of their trips to collect water samples.

The Alabama sturgeon takes a long time to reach sexual maturity and doesn’t reproduce every year, Janosik said.

“There are many things about this fish that make it a poor candidate for harvesting, yet it was overharvested, which ultimately led to its current status – in addition to environmental degradation, river impoundments, and a complicated life history strategy,” Janosik said. “All these things together are compounding.”

In addition to finding traces of the Alabama sturgeon, water samples collected also found ample evidence of the Gulf sturgeon, which, while not as rare as the Alabama sturgeon, is listed as a federally threatened species.

Species such as mooneye fish, Alabama shad and freckle belly madtom will be searched for using environmental DNA, Janosik said. The technology will also be used to determine if lionfish, an invasive species that is already prevalent in the Gulf of Mexico, are moving into local river systems.

“This tool saves us time, saves us money, energy, resources and can still inform conservation management,” Janosik said of environmental DNA.



Dams like this one in Monroe County, Alabama, have impounded the Alabama River and affected the reproduction of the Alabama sturgeon.

# Undergraduate Research Sets UWF Apart

Undergraduate research is a cornerstone of a UWF education. It is something that UWF excels at, and it sets us apart from larger universities.

What most universities do with their graduate students, UWF is doing with undergraduate students. I continue to be inspired by the quality and range of research in which UWF students and faculty are engaged.

The Office of Undergraduate Research is making great strides in its efforts to support and encourage more undergraduate research at UWF. Last year, OUR supported an unprecedented number of UWF undergraduate students doing research through 85 Project Awards and 171 Travel Awards. In addition to these flagship programs, OUR has several new programs, including the Explorers Program for underclassmen to shadow faculty research, and the Scholars program, focused on the development of students' skills to communicate their research results and experiences.

For the upcoming year, OUR will continue to increase the number of UWF undergraduates engaged in research through the OUR Works! program that has created 40 new paid research positions for work-study eligible students. In the upcoming year, we also will focus on faculty through workshops on mentoring undergraduate researchers and supporting research in non-traditional disciplines.

It is a privilege to work with so many exceptional undergraduate students at UWF, and I would like to share three profiles of exemplary research students.



Allison Beauregard Schwartz, Ph.D.  
Director, Office of Undergraduate Research

## OUR Profile

# Collaborative Lab Project Teaches Flexibility

by Brandy Hillboldt Allport, CREO Staff Writer  
photos by Michael Spooneybarger

Arnesha Harris, a junior studying chemistry, said that doing research in a lab has taught her a valuable life lesson: No matter what, learn to adjust when things do not go exactly as you planned.

"It's research, so you don't have all the answers up front. You have to be able to go with the flow," she said.

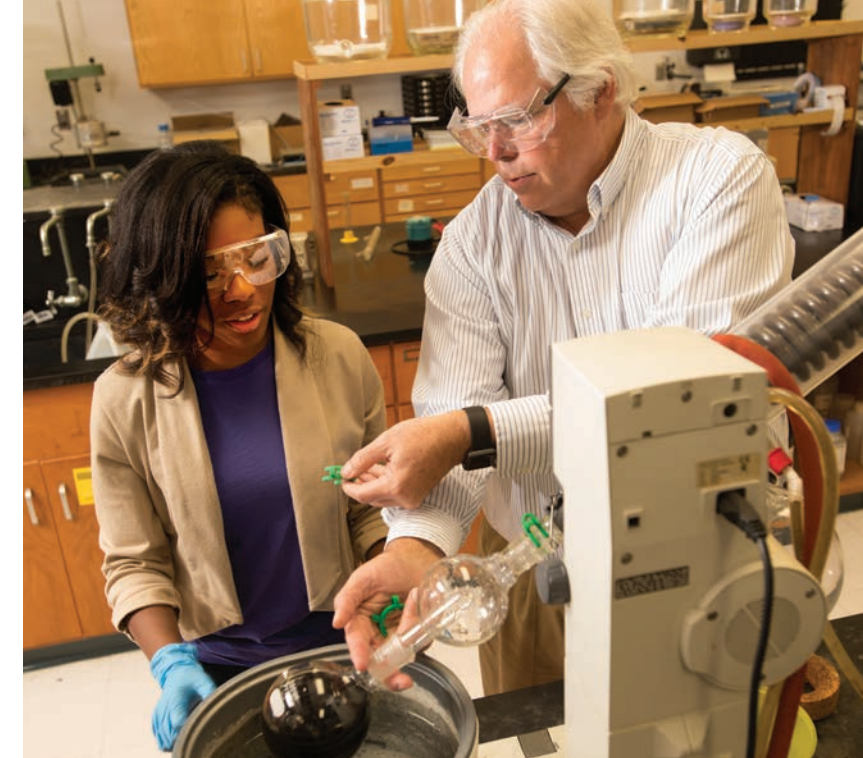
On a recent morning, she did exactly that when there was a glitch with the nuclear magnetic resonance spectrometer. The computer screen wasn't showing the proper image, so she asked for help. While a technician worked on the spectrometer, she went to a different part of the lab and started another task.

No time wasted.

Harris was one of about 50 students participating in the Summer Undergraduate Research Program through the Office of Undergraduate Research and the Hal Marcus College of Science and Engineering. She worked with Dr. Alan Schrock on a project to convert algae into synthetic coal as a green fuel substitute.

The algae project was a collaboration between the chemistry department and the environmental sciences department. Students and faculty members in the Department of Earth and Environmental Science looked for ideal algae samples to collect and grow in batches. The chemistry department then used heat, water, air and a special reactor to convert the algae into synthetic coal.

"The more we collaborate, the more we learn," Schrock said. "It's important that chemistry majors



Junior Arnesha Harris and chemistry chair Dr. Alan Schrock work with a rotary evaporator in a UWF chemistry lab.

have a broad background of knowledge. When they are professional scientists solving problems, it might not be just a chemistry problem, but chemistry could be part of a solution to a bigger problem. Students need background to understand the bigger problem. Knowledge gained outside the classroom creates this breadth."

Harris embraced this collaborative spirit.

"On slow days in the chemistry lab, I go over to environmental science and help go out and collect algae," she said.

Working in the lab has also shaped Harris' career goals.

"Doing research has made me realize that I might want to go to graduate school," she said. "I see going to graduate school as a way to get better and better at something, a way to learn and improve skills sets. Before I was spending time in the lab, I just thought people went to school for four years, graduated and got a job. Now I realize there can be much more to it all."

She has not yet decided what she would study in graduate school. To answer that question, Harris said she will have to do a little more research.





OUR Profile

## UWF Team Tops Information System Competition

by Mike Ensley, CREO Staff Writer / photo by Michael Spooneybarger

When Nam Nguyen and his teammates from UWF's student chapter of the Association for Information Management Systems were deciding on an issue to tackle for the IBM BlueMix Bright ICT Competition in late 2015, they chose something that hit close to home: cyberbullying.

"I've had nieces and nephews that were bullied on social media," Nguyen said. "Even some of my team members and myself had faced the problem."

IBM BlueMix Bright ICT Competition is a national event that challenges students in the information technology field to "demonstrate the impact information systems can have in making the internet a safer place by challenging teams of one to five individuals to design and implement an innovative IS solution leveraging the power of IBM's Bluemix platform to prevent undesirable and dangerous activities on the internet."

Nguyen, with team members Neil Light and Peter Cavallaro, created their project, "Bully Be Gone: Preventing Cyber Bullying on Facebook," to stop harassment on Facebook before it gets out of hand.

"People who are bullied online tend to keep the bullying to themselves and sweep it under the rug," Nguyen said. "We wanted to use the Bluemix platform to create a proactive way to stop things from going wrong."

The team built an application that works with Facebook to screen words on a user's profile to detect if there are negative or positive sentiments being expressed. If the app finds something negative, it sends an email to a parent or someone else who can take action.

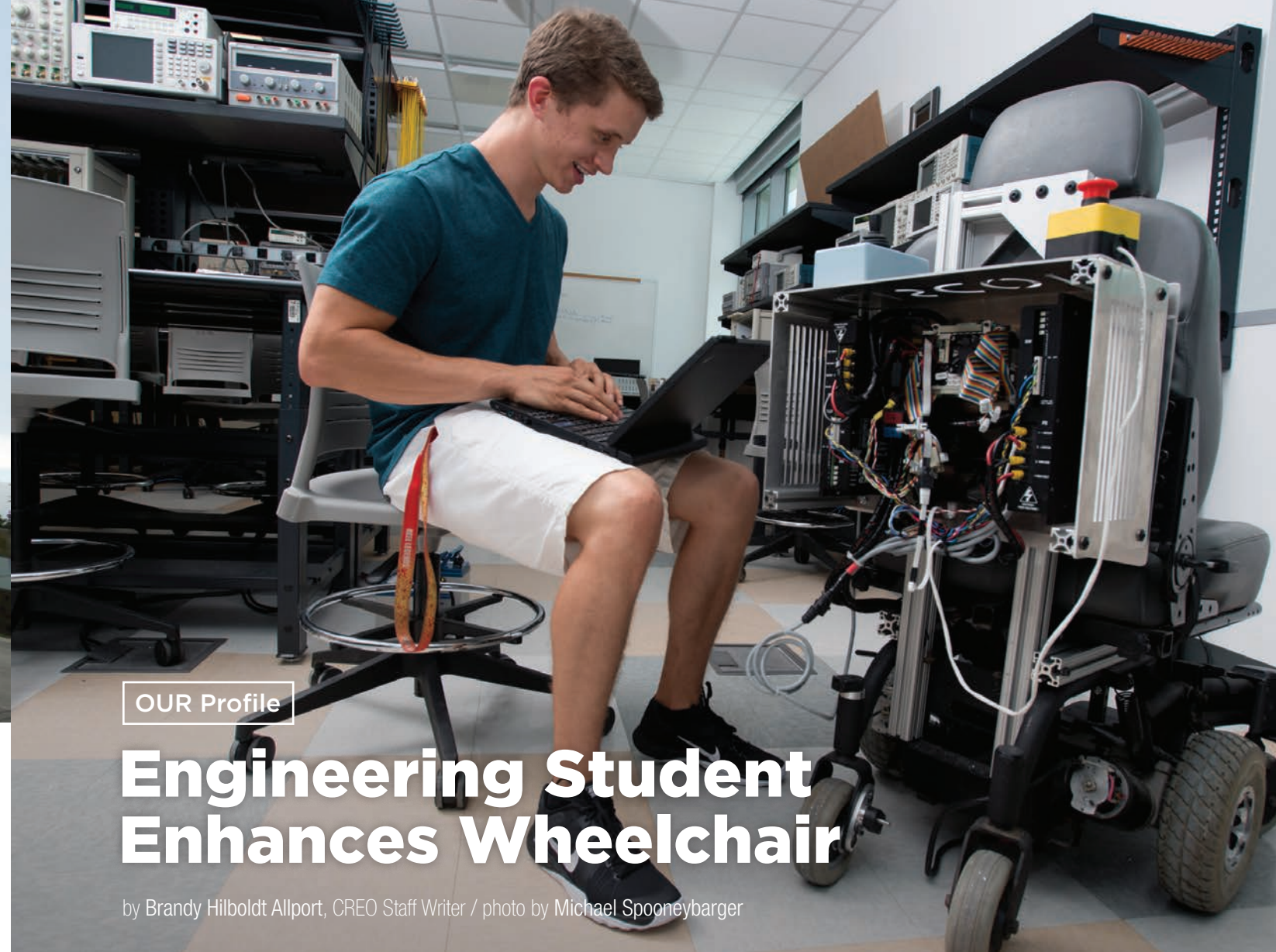
"We created a test user for the competition, and the application worked," Nguyen said. "We had a successful proof of concept."

The team placed first at the competition, which took place at Indiana University. Nguyen and his teammates faced competition from around the world, including teams from institutions such as Brigham Young University and the University of Gdansk (Poland).

"This was the first time a team from UWF and the management information systems department had competed, and we made a great impression," Nguyen said. "I am very proud of the work we did."

The team won \$2,000 for their chapter. Nguyen said he hopes the project will continue.

"I want to continue to develop the software on an open-source platform so that others can use it," Nguyen said. "It is something that could be used to make a difference in people's lives."



OUR Profile

## Engineering Student Enhances Wheelchair

by Brandy Hilboldt Allport, CREO Staff Writer / photo by Michael Spooneybarger

Everette Petsinger, a senior studying electrical engineering at the University of West Florida, said he wants his research to help people and make their lives easier and safer.

He was one of about 50 students participating in the Summer Undergraduate Research Program through the Office of Undergraduate Research and the Hal Marcus College of Science and Engineering. Petsinger worked with Dr. Oscar Chuy, assistant professor in the Department of Engineering, on a project to create an algorithm that keeps an electric-powered wheelchair from losing traction.

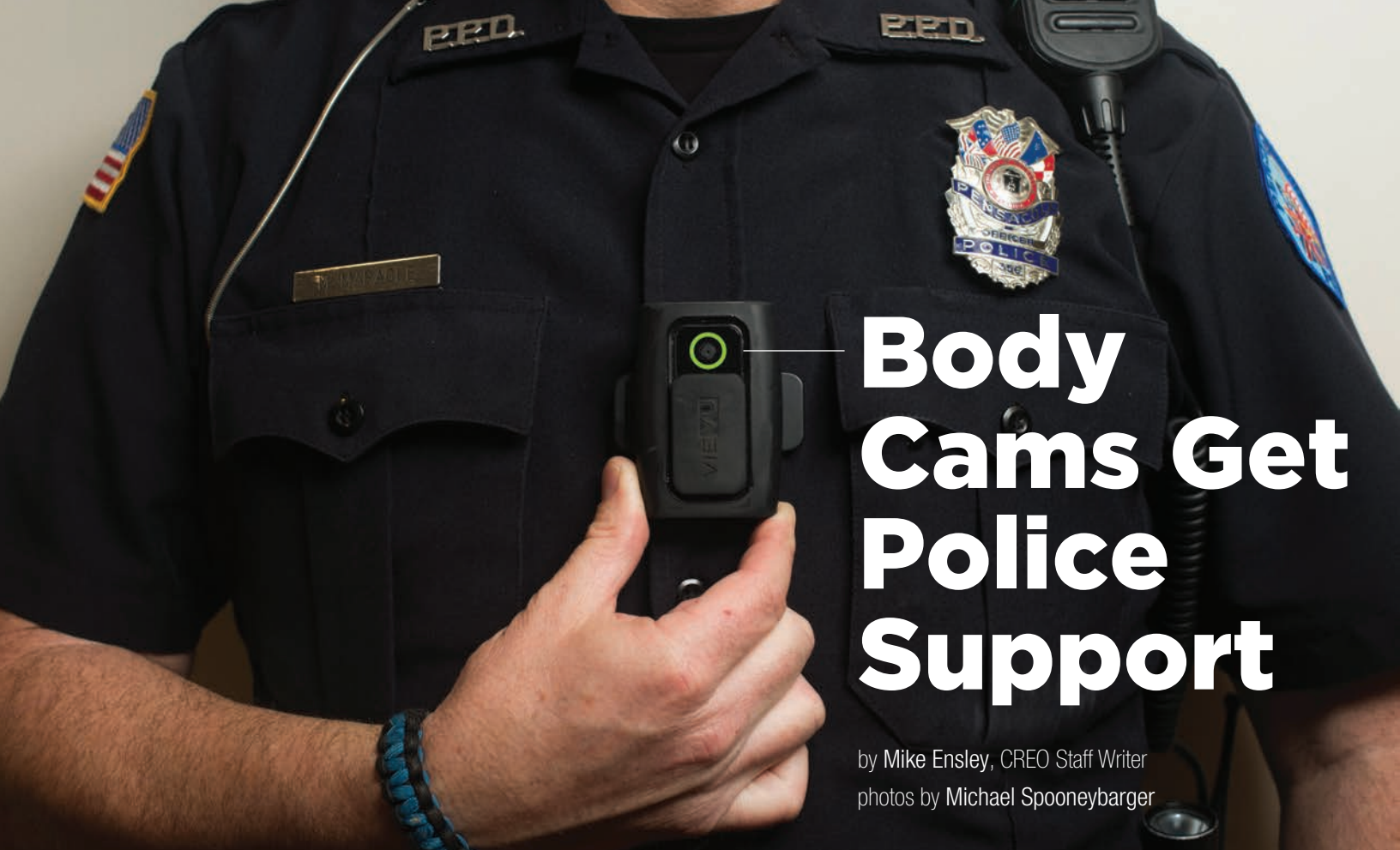
Spending the summer in the lab working on the wheelchair project was a stepping stone to Petsinger's long-term career plan to go into unmanned systems. Unmanned systems is a form of robotics where a system takes in data and makes adjustments accordingly. A good example is a driverless car.

"This summer I learned a type of programming that is called linear control," Petsinger said. "It's a class that electrical engineers have to take. I had not taken it yet, but Oscar Chuy, my mentor, teaches it, so it's like I got a fast course. I also learned about real-time operating systems in robotics."

*“There are no limitations or rules to solving a problem, so it brings creativity into the normally rigid scientific process.”*

As he worked on the algorithm for the wheelchair, he learned about the vagaries of research in the lab. Some things he thought would be challenging were not, and some things he anticipated being easy presented challenges.

"Doing things in the lab can be more frustrating than classwork, but it's a lot more rewarding," Petsinger said. "In classwork, there are usually just a few set ways to do things. In the lab, when you are presented with a problem, you are not given any steps or sets of directions. There are no limitations or rules to solving a problem, so it brings creativity into the normally rigid scientific process. This is refreshing."



# Body Cams Get Police Support

by Mike Ensley, CREO Staff Writer  
photos by Michael Spooneybarger

“As we’ve brought in the cameras, it has really worked out in keeping the bad guys honest.”

trust of law enforcement has slipped considerably. According to a recent Gallup poll, those numbers are at their lowest level since 1993. BWCs are a response to that mistrust, Crow said.

“The use of BWCs has developed quickly as a response to public outcry,” he said. “Many in leadership see the use as a positive thing as it will be available if a situation arises.”

The study’s results bear the notion out – over half those surveyed said they believe that “BWCs will assist in the collection of quality evidence.”

Pensacola Police Department Assistant Chief Tommi Lyter agrees.

“As we’ve brought in the cameras, it has really worked out in keeping the bad guys honest,” Lyter said. “Witness statements are more accurate, and when people try to change their stories, we have what they said on tape.”

Lyter was instrumental in the deployment of BWCs in Pensacola’s police force.

“This project was my baby,” Lyter said. “I saw this as the future of law enforcement, and even since we’ve put them in use, the technology has improved.”

Lyter said the Police Department has already received a federal grant to expand their program this year.

The BWCs’ effectiveness also has been reflected in accusations against officers, Lyter said.

“I don’t have hard numbers yet, but I can tell you that our citizen complaints have decreased,” he said. “And

our internal affairs complaints are down.”

If Lyter has one concern with BWCs, it’s the potential for the use of out-of-context video.

“It’s unfortunate, but it will happen,” Lyter said. “An officer who’s having a bad day or makes a mistake is going to be judged on two minutes of video by the media, instead of the whole of their work.”

The numbers in the BWC survey reflect this fear as well. Sixty percent of those surveyed agreed that the “media will use data from BWCs to embarrass or persecute police.”

“There are literally thousands of hours of footage that is either mundane or helpful to the police,”

Crow said. “But in this age of video, the perception among leaders is that footage could be misused against law enforcement.”

That public perception is the focus of the next phase of Crow’s research. Using a UWF Scholarly and Creative Activities grant, along with Department of Criminology and Criminal Justice development funding, Crow’s team worked with the Haas Center to administer a community survey.

A manuscript highlighting their findings is now under peer-review for publication and an analysis of collected data on police officers’ perceptions is also underway.

“We’re acting with expediency to fill the hole in research and capture the perception as it happens,” Crow said.

Police interactions with the public have been under scrutiny as more departments across the country have begun requiring video surveillance of officers – first with vehicle mounted dash-cams and more recently body worn cameras, or BWCs.

Many activists, politicians, media outlets and academics have long advocated the use of BWCs to improve transparency and accountability for officers in their daily work and in controversial cases. But a recent study, “Police Body-Worn Cameras: Perceptions of Law Enforcement Leadership,” published in the American Journal of Criminal Justice by researchers at the University of West Florida and Florida Atlantic University, suggests BWCs enjoy strong support among law enforcement agencies.

“Law enforcement leadership sees BWCs as a way for the officers to tell their side of the story,” said Dr. Matthew Crow, chair of the University of West Florida Department of Criminology and Criminal Justice.

Crow became interested in the use of BWCs when a former student approached him with questions.

“The student was now a law enforcement officer, who came to me asking about BWCs,” Crow said. “This was before Ferguson. I was not familiar with them.”

Crow said he began to look for more information on the subject, but his searches came up short.

“There was nothing out there,” he said. “A few news articles, but no serious academic study.”

Interested, Crow began looking into the issue informally.

“I started cold-calling agencies and asking about BWCs,” he said. “Many of them were willing to be a part of research about the issue.”

Crow saw a definite gap in research, so he, working with Dr. Jamie Snyder from UWF and Drs. John Smykla and Vaughn Crichlow from FAU, began a study.



Crow

Crow and his colleagues surveyed “a large southern county with 27 local law enforcement agencies, home to a number of state and federal law enforcement agencies, and a population of approximately 1.3 million people,” he said.

“We decided to focus on law enforcement leadership’s perception of BWCs,” Crow said. “We wanted to find out what the main stakeholders of the law enforcement community thought.”

In March 2015, surveys were distributed to the leadership in the sample group, with 24 returned completed. Fifty percent of those surveyed said they supported the use of BWCs, with another third of respondents being undecided.

“We expected mixed results,” Crow said. “But it was interesting that the majority supported the use of BWCs.”

With many high-profile cases, such as the shootings of Michael Brown, Tamir Rice, and other lethal force incidents featured prominently in the news, public



Pensacola Police Officer Dennis Salon speaks with victims of a hit and run along Davis Highway on August 11, 2016.

# Searching for Luna's Lost Ships

by Richard Conn, CREO Staff Writer  
photos by Michael Spooneybarger

An image appeared that caught the attention of Dr. Greg Cook, an assistant professor of anthropology at the University of West Florida, as he looked intently at a sonar screen.

"A really good looking anomaly right over here, guys," Cook told two UWF graduate students, Stewart Hood and Matt Newton.

Anomalies were exactly what Cook and the students were searching for. They used both side-scan sonar and a magnetometer while on board a boat cruising Pensacola Bay.

They hoped those anomalies would turn out to be more wreckage from the fleet of ships explorer Tristán de Luna y Arellano brought with him when he attempted to establish a Spanish colony in Pensacola in

1559. A hurricane is believed to have destroyed seven of the vessels.

The wreckage of two of those ships have already been discovered.

The Emanuel Point shipwreck was found by archaeologists from the Florida Division of Historical Resources in 1992. Then, in 2006, UWF students, using the same magnetometer that Cook and his crew are now deploying, discovered the remnants of a second ship, called the Emanuel Point II.

"This is basically taking the earth's magnetic field and looking for any discrepancies," Hood said of the magnetometer. "So, any of what we call 'hits' or 'spikes' in that field can be indicative of a shipwreck."

A Florida Division of Historical Resources grant is supporting the shipwreck research.

**Opposite:** UWF Assistant Professor of Anthropology Dr. Gregory Cook shows grad student Matt Newton how to use a magnetometer and side-scan sonar while surveying Pensacola Bay.

**Right:** UWF grad student Stewart Hood sets up a side-scan sonar to survey Pensacola Bay near the Emanuel Point Shipwreck Site.

While Cook and his students continued to look for more vestiges of Luna's fleet in the water, another UWF archaeological team searched on land for artifacts from Luna's settlement that inhabited what is now Pensacola from 1559 to 1561.

The search was part of a 10-week combined terrestrial and maritime field school.

"They could be anywhere," Cook said of the Luna ships. "The smaller ones could be closer to shore, or there could be ones farther out as well. We're just going to blanket the whole area since this seems to be ground zero."

While Cook said most of what shows up during the sonar and magnetometer surveys is modern debris or natural items, such as tree limbs or rocks, some of the anomalies found will require UWF students to dive at the locations to investigate them.

"We'll have a day just with nothing but what we call 'target-testing, anomaly investigation,'" Cook said. "That's a key skill for these students to learn as well. If you're doing cultural resource management, that's part of it."

Undergraduate students who took part in the field school split their time working on water and on land.

"I can't imagine a cooler field school experience than that," Cook said.

A grant from the Florida Division of Historical Resources helped pay for the field school research.

Past summer field schools yielded important discoveries, including the Emanuel Point II wreckage.

The Luna colony was struck by a hurricane a month after arriving from Mexico. The colonists were able to unload most of the ships before the storm, except for food supplies, Cook said.



"But there was one ship supposedly that was loaded and ready to go back to Mexico that was lost, and that ship may have a lot more stuff on it," Cook said.

Artifacts from the Emanuel Point shipwrecks found range from pottery to cannonballs.

"We're finding some of the munitions that were probably just inaccessible after the hurricane," he said.

Learning how to use the sonar and magnetometer equipment provides valuable experience for students that extend beyond the classroom, Cook said.

"This gets a lot of students jobs, knowing how to run these systems and interpret them," he said.

“ I can't imagine a cooler field school experience than that. ”







# UWF Leads Economic Engagement, Analysis

by Mike Ensley, CREO Staff Writer / photos by Michael Spooneybarger

The Center for Research and Economic Opportunity at the University of West Florida provides private companies and public-private partnership organizations with research products and practical assistance to help them be successful.

Founded in 2015, CREO is an umbrella organization that comprises the state headquarters of the Florida SBDC Network, the Haas Center, the Office of Economic Development and Engagement, and the Office of Research and Sponsored Programs.

“CREO serves to advance the strategic priorities of the University of West Florida, most notably in the critical areas of applied research and economic engagement,” said Dr. Brice Harris, assistant vice president for research and economic opportunity with CREO.

CREO plays host to the headquarters of the Florida SBDC Network, a statewide organization with 45 outreach centers dedicated to providing advice and assistance to aspiring entrepreneurs, small businesses and medium-sized enterprises.

“Our mission is to provide small and medium-sized businesses with the intelligence, expertise and resources they need to compete and succeed,” said Michael Myhre, CEO and network state director for the Florida SBDC Network. “By helping Florida’s principal job creators think and grow strategically, we help create a better Florida for all.”

The Haas Center, a leader in economic research for Northwest Florida and the state as a whole, is also a part of the CREO family.

The Haas Center staff’s unique knowledge, technical skills and abilities position them to produce important research products, including economic and tax impact studies, workforce development studies, industry cluster analyses, market and feasibility analyses, economic and demographic profiles, and custom database and analytics work.



Haas Center staff

“The Haas Center’s purpose is essentially the same as it was back when I was an intern here in 1999,” said Zach Jenkins, director of the Haas Center. “We strive to furnish timely and relevant data along with cutting-edge research so decision makers can achieve their goals.”

The Office of Economic Development and Engagement was founded in 2011 partly in response to the Deepwater Horizon Oil Spill that devastated communities along the Gulf Coast less than a year earlier.

OEDE administers innovative economic development programs that are designed to expand, strengthen and diversify the regional economy. Among the

**Opposite:** The Grayton Beer Company’s expanded, state-of-the-art bottling facility was made possible by an Industrial Recruitment Retention and Expansion Fund grant administered by OEDE.

**Right:** Collecting survey data is one of many research and consulting services offered by the Haas Center.

current program offerings are the Industry Retention, Recruitment and Expansion Fund, the Industry Research Matching Grant Program and the Asset-Valuation and Marketing Support Grant Program.

The state of Florida also charged OEDE with applying a \$30 million appropriation to develop high-impact oil spill-related economic recovery initiatives, such as the IRREF program that closed to new applicants on June 30, 2016. To date, the IRREF program alone has resulted in about 9,000 net new, sustainable, high-wage jobs in the private sector throughout the oil spill-affected region. The IRREF program is further contributing to the creation of more than 24,000 temporary positions in construction and related fields, more than \$2 billion in gross domestic product, and about \$150 million in new state revenue.

“As a collective entity, CREO acts as a critical linchpin between and among the academic stakeholders inside



the halls of UWF and relevant communities of interest throughout the state of Florida in general and Northwest Florida in particular,” Harris said. “This entails the alignment of UWF’s core capabilities with the needs of the public and private sectors to produce innovative, solutions-oriented approaches that foster sustainable economic growth, community development and institutional effectiveness.”

## Next Exit History Gets Upgrade

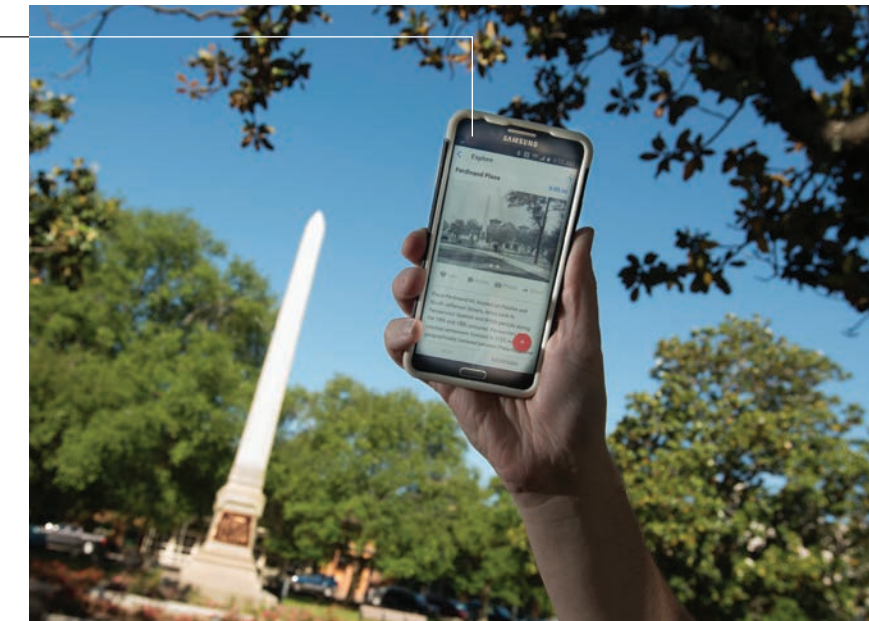
by Mike Ensley, CREO Staff Writer

History can’t be changed. But, Next Exit History, an app that catalogs important moments in time around the world, is changing for the better through a new upgrade.

“It’s a completely new design,” said Dr. Patrick Moore, associate professor of history at the University of West Florida. “It’s now tile-based – very much on the Yelp (restaurant locator app) model.”

The app, conceived in 2006 by Moore and UWF Associate Vice Provost for Academic Programs Jay Clune, gives mobile-device users background information on historical sites around the world. Working with Historical Research Associates, a company that catalogs historic sites, the app has been licensed for use by entities around the world.

“This newest version of NEH is a complete reimagining of the user interface and an overhaul of the entire infrastructure,” said Tim Roberts, historian and NEH



project manager. “The focus of this update was to create an extremely user-friendly experience, based on years of feedback, and ensure that the software was designed for speed and reliability.”

Another idea that is more fully fleshed out in the new version is the gaming component.

“We’ve improved our ‘History Hunters’ function of the app,” Moore said. “It’s a completely new graphical experience.”

“In essence, this version of the app is what we originally envisioned years ago when the project first started,” Roberts said.



# Kids Wiggle Their Way to Fitness

by Brandy Hilboldt Allport, CREO Staff Writer / photos by Michael Spoonerberger

Dozens of adults marched like soldiers, waddled like penguins and pretended to climb invisible ladders inside the Bayview Senior Resource Center in Pensacola during a Saturday morning in early 2016.

Why such playfulness? They were preschool caregivers, and they were wiggling for University of West Florida faculty members Dr. Debra Vinci and Dr. Christopher Wirth. The official name of the program is “Let’s Wiggle with 5 2 1 0: Promoting Physical Activity and Healthy Eating in Childcare Settings.”

Although studies show that moderate exercise can increase brain activity, improve concentration, attention and classroom behavior, help develop coordination and combat obesity, Escambia County students might not reap those benefits, according to the County Health Rankings and Roadmaps program developed by University of Wisconsin Population Health Institute.

Health Institute studies in Escambia County indicate that 34 percent of preschool students and students in grades 1 to 3 are overweight or obese.

Based on all this research, Vinci, associate chair of UWF’s Department of Exercise Science and Community Health, and Wirth, visiting assistant professor of physical education, used a \$200,000 grant from the Florida Department of Health to develop, facilitate and evaluate “Let’s Wiggle 5 2 1 0” workshops for Escambia County.

The numbers 5 2 1 0 correspond to experts’ recommendations for maintaining good health. Eat five or more servings of fruit or vegetables. Restrict screen time to two hours or less per day. Get at least one hour of exercise per day. Consume zero sugary drinks each day.

Many schools have regularly scheduled exercise programs, but Wirth points out that “Let’s Wiggle With 5 2 1 0” is designed to incorporate even more movement into their daily routines.

“We don’t ask teachers when children go outside,” he said. “We ask them when their circle time is because kids are usually running and playing during outside time anyway.”

During the recent workshop, Wirth led dozens of participants through a deep knee bend and jump exercise during which they acted out the trajectory of a rocket launch. The exercise combines stretching and jumping and helps children practice counting. Workshop attendees then divided into groups to learn things such as how to do simple yoga stretches, how to perform different dance moves, how to throw and catch thin, opaque scarves, and how to toss a large parachute and scurry underneath it.

Graduate and undergraduate students from the College of Health’s Department of Exercise Science and Community Health led the small-group activities.

“It was a really fun way to remind us what we know about getting kids moving,” said Barbara Deem, the preschool director at Gateway Christian School. “I also like the fact that there were UWF students there during the rotations of activities. Those of us who have been doing this for a number of years got to exchange ideas with people who are going to be new in the education field.”

Deem and other participants left the workshop with

kits that will help them implement the lessons they learned at the workshop in the classroom.

A packet of 18 physical activity curriculum cards lists the name of the activity, the required equipment, the age group and the learning standard to which it is tied. For example, the “Bounce and Catch” card states, “Show individual children how to bounce and

catch a ball with two hands. Prompt them to count the catches ... Have them count together to see how many catches they can get in a row. Incorporate distance, height and various ball sizes.”

This activity, which is recommended for children ages 3 and older, helps them learn problem-solving skills and math while they are exercising their muscles.

Janice Hall leads the on-camera demonstration as staff film the “Let’s Wiggle With 5 2 1 0” program at the University of West Florida.



Vinci



Wirth

# Mentoring Program a Win-Win

by Brandy Hillboldt Allport, CREO Staff Writer  
photos by Michael Spooneybarger



Senior teaching and learning major Katherine Dillaha with the Santa Rosa Tutor Mentor Program works with second graders at East Milton Elementary School.

Three second-grade students sat around a table shaped like a semi-circle. They read “Rumpelstiltskin” aloud. Two whispered, and one used a normal tone of voice.

Their teacher, Katherine Dillaha, followed along, stopping to call attention to certain vocabulary words: muttered, sobbed and strode. They paused and discussed meanings before turning back to the story.

The group was at East Milton Elementary School. Dillaha, a senior majoring in education at the University of West Florida, is a mentor in the Santa Rosa Tutor/Mentor program, which is a partnership between the Institute for Innovative Community Learning at UWF and the Santa Rosa County School District.

UWF education students like Dillaha, who participate in the tutor/mentor program, get paid to do small-group instruction in support of classroom teachers. There are about 30 mentors in 14 schools in the Santa Rosa district.

“This program grew out of a collaboration, and it meets the needs of the district as well as the needs of our students,” said Dr. Kathleen Heubach, director of the UWF institute.

The district needs personnel to help implement its early intervention learning program for reading in



Heubach



Boddy

grades kindergarten through five, and UWF education students receive experience working and teaching in a classroom.

Dillaha called the situation a win-win. “Anyone who is an education major should consider doing the mentor program,” Dillaha said.

“You get to go into a variety of classrooms and see a variety of teaching styles. From lecture to the real-life of the classroom, the experiences really bridge to each other.”

To become a mentor, the student must go through a selection process in the education department of the College of Education and Professional Services, according to Dr. Dana Boddy, program coordinator. They submit three references and maintain a 3.0 GPA. Students are eligible to mentor during their junior and senior years.

“The biggest indicator that the program is working is that the principals have continued to ask for the mentors and have continued to allocate money to fund utilizing them,” said

Dr. Karen Barber, director of federal programs for Santa Rosa County School District.

Barber said the program is in its seventh year and hundreds of UWF education students have participated in it.

The mentors get one full day of training, and then the rest of the training happens on the job. They work with teachers at the schools whose job it is to oversee specialized instruction. The specialists model small-group reading lessons for the mentor as many times as needed. Then, the mentor begins to teach the lesson, and the specialist observes. The specialist continues to supervise and serve as a source of direction and support for the mentors in the program throughout the school year.

“Our mentors are getting invaluable experience not only in learning skills for teaching reading but in learning about classroom management,” Heubach said.

Dillaha agreed.

She said when it comes to classroom management, her experience with the small reading groups has revealed that consistency is key.

“Do not send mixed messages, and stick to what you say,” Dillaha said. “Let students know exactly what you expect of them.”



# UWF Grad Applies Skills at EPA

by Richard Conn, CREO Staff Writer  
photo by Michael Spooneybarger



Dr. Susan James, assistant professor of teacher education and educational leadership, speaks during the National Writing Project workshop.

Katelyn Houghton gets to take part in “engaging and important research and work at a lab that sits on its own island.”

“I don’t think it can get much better than that,” said Houghton, who graduated from the University of West Florida in 2014 with a master’s degree in biology.

Houghton works at the Gulf Ecology Division of the U.S. Environmental Protection Agency as an Oak Ridge Institute for Science and Education intern/research participant.

But Houghton said she’s more than that.

The ORISE program was developed to allow recent graduate scientists opportunities to work with senior scientists in their field while furthering their knowledge and education.

“Part of this program includes developing and running your own project. There is field planning, field work, lab planning, lab work and also data analysis and manuscript preparation,” Houghton said. “I have had a hand in every step of the scientific process for my project here.”

Houghton’s project is focused on developing molecular microbial indicators of nutrient pollution in the Gulf of Mexico watersheds.

While at UWF, Houghton’s graduate work and thesis focused on microbial ecology and effects of oil and or dispersant on microbial ecosystems.

“Basically, I use the lab skills I learned at UWF to collect water in various streams, extract the DNA from water samples, sequence the DNA, and then identify the different microorganisms through DNA sequence data,” she said.

During her time at UWF, Houghton also worked in the University’s Center for Environmental Diagnostics and Bioremediation, which she said gives students the opportunity to gain valuable hands-on experience in the lab and the field.

“At the time, they were working on oil spill-related research, which really interested me,” Houghton said. “I was able to design my thesis research within the larger picture of their work. I focused on studying the effects of oil and dispersant on bacterioplankton (the floating bacteria in the ocean) community structure and function,” Houghton said.

“Throughout my time working with CEDB, I spent numerous days out on research cruises, collecting water as far out as 60 miles offshore. I also can credit all my current lab skills to the work I did with CEDB. Most of what I do at the EPA is microbiology or molecular biology, and all the micro and molecular skills I use at the EPA I learned in CEDB labs.”

Houghton said the majority of the skills that landed her job at the EPA weren’t ones she learned in a class.

“The most valuable skills I gained

were from working as part of a laboratory research group and plenty of hours in the lab and field,” she said.

Houghton said Dr. Wade Jeffrey, a professor in the Department of Biology and director of the CEDB, was her mentor and had the biggest impact on her while at UWF. Jeffrey also served as Houghton’s thesis committee chair.

“He always put his students’ education first and made sure we were getting time in the lab, in the field and at scientific conferences,” Houghton said. “He was very approachable and easy going.”

Before coming to UWF, Houghton earned a bachelor’s degree in biomedical sciences from Colorado State University.

Jeffrey said that though Houghton came from a very different background studying environmental science in Colorado, she proved herself a quick study, learning an entirely new set of skills, from basic molecular biology to advanced bioinformatics, microbial ecology and oceanography.

“She was able to handle any and everything we threw at her. She did an excellent job synthesizing her new skills into an excellent thesis project,” Jeffrey said. “Since leaving UWF, she has remained a valuable asset to our lab, continuing to work with our current students and helping them with complex data analyses.”

Fourteen elementary school teachers and nine middle school teachers participated in the National Writing Project Summer Invitational Institute at the University of West Florida.

The three-week program is designed to highlight writing activities that educators can use with students throughout the school year. Professors of math, science and social studies presented ideas for writing across disciplines.

UWF was approved as an official NWP site in October 2015 after hosting its inaugural institute for teachers in the summer of that year. After the success of the first summer institute, about 90 teachers applied for the 20 spots available in the 2016 workshop.

“We couldn’t have selected a more motivated or engaged group,” said Dr. Susan James, National Writing Project fellow and assistant

professor in the Department of Teacher Education and Educational Leadership at UWF. James is in charge of the institute at UWF.

James called the application and interview process “strenuous and competitive.”

“I came so that I can inspire students to understand, appreciate and respect good writing,” said Susie Forrester from Ferry Pass Middle School in Pensacola.

Nicole Everette, a teacher at Jim Allen Elementary School in Cantonment, Florida, echoed Forrester’s enthusiasm for the program.

“I want to hone my craft and go back and share with other teachers to build their confidence in what they do,” Everette, said.

Pam Schwartz, a retired Escambia County School District employee, provided the books and materials for the teachers who attended the workshop during the summer of 2015. This

# Enriching Classrooms Through Writing

by Brandy Hilboldt Allport, CREO Staff Writer  
photos by Michael Spooneybarger

year, Schwartz made another gift to the Department of Teacher Education and Educational Leadership to help the project continue to thrive.

The National Writing Workshop at UWF would not exist without the generosity of community supporters like Schwartz, as well as long-time UWF instructor Dr. Maria Warren, James said.

“These women share our passion for literacy and have provided materials that are needed. I cannot thank them enough for their assistance,” James said.

Through partnerships, numerous community businesses provided supplies and meals to teachers involved in the event.

James and Dr. Jennifer Mesa applied for and received a grant for STEM resources for participating teachers. This year, James was asked to lobby Congress for awareness of the National Writing Project and continuation of federal grant money.

“It has allowed me to see a bigger picture of how government and education work in our nation and has provided me with contacts and stakeholders who are working toward the goal of providing a quality education for our K-12 students,” James said.

Nicole Everette, a second grade teacher at Jim Allen Elementary School, writes during the National Writing Project workshop at the University of West Florida.



# Institute Helps Grants GROW



by Grace Resendez McCaffery, CREO Staff Writer / photos by Michael Spooneybarger

The University of West Florida this year piloted the Grant Research Operating Writing Institute as part of the University's efforts to promote sponsored research and scholarly activities. The institute provides support to faculty across all disciplines to develop, compose and submit proposals for funding.

The program is similar to those offered by large research universities. In 2015, UWF administration conducted a thorough review of the status of research and scholarship on campus. Survey responses collected during that study emphasized that faculty needed more time to write grant proposals.

Dr. Mark Roltsch, director of the UWF Office of Research and Sponsored Programs, launched the institute, known at UWF as the GROW Institute, in mid-2016. Before coming to UWF in 2015, Roltsch assisted Stanford University's Division of Cardiovascular Medicine in setting up a grant writing training group.

Modeled after similar successful programs at the University of Michigan and the University of Tennessee, the GROW Institute, which is sponsored by the Center for Research and Economic Opportunity with assistance from the UWF Office of Research and Sponsored Programs, is an intensive, yearlong program divided into a series of workshops, small group meetings and one-on-one

consultations. In addition, the institute includes editorial assistance, outside experts reviewing grant applications and a summer salary up to \$10,000. The goal is to assist faculty members in producing high-quality, competitive grant applications.

"The GROW Institute is a unique opportunity for faculty to have dedicated time with skilled coaching and teaching to develop their grant-writing skills and knowledge to prepare a grant application," Roltsch said. "It also creates a community and builds new relationships among the faculty members."

The program kicked off at the beginning of the 2016 Summer term with an aggressive curriculum and 11 eligible applicants. By the end of the term, two grants totaling \$1,143,395 were submitted to the National Science Foundation. Nine more are being prepared to be submitted to the NSF and National Institutes of Health by February 2017.

GROW's multi-tiered structure includes workshops in locating and understanding requests for proposals, developing proposal-writing techniques, managing a research budget and packaging an application. The program provides time for faculty to write their grant proposals and teaches participants how to effectively communicate their ideas when applying for all types of external funding resources.

Tenured and tenure-track faculty and clinical researchers from all colleges are eligible to participate. Each must be recommended by their respective department chair and college dean.

"Time and support resources are the major barriers to faculty writing and submitting quality grant proposals," said Dr. Karen Molek, a UWF professor of chemistry and GROW graduate. "GROW provided allotted writing time via summer salary as well as the resources necessary to learn from successful grant writers."



# UWF Is Focused on Research



Mark Roltsch, Ph.D.

photos by Michael Spooneybarger

*Staff and faculty applied for \$29,176,910 in externally sponsored funding and successfully secured \$14,382,498.*

As the assistant vice president for research and the director for the Office of Research and Sponsored Programs, I am delighted to share this annual report on the status of University research. This document summarizes the University's research metrics for the past year, documents the trends in research productivity, scholarship and commercialization of intellectual property, and benchmarks the University's performance and ranking within its peer group. In addition, this report showcases the ways in which funded research helps UWF progress towards fulfilment of its strategic priorities and principles. It also demonstrates how those priorities and principles build upon the University of West Florida's historical research strengths and identify strategies to address barriers to research success in order to advance.

This annual report demonstrates the remarkable breadth and depth of our faculty's research, scholarly achievements and creative activities. As authors, invited speakers, conference creators, panel participants, workshop leaders and academic practitioners across the country and around the world, UWF faculty are making a difference, not only as

excellent teachers but as a community of scholars. Since arriving at the University nine months ago, I continue to be amazed by the research taking place, and I am inspired to see what the future will hold.

A UWF education is anchored in our faculty's dedication to each student's academic and vocational development. Since arriving here, I have noticed that my faculty colleagues demonstrate their commitment to equipping students not only with quality academic degrees, but with cultivated habits of learning and listening. These habits encourage critical thinking, creative innovation, professional preparedness and, most importantly, a deeper sense of vocational purpose and service to the common good. An essential ingredient informing this transformative approach to education is quality research and scholarship.

This publication highlights some of this past academic year's intellectual richness and breadth of the research conducted at UWF. In the period from July 1, 2015, through June 30, 2016, staff and faculty applied for \$29,176,910 in externally sponsored funding and successfully secured \$14,382,498. Fiscal Year 2015-16



growth represents a 10 percent increase from FY 2014-15. Our faculty and staff submitted 118 proposals, and 79 were funded (62 percent funding rate).

Table 1 reports the amount of funding UWF received by funding agency. The University's largest federal funding source was the U.S. Small Business Administration at \$6,801,483, followed by the U.S. Department of Education at \$1,149,339 and the National Science Foundation at \$1,069,111.

The largest non-federal funding source was Veterans Florida at \$1 million, and the largest-state funded grant was from the Florida Department of Health in Escambia County at \$456,467.

Table 2 illustrates how the \$14.38 million of externally sponsored research funding is distributed within the

University by college and campus.

Table 3 illustrates the distribution of facilities and administrative cost (F&A/indirect cost) received from external grants to various entities across campus. The facilities component includes costs such as laboratories, building operating and maintenance costs, depreciation, interest and debt service, utilities (e.g. electricity and water), research instrumentation and materials, while the administrative component includes general administration, sponsored projects administration, compliance (e.g. institutional review board or "IRB") and student services.

A common misperception exists that F&A is a "fee" charged by the Office of Research and Sponsored Programs. F&A is not an RSP fee. It is true that RSP operations are largely funded

Table 3

	FY2015-16 Expenditures
Distributions to College/Chair/PI	\$304,561
Support to EHS, General Counsel, HR, Student TF, ITS	\$155,342
Support to Researchers, Match Requirements, SCAC Awards	\$150,461
RSP Operational	\$761,426
<b>Total</b>	<b>\$1,371,790</b>
<b>End of Year Balance (loss)</b>	<b>\$(240,563)</b>

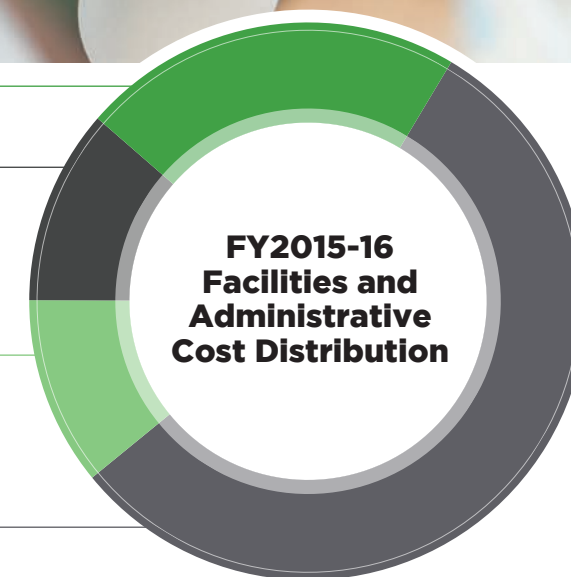


Table 1

	Requested	Awarded
Federal	\$26,476,834	\$10,958,136
Private	\$1,863,672	\$2,615,524
State & Local Gov.	\$836,404	\$808,838
<b>Grand Total</b>	<b>\$29,176,910</b>	<b>\$14,382,498</b>

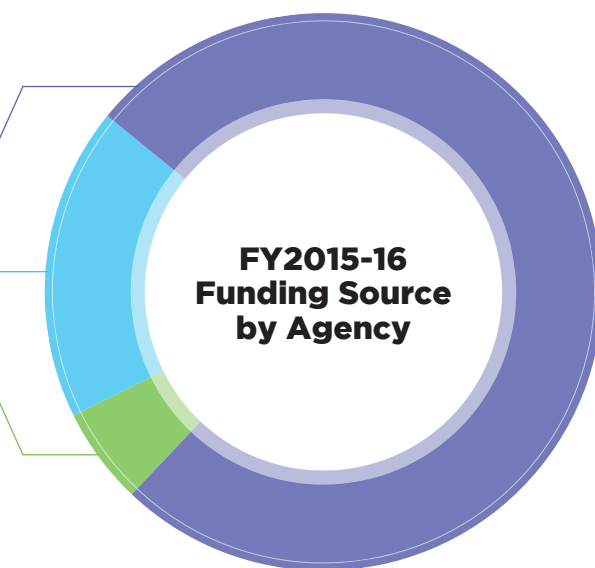
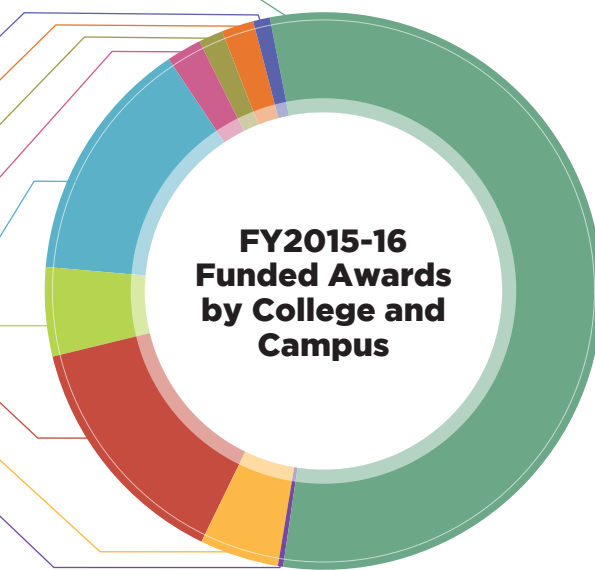


Table 2

	# of Grants Submitted/ Funded	Total Funded Amount
Center for Research and Economic Opportunity	17/15	\$7,969,232
Academic Affairs	6/3	\$139,001
University Advancement	2/2	\$269,015
Student Affairs	2/2	\$203,000
Equity, Diversity and International Affairs	1/1	\$292,193
Hal Marcus College of Science and Engineering	34/23	\$2,049,581
College of Health	21/10	\$742,828
College of Education and Professional Studies	21/16	\$2,014,111
College of Business	6/4	\$660,193
College of Arts, Social Sciences and Humanities	8/3	\$43,344
<b>Grand Total</b>	<b>118/79</b>	<b>\$14,382,498</b>



by F&A recovery, however, RSP's portion of the University's total annual F&A recovery is 56 percent. While the University's federally audited F&A rate is 41 percent, this does not mean that 41 percent of the total dollar value of expenditures in a project are to cover F&A. This is because F&A only applies to direct costs, and because there are certain budget line items for which we cannot apply F&A cost recovery. Over the last three years, our effective F&A rate has averaged about 8 percent. It is not unusual for universities to have an effective rate that is lower than their negotiated rates. Our peer institutions in the State University System have effective F&A rates of 11 to 14 percent.

The bulk of the RSP operating budget is generated from the previous year's F&A cost recovery. In FY 2014-15, the amount of F&A received was \$1,131,227. In FY 2015-16, RSP operated at a loss of \$240,563. Over the past few years, the F&A cost recovery has declined each year. The University's present effective F&A rate is approximately 8 percent. The F&A received for FY 2015-16 was \$985,239, thus setting the F&A-funded component of the FY 2016-17 operational budget for RSP at this level.

During my time at UWF, I have worked to help faculty find new ways to participate in funded research activities. By recharging and rebranding RSP, we as a team have been able to show faculty funded research opportunities that can change the way they share knowledge. If we do our work well, we can encourage and enable their research agendas, and remind them of what brought them into a career of scholarship at a university. When faculty are excited and passionate about their research, it affects not just their own professional lives, but also the lives of their students.

RSP is built on the core values of:

- Innovation
- Collaboration
- Knowledge
- Professionalism
- Efficiency

These values are the foundation for the strategic priorities of UWF's campus-wide research strategic plan.

A key contributor to sustaining the overall volume of research, and therefore to maintaining the core strengths of the Office of Research and Sponsored Programs, has been the ability to increase the investment of internal funds in research through the support of the Center for Research and Economic Opportunity. At the same time, we are expanding efforts to increase sponsorship from industry, foundations and other sources. All of these efforts combined will continue to provide both support services and funding to faculty before, during and after grants are submitted and funded.

Annual reports, by their nature, focus on quantitative measures, but those numbers are a gateway to thousands of tangible advances UWF researchers have made over the past year. This year, as the University celebrates its 50th anniversary and looks to where it wants to be a half century from now, we invite you to embrace our goal of \$50 million dollars in research expenditures by 2021.

Sincerely,

Mark Roltsch, Ph.D.  
Assistant Vice President for Research

UNIVERSITY *of* WEST FLORIDA