

OWL RESEARCH & INNOVATION



A NATURAL MATCH

*From Aquatic Upbringing
to Leading Marine and
Environmental Research Programs*

UNTRADITIONAL & UNDAUNTED

*New College of Medicine Dean
Learned Early the Value of
Communicating Well*

STELLAR START-UPS

*The Next "It" Companies
@ FAU Tech Runway*

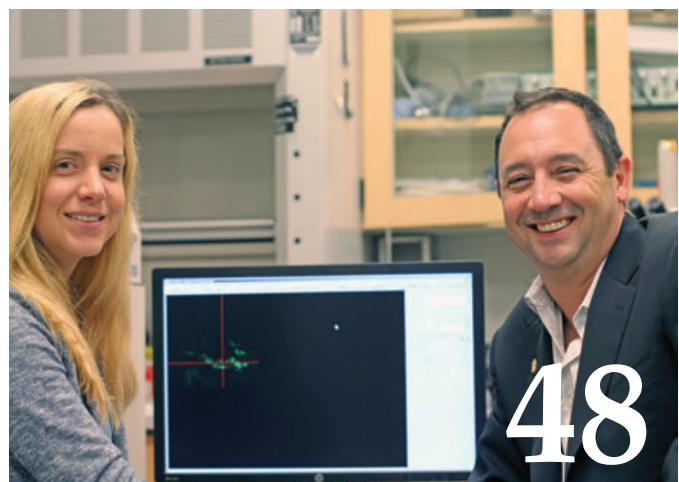
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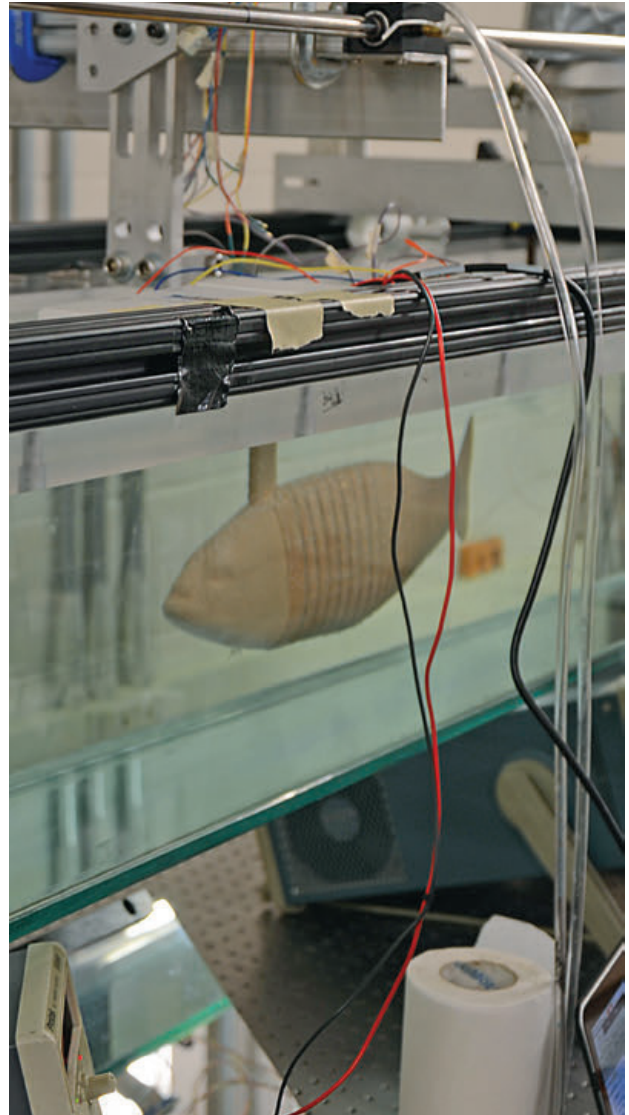


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President's Message

JOHN KELLY, PH.D.

Attracting the Best and the Brightest

A hallmark of every great research university is the talent that fills its laboratories and classrooms. In order for Florida Atlantic University to achieve its goal of becoming "America's Fastest Improving University," it is vital to have the right people in place whose innovative work will drive the university's "race to excellence" — and FAU's faculty are rising to the challenge. The university is building its research capacity through passion for discovery, creativity and scholarship. You can read about some of their best efforts here in the pages of *Owl Research & Innovation*.

FAU is growing its research enterprise through strategic hires. In the last year, FAU has recruited some of the brightest stars in their respective fields. In this edition of the magazine, you'll learn about one of the newest members of the FAU family, Anton Post, Ph.D., a leading phytoplankton researcher. Dr. Post will lead the groundbreaking environmental and ocean science research already underway at FAU's Harbor Branch Oceanographic Institute, and across the university.

The university also has recruited two new stellar deans to lead the Charles E. Schmidt College of Medicine and the Charles E. Schmidt College of Science, respectively, who will focus on growing research in these colleges. Additionally, the medical school's new clinical trial research unit just opened its doors, and two new top-level researchers will lead its charge.

The growth of FAU's research portfolio provides more opportunities to attract the best and brightest students to South Florida who want to learn from the nation's top scientists and scholars. FAU is making great strides, and the talented student researchers and faculty are leading the way. ♦

Research Growth on the Rise

The progress in growing Florida Atlantic University's research enterprise has come into focus, with the establishment of four research institutes, additional hiring of world-class researchers and with more faculty submitting and being awarded research grants. We're well on our way to achieving the university's goal of \$100 million in research funding by the year 2023.

In the last two years, we have defined the structure of the four research pillars in *A Strategic Plan for the Race to Excellence 2015-2025* and identified faculty who align with those pillars. We hired the directors to lead the pillars, and turn them into powerful research institutes. The most recent hire is Anton Post, Ph.D., the new executive director of Harbor Branch Oceanographic Institute. From his position at HBOI, he'll lead ocean and environmental initiatives at the university across its campuses. Read more about him in our cover story.

Each of the institute leaders are hard at work recruiting new researchers and encouraging existing faculty to seek research funding. FAU grant applications have been rising with a steady increase over the last two years. In the 2014-15 fiscal year, we had 370 applications submitted. That number is projected to jump to 600 submitted applications in the current fiscal year. The increase in funding follows the same trajectory with \$33 million in awards during the 2014-15 year jumping to an estimated \$50 million plus this fiscal year.

None of this would be possible without the good work FAU faculty members continue to do. That's why we highlight as many of them as we can throughout the magazine. Read about some of their success, and know that we're on pace for many more in the years to come. ♦

DANIEL C. FLYNN, PH.D.
Vice President for Research



NEWS BRIEFS

FAU Scientist's Research is Helping Endangered African Penguins

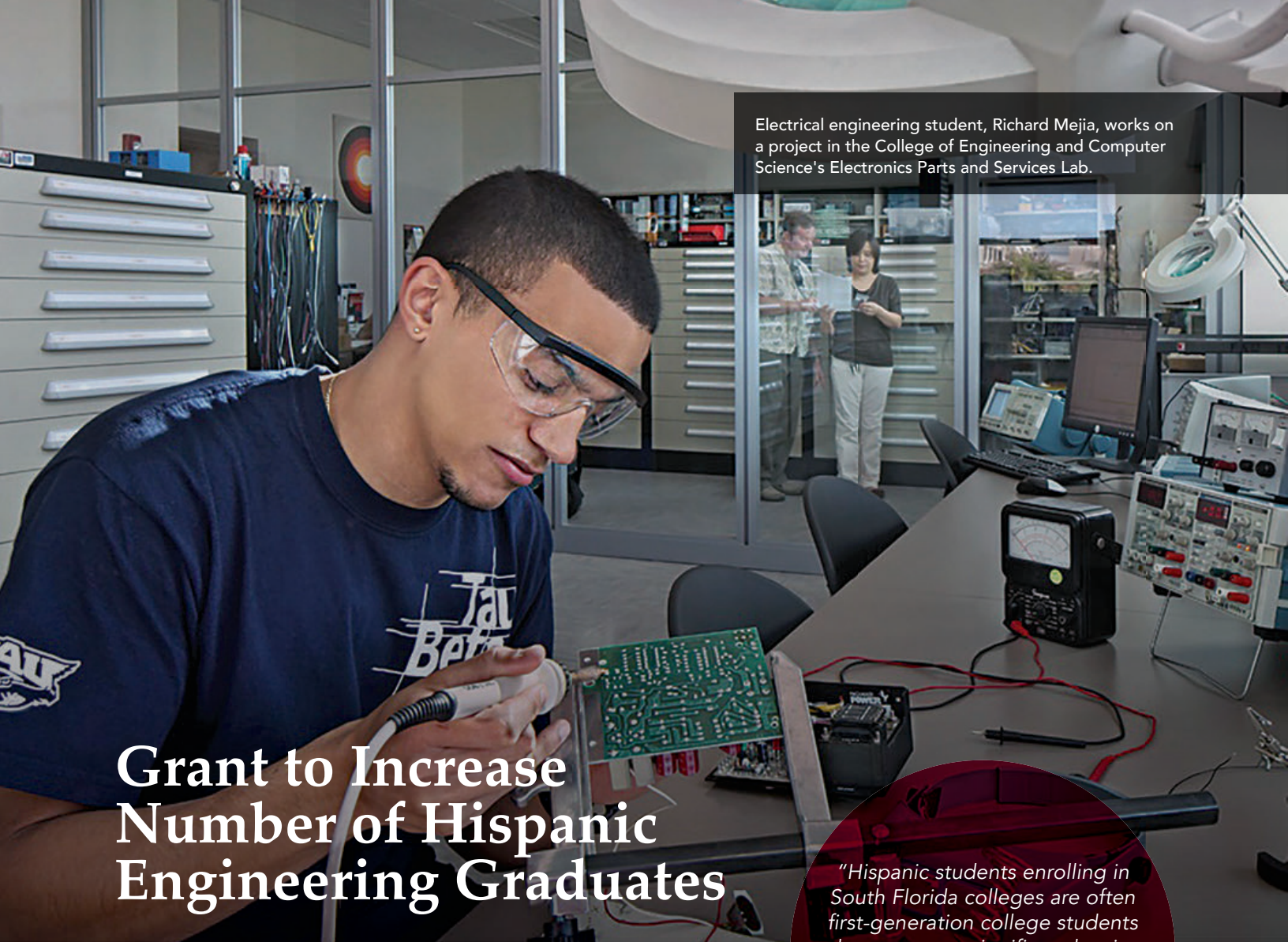
Adam Schaefer, an FAU epidemiologist, is collaborating with the Southern African Foundation for the Conservation of Coastal Birds to study the endangered African penguin, *Spheniscus demersus*. Schaefer's research has recently appeared in multiple international publications, including the *Journal of Veterinary Research*. Schaefer and his team recently presented their findings at the International Penguin Congress in Cape Town, South Africa.

Schaefer's research – in South Africa and at FAU Harbor Branch Oceanographic Institute – aims to evaluate population health and improve the care, management and rehabilitation of the critically endangered animals by obtaining comprehensive health information. The research provides health data that can be used in conservation efforts.

The number of African penguins has been declining for decades, with only 2.5 percent of the population remaining in the wild. Conservationists estimate that they could become extinct in some areas in 15 years based on current population trends. Studying the patterns of disease and health among these populations is critical to understanding the dramatic decline.

Research funding is being provided by multiple institutions and private donations. ♦





Electrical engineering student, Richard Mejia, works on a project in the College of Engineering and Computer Science's Electronics Parts and Services Lab.

Grant to Increase Number of Hispanic Engineering Graduates

The U.S. Department of Education has awarded FAU a \$4.4 million grant to boost the number of computer science, computer engineering and electrical engineering degrees awarded to Hispanic and low-income students.

The grant — funded by the Hispanic-Serving Institutions division of the Department of Education — is also earmarked to improve job or graduate school placement in these fields, as well as science, technology, engineering and math (STEM) related fields.

Hispanics and low-income workers are underrepresented in the bachelor's degree level computer-related workforce.

Hispanic-Serving Institutions grants are intended to expand educational opportunities for Hispanics and other underrepresented populations at institutions of higher education.

"Hispanic students enrolling in South Florida colleges are often first-generation college students who encounter significant barriers associated with progressing through a complex, multi-tiered system."

ALI ZILOUCHIAN, PH.D.

"Hispanic students enrolling in South Florida colleges are often first-generation college students who encounter significant barriers associated with progressing through a complex, multi-tiered system," said Ali Zilouchian, Ph.D., associate dean for academic affairs in FAU's College of Engineering and Computer Science.

"This new collaboration with Broward College and Palm Beach State College will help FAU positively impact the educational success of Hispanic students, and ultimately enable them to have successful careers in these fields." ♦

Evaluating Cognitive Abilities of Older Drivers

With nearly one in five of all motorists on the roadways over age 65 — the age group that has the highest crash rate per mile — it is imperative that older drivers are sure that they still possess the cognitive abilities to safely get behind the wheel of a car. That's the conclusion of an article published in the journal *Public Health Nursing*, co-authored by Lisa Kirk Wiese, Ph.D., an assistant professor in FAU's Christine E. Lynn College of Nursing.

Changes in functionality and in the skills needed for safe driving, and not just chronological age, can increase the risk for injury for older drivers, according to Wiese.

This same 65 plus age group is also at higher risk for Alzheimer's disease. "Drivers with dementia and even their caregivers may lack the insight needed to limit and then eventually discontinue driving," said Wiese.

The article recommends all older drivers undergo an in-depth geriatric assessment, medication review, as well as a road test. ♦

"Drivers with dementia and even their caregivers may lack the insight needed to limit and then eventually discontinue driving."

LISA KIRK WIESE, PH.D.

Sperm-Sorting Device Could Be Infertility Game-Changer

An FAU researcher is developing a device that could be a major advancement in assisted reproductive technologies such as in vitro fertilization.

The most commonly used method for assisted reproductive technology relies on a technique called centrifugation, which rapidly spins sperm samples and collects the most motile sperm. The drawback is that it can cause DNA damage, and it is less efficient at selecting mature sperm or getting rid of sperm that are near death. That's why the work of an FAU scientist using microfluidic-based technologies to develop methods to select the healthiest sperm for reproductive technologies is such an important alternative.

"These are devices that use small volumes of fluid and can enable more control to precisely sort cells within small volumes," said Waseem Asghar, Ph.D., assistant professor in the Department of Computer and Electrical Engineering and Computer Science, and the Department of Biological Sciences. ♦

FAU Supports Graduate Research with 3MT Competition

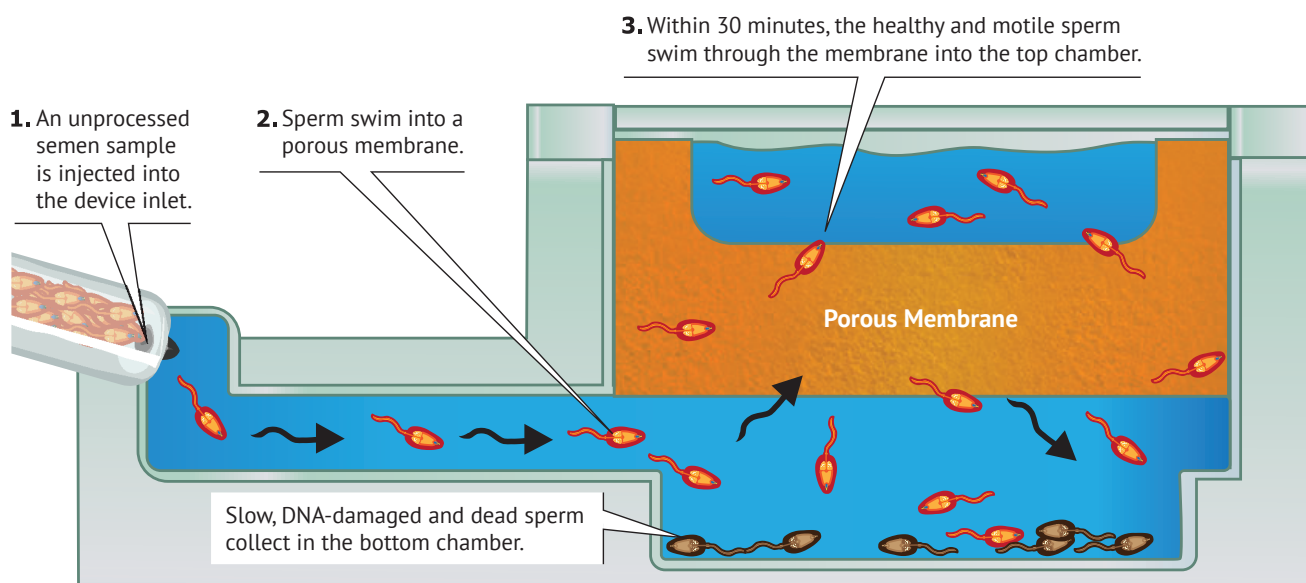
Three minutes. That's how much time a group of Florida Atlantic University graduate students had to explain their research to an audience with no background in their area of study. It was part of FAU's inaugural Three Minute Thesis (3MT) Competition, a contest founded by the University of Queensland in 2008, now held at more than 200 universities worldwide.

FAU's recently concluded competition consisted of eight rounds, attracting nearly 90 students from each college and representing a range of disciplines. Up to three winners advanced from each round to the championship.

"With a limited investment of time, you can learn about research in a variety of areas, ranging from biological sciences and educational psychology, to fine arts and physics," said Deborah L. Floyd, Ed.D., who as dean of the Graduate College brought the competition to FAU. "It's a fun and engaging way to learn about the diverse graduate student research occurring at FAU." ♦

HOW THE DEVICE SORTS SPERM

This microfluidic device uses a quick, easy technique for sorting viable sperm for reproduction.



Graphic by Cindy Diaz, Florida Atlantic University

Not to scale



Daniel Reyes-Guerra, Ph.D., associate professor in the College of Education, is leading the University Principal Preparation Initiative. He's pictured with colleagues Robert Shockley, Ph.D., and Maysaa Barakat, Ph.D.

College of Education Part of National Initiative to Better Prepare Principals

F AU is one of seven universities selected to participate in a \$47 million national initiative designed to better prepare school principals.

The College of Education will partner with Broward County Public Schools, the School District of Palm Beach County, St. Lucie Public Schools and the Florida Department of Education to redesign educational leadership programs for assistant principals and principals, with the ultimate goal of state certification for those positions. Daniel Reyes-Guerra, Ph.D., an associate professor in the college, will lead the project.

Via the University Principal Preparation Initiative — funded by The Wallace Foundation — FAU will receive guidance on redesigning its programming from the University of Denver, a nationally acclaimed program.

FAU and its partners will receive more than \$2.3 million the first year, with a total possible four-year budget of more than \$5.6 million. RAND Corporation, a leading research organization, will evaluate the initiative.

The other schools chosen to be part of the initiative are Albany State University, North Carolina State University, San Diego State University, University of Connecticut, Virginia State University and Western Kentucky University. ♦


Harbor Branch Scientists Awarded NSF Grant to Create Underwater Holographic Microscope

H arbor Branch scientists are creating technology that will allow them to view — in 3-D — the millions of microscopic creatures and particles that populate bodies of water, including the Indian River Lagoon, thanks to funding provided by the National Science Foundation (NSF).

FAU Harbor Branch research professor Jim Sullivan, Ph.D., is principal investigator on the project. He was awarded a multi-year grant worth nearly \$900,000 from the NSF to pursue work on an underwater holographic imaging system for long-term studies of marine particles, both in the ocean and in the lagoon.

The new technology will allow researchers to view what the naked eye is unable to see, as it exists undisturbed in nature.

Sullivan is conducting the work with FAU Harbor Branch colleagues Fraser Dalglish, Ph.D., Laurent Chérubin, Ph.D., Adi Nayak, Ph.D., Lysel Garavelli, Ph.D., and Malcolm McFarland, Ph.D. ♦



Cercopithecus male feeding on Molossid bat in Gombe National Park, Tanzania.

Observation of African Monkeys Sheds Light on Human Disease

To learn more about human infectious diseases emanating from animals, FAU researchers studied African monkeys who share food with bats and sometimes even eat the notoriously disease-ridden mammals.

Researchers from FAU's Dorothy F. Schmidt College of Arts and Letters believe they've discovered an alternative pathway for bat-to-monkey disease transmission that has implications for human diseases, such as Ebola.

Kate Detwiler, Ph.D., assistant professor in the Department of Anthropology, and Elizabeth Tapanes, first author of the study and a recent

graduate of the master's in arts program in anthropology, were the first to document with photos and video monkeys consuming bats. Prior to the FAU bat predation study, researchers hypothesized that primate consumption of fruits contaminated with an infected bat's saliva or feces facilitated zoonotic disease transmission. It is believed that more than six out of every 10 infectious diseases in humans are spread from animals.

The findings from this study were recently published in the *EcoHealth Journal*. ♦



\$5 Million Donation Launches Free Enterprise Center

FAU is the recipient of a \$5 million gift from alumnus Phil Smith. The generous donation will be used to establish The Phil Smith Center for Free Enterprise at FAU's College of Business. The main tower at the college will be named Phil Smith Hall.

The Phil Smith Center for Free Enterprise will add chaired professorships, and support research and educational programs based on the business philosophy and principles that have guided Smith throughout his career. The center will also support distinguished visiting faculty, a lecture series and other programs focusing on the principles of free enterprise.

"Phil Smith's career demonstrates the success that is possible in the American free enterprise system – what entrepreneurs can build when they do the right things, and do them well," said Daniel Gropper, Ph.D., dean of the college. ♦

Library Launches Scholarly Communication Program

Jane Strudwick, a veteran electronic resources librarian at FAU, is growing a recently launched scholarly communication program for the FAU Libraries. With input from FAU's faculty and students, the program is intended to help scholars and faculty navigate the complex and controversial issues of publishing and disseminating scholarly works.

Through educational programming and research services, the FAU Libraries will become a guide to the evolving technologies, mandates, open access opportunities and economic pressures of scholarly publishing.

Carol Hixson, dean of university libraries, established the scholarly communication program as she neared the end of her inaugural year.

"I have been a strong advocate for student and faculty research and scholarships throughout my career, and saw an opportunity through Jane Strudwick's appointment to director of scholarly communication to ramp up the FAU Libraries' support in this critically important arena," said Hixson. ♦

Retirement Eludes Many Priests

Despite decades of service, the prospect of retirement is becoming increasingly difficult for Catholic priests, according to Michael N. Kane, Ph.D., a professor in the School of Social Work in the College for Design and Social Inquiry.

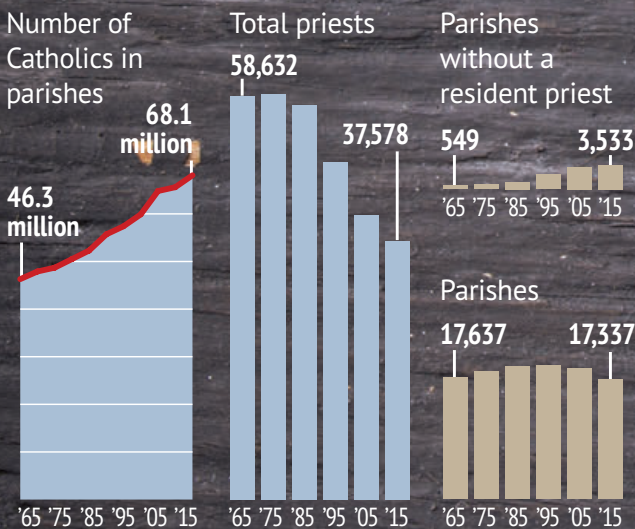
“The expectation is that the priest will continue to be of service throughout his life until he is physically or cognitively unable to serve,” Kane writes. “To do otherwise may be perceived as self-indulgent or selfish. But after decades of service, is it reasonable for a priest to say ‘enough!’?”

Kane authored “The Taboo of Retirement for Diocesan Catholic Priests,” published in the *Journal of Pastoral Care & Counseling*.

The shortage of priests entering the ministry – combined with some 67 million parish-connected Catholics – has resulted not only in retirement being more elusive, but also a rising concern about the mental health of the clergymen, who are reportedly experiencing high rates of depression, anxiety and burnout. ♦

Changes within Catholic parishes

Parishes, priests and parishioners in the United States from 1965 to 2015.



Sources: Center for Applied Research in the Apostolate, The Official Catholic Directory



Millennials No More Promiscuous Than Earlier Generations

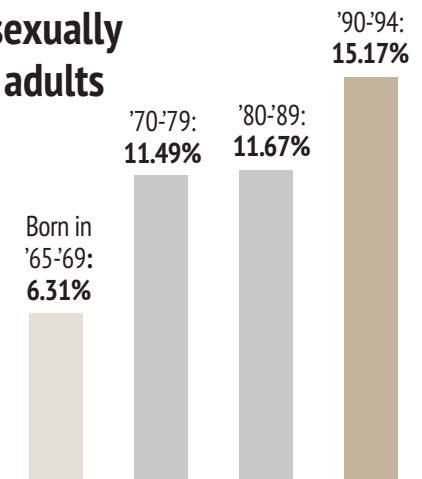
Despite coming of age at a time when finding sex is just a keyboard stroke away, research finds millennials are no more promiscuous than previous generations, according to Ryne Sherman, Ph.D., associate professor of psychology in the Charles E. Schmidt College of Science and co-author of a study on the subject.

“This is really about this generation of young American adults and not the time period in which they are living,” said Sherman, whose study also found that those born in the 1990s are less inclined to get a driver’s license or work for pay.

Researchers speculate that more sex education and awareness of sexually transmitted diseases, easier access to pornography, and generational differences in defining sexual activity, such as oral sex versus intercourse, may account for the shift between millennials and other generations. ♦

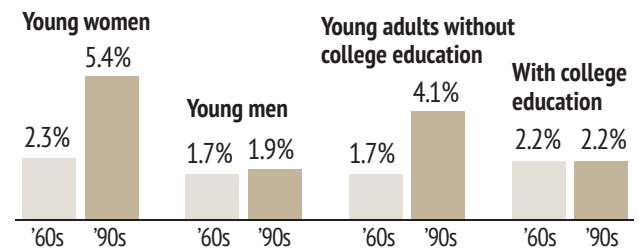
Decrease in sexually active young adults

Percent of Americans, ages 20 to 24, who were not sexually active after the age of 18.



Differences among gender and education

Comparing 1960s to 1990s



Source: “Sexual Inactivity During Young Adulthood is More Common Among U.S. Millennials and iGen,” Jean Twenge, Ryne Sherman and Brooke Wells

Collaboration Brings Premier Neuroscience Doctoral Program to the United States

In another sign of FAU's deepening partnership with Max Planck Florida Institute for Neuroscience, the nation's first International Max Planck Research School for Brain and Behavior recently launched with five FAU students and 10 University of Bonn students.

"With this new doctoral program, neuroscience research in South Florida will be elevated to a global platform, one that provides the ideal environment for developing the next generation of scientific leaders," said David Fitzpatrick, Ph.D., scientific director and CEO of the Max Planck Florida Institute for Neuroscience. "Having the opportunity to learn from an international team of investigators at the cutting edge of brain research is a fantastic catalyst for high-impact discoveries."

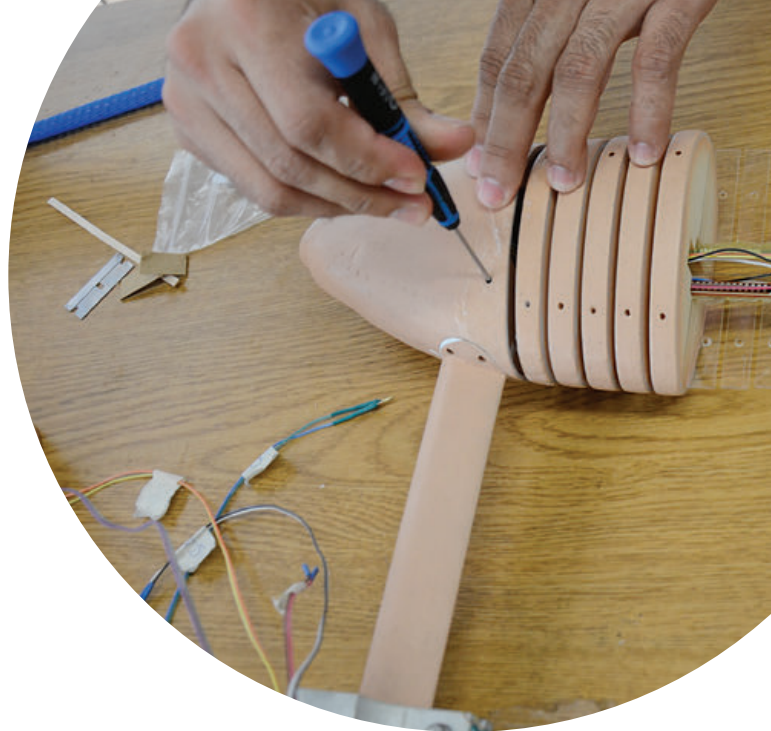
Participating students are fully funded Ph.D. candidates in neuroscience. Using state-of-the-art technology, they will explore multiple aspects of brain function, including the neural basis of sensory processing, motor control, learning and memory. ♦

"Having the opportunity to learn from an international team of investigators at the cutting edge of brain research is a fantastic catalyst for high-impact discoveries."

— DAVID FITZPATRICK, PH.D.



From left: Dan Wilson and Kuo-Sheng Lee with David Fitzpatrick, Ph.D. Wilson and Lee of FAU are candidates in the nation's first International Max Planck Research School for Brain and Behavior.



Navy Funds Study of Underwater Propulsion System

The U.S. Department of the Navy has awarded a group of FAU researchers \$258,000 to enhance their study of bioinspired propulsion systems in an effort to improve the maneuverability in underwater vehicles and robotic systems.

The grant will fund a state-of-the-art Volumetric Particle Image Velocimetry System, which allows for a three-dimensional measurement of underwater flow dynamics.

The research team is led by Oscar M. Curet, Ph.D., assistant professor in the Department of Ocean and Mechanical Engineering.

"If we want to understand how to manipulate a propulsive system underwater, we need to understand its effect on the flow in the water" he said.

"The addition of this vital equipment in our laboratory will allow the precise measurement and analysis of complex 3-D flow structures that until now have remained elusive."

Curet's team is developing a prototype – inspired by the Knifefish Unmanned Undersea Vehicle – of a submersible underwater vehicle able to conduct tasks related to surveillance, underwater floor surveys and testing underwater structures. ♦

FAU Harbor Branch Scientists Serve as Experts During Green Algae Crisis

F AU Harbor Branch scientists were called upon this summer by national news outlets and government leaders looking for insight into the science behind the toxic algae crisis in the St. Lucie estuary located in Martin County, Fla.

The scientists have a long history of studying the estuary — part of the Indian River Lagoon — which made national news headlines when it was taken over by rampant green algae blooms caused by discharges from Lake Okeechobee that mixed with high nutrients from urbanization.

U.S. Senator Bill Nelson took a boat tour of the estuary to see the algal bloom first hand with a crew from FAU Harbor Branch.

A number of regional and national news organizations, including *NBC Nightly News* and *PBS News Hour* interviewed research professors Brian Lapointe, Ph.D., and Jim Sullivan, Ph.D., on the topic. ♦




Theatre Lab Welcomes Second Season

Named “Best Creative Incubator” by *Palm Beach Illustrated*, FAU’s professional resident theater company, Theatre Lab, returns for an exciting second season.

This year, Theatre Lab offers a season of three fully produced plays, including the world-premiere production of Deborah Zoe Lauffer’s “The Three Sisters of Weehawken” – named a top 10 theater event to see in South Florida by the *Miami Herald*.

The Theatre Lab’s Playwright’s Forum and Master-Class Series welcomes some of the nation’s top playwrights to read their newest work and teach playwriting workshops. The Future PAGES Project, an outreach program, provides free writing workshops and theatrical performances to more than 1,500 area students in grades 3-12. Additionally, Theatre Lab has helped create opportunities for select FAU students, helping them gain experience in the professional world that reflects well on their resumes.

“One of our primary goals is to use the power of theater to bring our community together,” said Matt Stabile, associate artistic director of Theatre Lab. ♦



Olga (Elizabeth Dimon - left) promises her younger sister, Irina (Betsy Graver - right) that, one day, they will make it to Manhattan.



From left: Louis Tyrrell, artistic director; David Nail, production manager; Lauren Palmieri, company manager; and Matt Stabile, associate artistic director.

Ellen Goldey, Ph.D., dean of the Honors College, with students in a chemistry lab on the Jupiter campus.

NEW FACES

Paving the Way to Becoming Top Honors College

Ellen S. Goldey, Ph.D., the new dean of the Harriet L. Wilkes Honors College, reached a turning point in her career with her first curricular grant from the National Science Foundation. Goldey pursued the funding because she wanted to reach students on a deeper level.

"I was bored with lecturing at students," Goldey said. "I had begun to doubt the value of cookbook laboratory experiments, in which the goal is to replicate known outcomes, and students automatically attribute all unexpected findings to human error. Where is the science in that?"

Goldey explains that her leadership development was an "unintended consequence" of the grants she was awarded throughout her career and a passion for studying leadership principles.

"As I learned, I was motivated to become a better teacher and to inspire others to do the same, because I believe deeply in our shared mission to educate students," she said.

As the new dean and one of the nation's top thought leaders on curriculum reform, Goldey is working to enhance the college's academic reputation, expand enrollment and develop additional external funding sources.

"I was hooked when President Kelly said 'let's build the world's best honors college,'" she explained. "We have an ambitious plan for growth, a deep commitment to a well-rounded and rigorous liberal arts and sciences education, and our students intern with professionals from all walks of life, including the world-class scientists at FAU, Scripps and Max Planck located right here on our Jupiter campus. This is an exciting time to get involved!"

Goldey comes to FAU from Wofford College, where she was the William R. Kenan Jr. Professor in Biology; earlier, she served for five years as chair of its Department of Biology. Previously, Goldey was a toxicologist at the U.S. Environmental Protection Agency. She earned a doctorate and a master's degree from Miami University in Ohio. ♦

Charles E. Schmidt College of Science
Dean Ata Sarajedini, Ph.D., in FAU's
Astronomical Observatory.

New College of Science Dean Always Had Stars in His Eyes

Ata Sarajedini, Ph.D., can't recall a time in his life when he wasn't fascinated by the celestial.

"I've always been interested in the mysteries of the heavens and the universe, and what we know about the universe and how we know it," recalls Sarajedini, the new dean of the Charles E. Schmidt College of Science. "Astronomy is not classic experimental science. You can't grab part of the sun and study it."

In the late 1970s, Sarajedini, a middle school student, wrote to Pennsylvania State University requesting information about what astronomers do. He was thrilled to receive a response in the form of pamphlets discussing the types of research astronomers conduct.

By high school, "I knew I wanted to be a professor of astronomy," he said. But first he had to break the news to his father, a physician, that he wouldn't be following his footsteps into medicine.

"He supported me and knew astronomy was my dream," Sarajedini said. "My parents both supported me. They knew

I wanted to succeed and do research in the field."

Sarajedini completed his undergraduate and doctoral studies at Yale University and has an impressive resume of postdoctoral work, including being chosen as a Hubble fellow at the Kitt Peak National Observatory. He spent two years as an assistant professor at Wesleyan University and in 2012 became associate dean for natural science and mathematics and associate dean for research in the College of Liberal Arts and Sciences at the University of Florida.

A scientific editor for *The Astronomical Journal* of the American Astronomical Society and a former member of five NASA Hubble Space Telescope committees, Sarajedini is credited with some 180 journal publications, and has been the recipient of extensive research funding from NASA and the National Science Foundation.

"My research aspirations for FAU are college-wide," he said. "My goal is to work on improving the research productivity and research grant dollars across the college in all departments." ♦



New Vice President for Advancement Brings Wealth of Experience

Danita Nias, FAU's new vice president for advancement and chief executive officer of the Florida Atlantic University Foundation, first experienced donor development as a donor herself when she began participating in a matching gift program offered by her first employer.

A few years later, the University of Maryland's athletic director asked Nias, an alumna, to sit on a volunteer board that managed money raised for student-athlete scholarships. When a new athletic director came on board, Nias was asked to join the staff.

"I started overseeing day-to-day management of a Division 1 competitive athletic program," Nias said. "This included annual gifts for the Terrapin Club, corporate sponsorships, and major and principal gifts."

Nias rose to become Maryland's director of alumni affairs, where she helped raise \$33 million to complete an alumni center and launch a billion-dollar campaign.

In 2011, the University of Florida recruited her to revamp its alumni association. She went on to become the senior associate vice president for external affairs.

In South Florida, Nias sees a vibrant community with the resources "to make Florida Atlantic University a relevant and viable option for its passions, interests and philanthropy."

The region is embracing President John Kelly's vision to make FAU the fastest improving public research university. She looks forward to working with university leadership to mobilize support in the community and beyond to drive this vision.

According to Kelly, Nias will not only change fundraising at FAU, but raise the bar for giving throughout Broward and Palm Beach counties and beyond. ♦



Psychiatric Expert to Head Medical School's Clinical Research Facility

Florida Atlantic University has tapped Martin Strassnig, M.D., as associate director to help lead the Clinical Translational Research Unit at the Charles E. Schmidt College of Medicine. He is also an associate professor of integrated medical science.

Strassnig comes from the University of Miami, where he directed clinical services dedicated to treating acute mental illness while conducting clinical trials. His research concentration is in psychopharmacology, and how to improve medical health and cognitive deficits in people with severe and persistent mental illness, particularly schizophrenia and bipolar disorder.

Strassnig is excited to bring his expertise to the research unit, where innovative treatment options, such as medical devices and medications, will be studied.

"The unit is about 7,000-square-feet and just opened a few months ago," Strassnig said. "It allows us to be prepared for a variety of clinical investigations and interventions. We will have a lab and see patients in clinical research studies."

The research unit's staff is now seeing Alzheimer's patients and people with other forms of dementia. According to Strassnig, they want to expand into treating people with other mental illnesses as well as other medical disciplines.

"The plan is to serve as a platform for all FAU medical researchers, not just those in psychiatry," he said. "We will provide clinical investigative services and staff support to all potential investigators."

After completing medical school in his native Austria, Strassnig came to the Western Psychiatric Institute and Clinic at the University of Pittsburgh where he completed his residency training and continued on as a clinical and research faculty, partially covered by a National Institutes of Health training grant.

At FAU, Strassnig hopes to offer cutting-edge interventions that benefit the local community and help the university fulfill its research mission.

"We might be able to help improve the quality of care throughout Palm Beach County," he said. "That would be my long-term goal." ♦

Genomics Expert Named New Chair of Medical School's Department of Biomedical Science

The new chair of the Department of Biomedical Science at FAU's Charles E. Schmidt College of Medicine traces her love of scientific research to her roots in Midland, Mich.

"As the research headquarters for Dow Chemical," said Janet Robishaw, Ph.D. "we had a very strong science program in high school, and it probably helped direct the route I went."

A chemistry and biology double-major in college, Robishaw's undergraduate thesis project on the hearts of hibernating ground squirrels had implications for cardiac bypass surgery.

Earning her Ph.D. at Penn State College of Medicine, Robishaw extended her earlier work to understand how to maintain heart viability during reduced blood flow, as occurs during "heart attacks."

Under the tutelage of Nobel Laureate Alfred G. Gilman, M.D., Ph.D., Robishaw's work directly contributed to the 1994 prize for discovering G-proteins, which function as signaling pathways that control every function in the body, making them excellent drug targets for the control of various diseases.

Most recently, Robishaw served as professor and associate director for research at the Geisinger Health System in Pennsylvania. Her work utilizes DNA sequence and clinical information to identify genetic variants that are associated with common diseases. Her laboratory

then performs functional screening of genetic variants to assess the relationship to the disease under study. This functional analysis runs the gamut from assessing the functional impact of a genetic variant in the test tube, to modeling the diseases in cultured cells and animals. By identifying functionally significant mutations that mimic disease characteristics, her work aids in the rapid translation of laboratory discoveries into medical practice.

At FAU, Robishaw looks forward to the exciting prospect of working at a young medical school hoping to expand its research program.

"I'm attracted to getting involved in programs where you have the ability to develop, refine, and direct the research," she said. Additionally, she hopes to work with colleagues to increase future physicians' exposure to genomics data that lays the foundation for the national Precision Medicine Initiative.

Her 30 years of NIH-funded research played a big role in FAU's recruitment of Robishaw.

"Dr. Robishaw's research has enormous potential to improve the health and well-being of patients with a wide variety of medical conditions," said John W. Newcomer, M.D., vice dean for research and innovation, who served as chair of the search committee. "Her work has multiple opportunities for global impact." ♦





FEATURES

Anton Post, Ph.D., with biology masters student Carlie Perricone in the lab of Peter McCarthy, Ph.D., research professor at FAU Harbor Branch. Perricone's thesis research involves microbial source tracking as an assessment of non-point source fecal pollution in surface waters and sediments throughout the St. Lucie Estuary and southern Indian River Lagoon.

Living His Father's Dream, Leading Aquatic and Environmental Exploration

Dirk Post planned to finish graduate school and earn an economics degree. Then, World War II disrupted his plans. Instead, he helped defend his native Holland and later founded chocolate shops throughout Amsterdam. He was determined, though, that his son, Anton, would have a university education.

"In many ways, I live his dream," said Anton Post, Ph.D., the new executive director of Florida Atlantic University's Harbor Branch Oceanographic Institute (HBOI). Post is also charged with developing and implementing programs that build on the success of all marine and environmental research occurring across FAU's six campuses.

Post's father probably could not have imagined that his son would go on to achieve international acclaim as an oceanographer and phytoplankton researcher, but to Post, his career path was obvious.

"When you're a Dutchman, you're born and raised next to water, so exploring the aquatic environment was a very natural choice," he said.

At the University of Amsterdam, Post majored in biology and went on to earn a Master of Science in aquatic ecology and a Ph.D. in microbial ecology.

He took a postdoctoral position at Hebrew University in Israel, where he ventured into marine biology, translating his science from freshwater biology to marine ecosystems.

A Natural Match

"I specialize in plant life in aquatic environments," Post said. "I work with algae, which we depend on for producing the oxygen we breathe. Marine and freshwater ecosystems depend on algae to sustain life."

Post spent nearly 20 years in Israel, where he and his wife raised their three children. During that time, Massachusetts Institute of Technology's Sallie Chisholm, Ph.D., made an important discovery in marine algae. She stated that a newly discovered, abundant but microscopically small, marine alga accounts for some 25 percent of global oxygen production. Post sought to collaborate with Chisholm.



Anton Post, Ph.D., at FAU Harbor Branch.



Anton Post, Ph.D., with doctoral student Hunter Hines in the lab of Peter McCarthy, Ph.D., research professor at HBOI. Hines' research on complex single-celled organisms known as ciliates has already identified several novel flagship species. His discovery of the ciliate *Loxodes rex* led to an important article published in the journal *Microbial Ecology*.

From 1994 to 2004, Post spent summers at MIT as a visiting scholar. U.S. science invigorated him. According to Post, American researchers had much more latitude to conduct ground breaking work than in Holland.

Post eventually relocated to the U.S. to take a position at the Marine Biology Laboratory in Woods Hole, Mass., an international center for research and education in biology, biomedicine and environmental science.

Most recently, Post served as program director in ocean sciences at the National Science Foundation and as the executive director of the University of Rhode Island's Coastal Resources Center, Graduate School of Oceanography.

Post characterized the HBOI position as a natural match, noting that it aligned with his background, expertise and experience.

"Harbor Branch was on my radar even though I had never visited," he said. "It has an excellent reputation."

Post was impressed by what he heard from FAU President John Kelly and Daniel Flynn, the vice president for research, who conveyed their desire to make FAU "a major research institution."

"It's not just the university's ambition," he said. "They make resources available to people with ambition. There's a very positive energy that pervades the university and Harbor Branch, and I want to be part of it."

Post's hire is part of FAU's strategic effort to promote interdisciplinary research by combining expertise among all of the university's colleges and centers.

Feels Like Home

One of Post's main concerns is global climate change. The sea level, he said, is rising an inch a decade, "so that means Florida, at some point, will be underwater."

"Florida ... is ground zero for the impact of global climate change," he said. "Water is everywhere. When the sea level rises, so does the ground water. How do we manage our coast, and provide quality of life and economic well-being for coastal communities? That is one of the largest challenges of our lifetime."



"There's a very positive energy that pervades the university and Harbor Branch, and I want to be part of it."

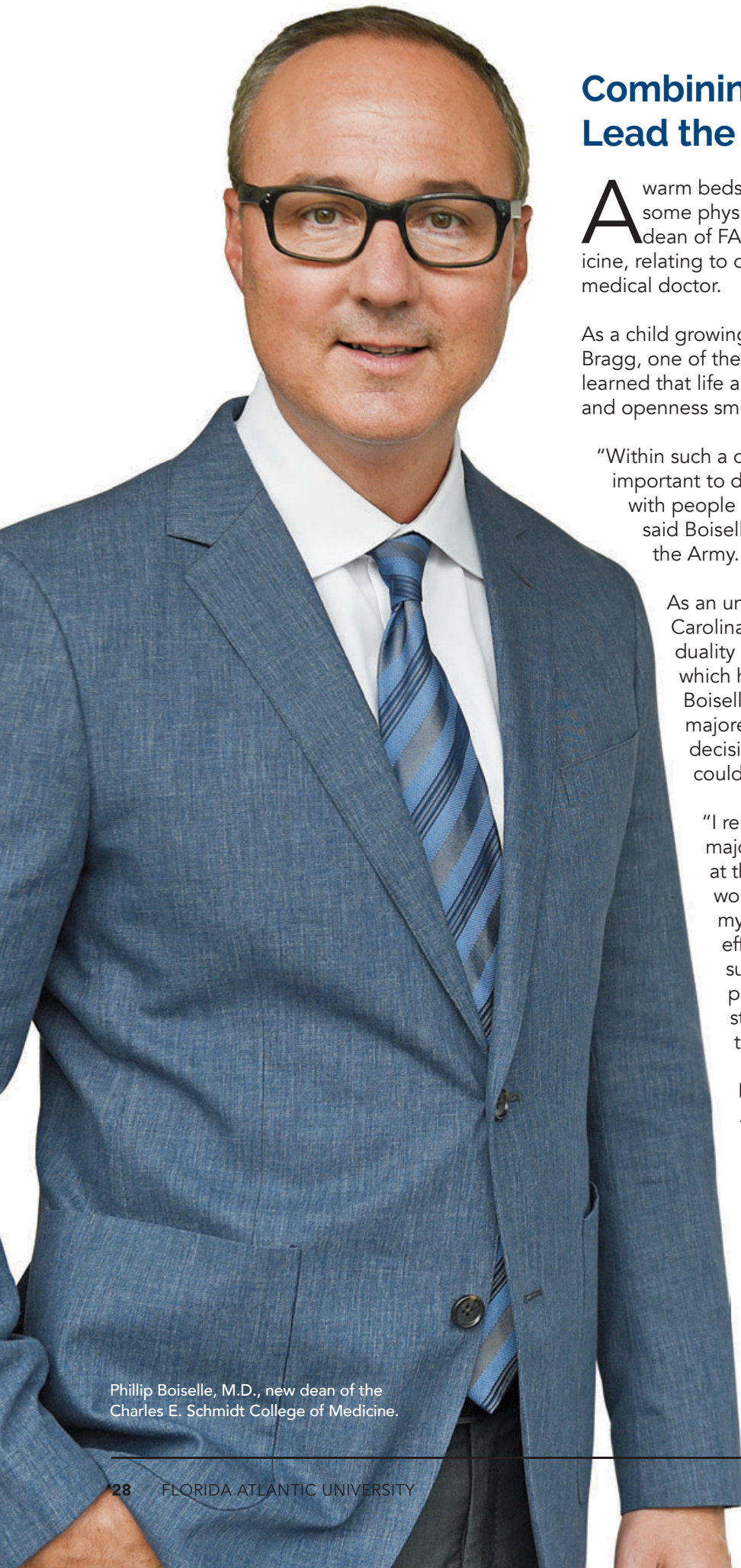
ANTON POST, PH.D.

"Part of a state university, we have an opportunity and an obligation to provide the state of Florida and its coastal communities with the best science and engineering to help them mitigate the impact of global climate change."

Post said he'd like to develop the science and technology needed to underpin climate change education in Florida. He would like to use HBOI research to collaborate university-wide in developing educational programs to train the next generation of coastal scientists and managers.

First, Post says he needs to get acclimated to the Sunshine State, which he visited for the first time when he interviewed for his new role at FAU.

"What most surprised me about Florida was how green, how low-lying and how much water there is here," he said. "I felt like I was back in Holland." ♦



Combining Three Passions to Lead the College of Medicine

A warm bedside manner may not come naturally to some physicians, but to Phillip Boiselle, M.D., the new dean of FAU's Charles E. Schmidt College of Medicine, relating to others is an innate part of who he is as a medical doctor.

As a child growing up in Fayetteville, N.C. — home to Fort Bragg, one of the world's largest Army posts — Boiselle learned that life and relationships are fluid, and that affability and openness smoothed the path to success.

"Within such a dynamic and diverse community, it was important to develop the skills to successfully connect with people from a variety of different backgrounds," said Boiselle, whose father spent his career in the Army.

As an undergraduate at the University of North Carolina at Chapel Hill, Boiselle said he had "a duality of interests in arts and science," both of which he felt could be fulfilled in medicine. Boiselle took a nontraditional route. He double-majored in chemistry and communications, a decision that paid off more than even Boiselle could have imagined.

"I rely on what I learned as a communications major every single day," he said. "I had no idea at the time that the study of communication would have such a profound influence on my leadership abilities and skills. Being an effective communicator is critical to creating successful collaborations, to being able to present ideas in ways that diverse groups of stakeholders can understand and embrace them. I'm very grateful for that education."

Boiselle didn't travel far for medical school. At Duke University, in nearby Durham, he was drawn to the school's small class sizes and its innovative curriculum.

"Many schools are now adopting Duke's approach early on, in terms of integrating the curriculum and early exposure to clinical experiences along with opportunities to pursue other electives and research," according to Boiselle.

Phillip Boiselle, M.D., new dean of the Charles E. Schmidt College of Medicine.



From Yale to Harvard

Like Duke, Yale University, where Boiselle did his residency in diagnostic radiology, appealed to him for its small residency class size and “intensive, one-on-one interaction with faculty and mentoring opportunities,” he explained.

After completing his residency at Yale, Boiselle moved to Boston and Harvard Medical School, becoming a professor of radiology and a member of the Cardiothoracic Imaging Division at Beth Israel Deaconess Medical Center and serving as the school’s associate dean for academic and clinical affairs.

In addition to Harvard having one of the world’s top programs for the diagnosis and treatment of airway and lung diseases — Boiselle’s research specialty — he said the quality of teaching and the unparalleled opportunities for research were big draws.

He was also able to combine his three passions — clinical care, research and teaching.

“Each is important to me, and each makes me better at doing the other,” he explained. “Being actively involved in clinical care allows me to be a more effective teacher, and it also helps me to identify research questions that have the potential to positively affect patient care.”

Undaunted by Challenges

Boiselle sees enormous opportunities ahead as he prepares to lead FAU’s College of Medicine during a time of pivotal growth. The school’s inaugural class of medical students was admitted in 2011.

John Newcomer, M.D., the college’s vice dean for research and innovation, and professor of integrated medical science, believes that Boiselle

is the perfect person to catapult the program to top-tier status.

“Dr. Boiselle brings extensive experience and knowledge relevant to research and innovation to FAU,” Newcomer said. “He has an outstanding record of highly competitive funding from the National Institutes of Health, and he is a leader in the field of thoracic imaging, including major contributions to the implementation of high-quality lung cancer screening across the U.S. He is an outstanding addition to the growth and success of our research mission at FAU.”

As he assumes leadership, Boiselle says he has three major goals: to build on the medical school’s innovative curriculum development, to expand the graduate medical education programs in partnership with the Palm Beach County consortium hospitals, and to strategically grow the college’s research in the vital areas of healthy aging and neuroscience.

Healthy aging and neuroscience are among the University’s core research strengths, which are being actively leveraged to create knowledge that benefits society.

“Healthy aging and neuroscience resonate with me personally,” Boiselle said. “These topics are also important for the population in Florida, across the U.S. and around the world. What a tremendous influence FAU will have as its biomedical research helps people to age more healthfully.”

Boiselle is not daunted by the challenges ahead.

“One of the gifts my parents gave to me was the sense that you could do anything or be anything that you could imagine. It’s just a matter of following your dreams.” ♦



"Going through FAU Tech Runway was a huge part of getting us prepared to raise capital."

**CHRIS DANIELS,
FOUNDER OF
CANDIDATE GURU**
(right)

FAU Tech Runway Start-ups Skyrocket to Success

Four South Florida start-ups selected to participate in FAU Tech Runway's business accelerator program have brought in millions in seed capital, a sign that their innovative ideas may help them become the next "it" companies.

Candidate.Guru is a 21st century employment recruitment firm founded by former recruiter Chris Daniels, who ventured on his own after growing frustrated with the current recruiting tools and technology.

"People would look good on paper, but when you talked to them, you knew they wouldn't be a good culture fit for the company," said Daniels.

He and his collaborators developed predictive software that analyzes hundreds of pieces of data and extracts pertinent information that helps determine which job candidates would be a good

fit. The data analyzed includes a person's hobbies and interests, the types of technologies they use and whether they are willing to relocate for work. "Going through FAU Tech Runway was a huge part of getting us prepared to raise capital," Daniels said. In May, Candidate.Guru placed first in the Florida Early Stage Capital Conference hosted by the Florida Venture Forum, and received \$100,000 in prize money.

Candidate.Guru has already raised \$1.2 million in financing. Daniels said the company is on track to be in excess of \$1 million in revenue by the end of 2017.

Symptify — an online symptom-checker — the brainchild of emergency room doctors and technical engineers, placed second in the Florida Early Stage Capital Conference, behind Candidate Guru.

Co-founder Jalil Thurber, M.D., an ER doctor at the

Cleveland Clinic, realized the need for technology to combat cyberchondria, described by *The Sunday Times* in London as “the deluded belief you suffer from all the diseases featured on the Internet.”

“My sister-in-law is one of the most prolific hypochondriacs I’ve ever known,” Thurber joked. “She’d call all the time ... for her husband and kids. She’d also Google stuff and come up with crazy conclusions.”

Many people “consult Dr. Google” before coming to the emergency room, according to Thurber. And what’s online is “overwhelmingly uglier and scarier than most normal or common conditions.”

Users enter their symptoms into Symptify to find out possible causes. They are then notified of the closest facilities for treatment and the respective wait times. Users can remotely check into the facility to expedite the intake process.

Experts from Harvard University have reviewed Symptify’s algorithm and found the results to be 70 percent accurate, which is 30 percent more accurate than the next closest competing algorithm.

Thurber and his partners are in the process of raising \$3 million, and they already have commitments for half that amount.












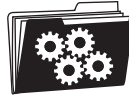
AQUACO Farms, a South Florida-based fish farm that recently won the MIT Geek Tank competition, uses above-ground saltwater tanks to harvest and distribute fresh seafood.

Some 90 percent of seafood sold in the U.S. is imported, according to Joe Cardenas, AQUACO Farms founder.

“There’s a huge demand for U.S.-based fish that’s not frozen and shipped across the world,” he said.

As for its future, the company has raised \$1 million of its \$2 million goal, the figure required to complete production infrastructure. *Florida Trend* magazine featured AQUACO in its October issue, leading to interest from two angel investment groups. Cardenas has hired a chief biologist and is close to signing a deal on a location, likely to be based in or near St. Lucie County.

Tech Runway by-the-numbers

	Total Funds Invested \$19,342,600
	New Jobs 205
	Revenue Generated \$8,288,500
	Corporate Partnerships 136
	Average Salary \$57,561*
	Intellectual Property 39
	FAU Students Employed 39
	Student Projects Companies Have Worked On 23
	Interns Engaged 76
	Research Projects Completed 17
	# of Companies Surveyed 29
	Completed Case Studies 9

* For full-time salaried employees
Survey results September 2014 to October 2016



Joe Cardenas of AQUACO FARMS.



Carly Yoost (left) of Child Rescue Coalition.

Launch

SHIPMONK

South Florida Manufacturers Association Manufacturing Supply Chain Award finalist.

Has grown to 30 employees and signed a lease to move to a new 35,000-square-foot warehouse next year.

CANDIDATE.GURU

Recently closed on a \$750,000 investment, led by The Fan Fund, bringing total capital raised by the company to \$1.2 million.

Awarded \$100,000 for first place in the Florida Venture Forum Early Stage Capital awards.

POWERCALC

Named 2016 "Product of the Year" gold winner (first place) in the design/modelling/analysis software category by *Consulting-Specifying Engineer* magazine.

Formally launched the company's cloud-based offering in early November, 2016.

Carly Yoost's Child Rescue Coalition is a child protection system that tracks child pornographers on the Internet.

Yoost's father, the late Hank Asher, is often credited as the father of data fusion. Asher built database technology by taking records and putting them into a searchable online database. Asher's Boca-based company, Seisint, was purchased in 2004 by Lexis-Nexis for \$775 million.

After the sale, Asher launched a new company — TLO — that, according to Bloomberg, offered "trillions of records on individuals and businesses from about 100,000 sources of data." TLO also developed child predator tracking technology, which Asher provided to law enforcement for free.

ing Successes

AQUACO FARMS

Raised \$1 million since company launch.

Awarded first place in MIT's "Geek Tank" competition, receiving \$10,000 in funding and \$10,000 in services.

Featured as the cover story of *Florida Trend* magazine's October edition.

ROTATION MANAGER

Recently signed its 15th nursing college as a customer for its cloud-based student rotation management platform.

Finalist in the Florida Venture Forum's Technology Showcase competition (tied in judges' voting for second place).

BIONIC GLOVE PROJECT

Awarded \$35,000 from the Quantum Foundation.

SYMPTIFY

Won the \$30,000 cash award at the Florida Venture Forum Early Stage Capital (tied in judges voting for first place), its third competition win.

CHILD RESCUE COALITION

Founder named National Honoree (first place) for the 2016 L'Oreal Paris "Women of Worth" Awards, receiving a total of \$35,000, following receipt of a \$125,000 grant from the Salah Foundation.

The company's child predator-tracking software is now deployed in 64 countries and has led to the arrest of 8,679 sex offenders and the direct rescue of approximately 2,000 children.

NEURO PHARMALOGICS

Selected as a finalist for the BioPitch competition to be held at the BioFlorida Annual Meeting in December.

Completed its patent licensing deal with FAU.

HONORLOCK

Generated \$105,000 in product sales in the last quarter of 2016.

Recently closed on a \$500,000 investment, bringing total capital raised by the company to over \$700,000.

To date, the technology is being used in 64 countries and in all 50 states.

When he died in 2013, Asher's daughters sold TLO to TransUnion, with the condition that Yoost and her sister remain owners of the child protection system, which became the Child Rescue Coalition.

Hoping to build on the success of its child predator tracking technology, the coalition is now working on building a forensic tool to help law enforcement after an arrest has been made. Technology is in the works to scan offenders' devices and hard drives to detect child pornography, even if files have been deleted.

"Right now we don't have the money to grow it. We're relying on foundations, donors and grants," said Yoost. "With this forensic tool, we hope to be more of a social enterprise with a balance of donations, grants and revenue generated from the tool to sustain the organization." ♦

A Ghost Fish Comes Into View for First Time

Two FAU scientists played leadership roles aboard *Okeanos Explorer*, a research ship surveying little known areas in and around the Marianas Trench Marine National Monument and the Northern Marianas Islands. This expedition provided a window into the habitats of the western Pacific Ocean – at the sea’s deepest depths.

The National Oceanic and Atmospheric Administration (NOAA) vessel collected baseline data and offered insights into the deepwater environment home to coral, sponges, fish, hydrothermal vents, mud volcanoes and more.

“Exploring the Mariana Trench — the deepest place on Earth — has been on my ‘bucket list’ for decades,” said Shirley Pomponi,

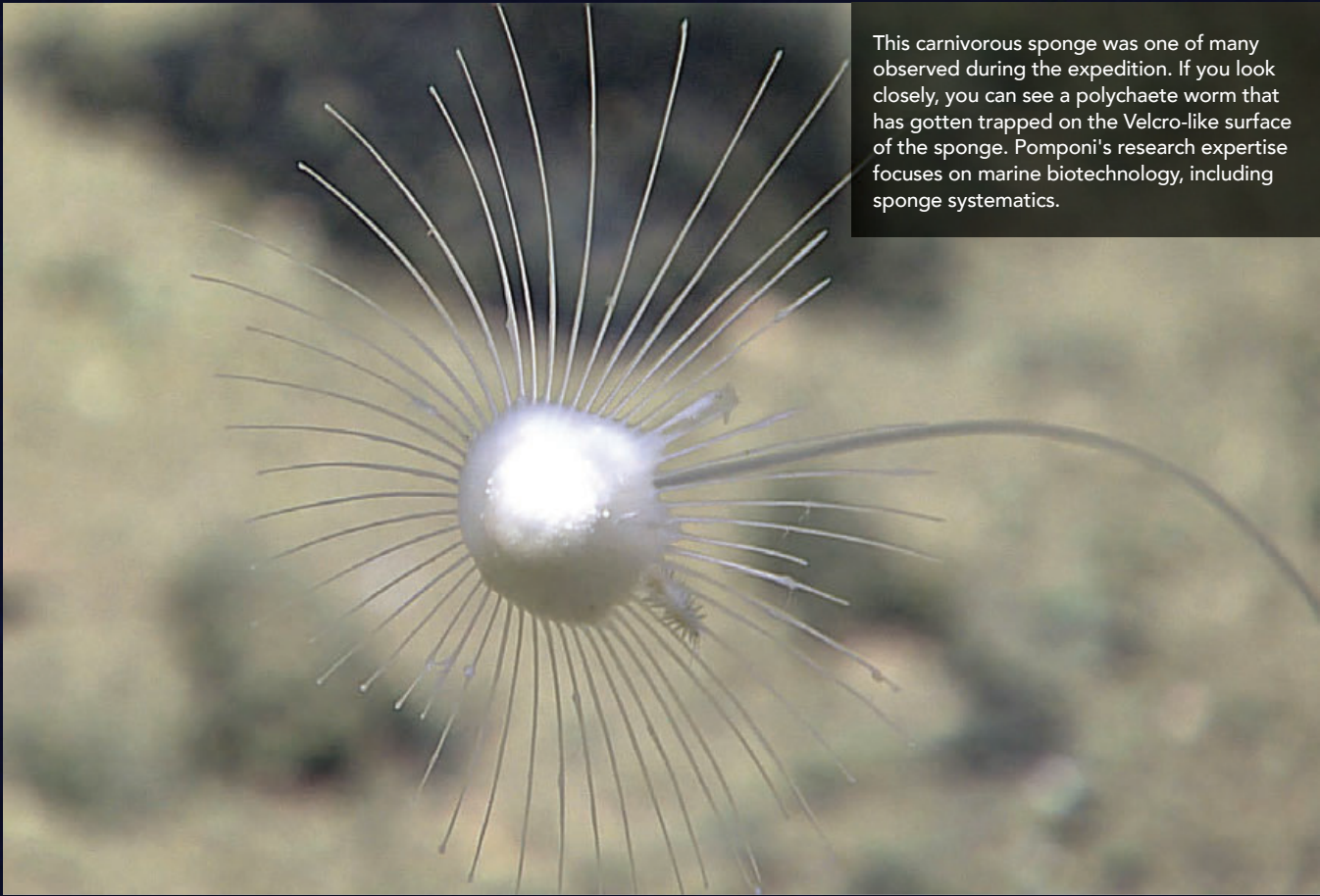
Ph.D., executive director of FAU’s Cooperative Institute for Ocean Exploration, Research and Technology. She served as the biology science lead on the cruise’s third and final leg.

“Sharing the excitement of exploration and discovery in real-time with more than one hundred scientists and students, and thousands of others who logged on to NOAA’s Ocean Explorer website, was thrilling,” she said. “I got to see biology and geology that I had only read about. Each day, I learned something new.”

Scientists and students back at Harbor Branch participated in the expedition from its Exploration Command Center, one of only a handful in the nation. High-definition cameras captured video imagery from the ocean floor, transmitting it in real-time via satellite from the ship back to the command center. ♦



One of the biological highlights was the first-ever live sighting of a fish from the family *Aphyonidae* (ghost fish). Found at a depth of 2,500 m, the fish had transparent gelatinous skin with eyes that lacked pigment.



This carnivorous sponge was one of many observed during the expedition. If you look closely, you can see a polychaete worm that has gotten trapped on the Velcro-like surface of the sponge. Pomponi's research expertise focuses on marine biotechnology, including sponge systematics.

An exciting discovery during the expedition's dive at Pagan – this slit shell snail was a new observation for the Marianas and likely a new species.





National Oceanic and Atmospheric Administration Mariana Trench expedition science team co-lead, Shirley Pomponi, Ph.D., discusses the upcoming mission during a ship tour for local stakeholders and resource managers in Guam.

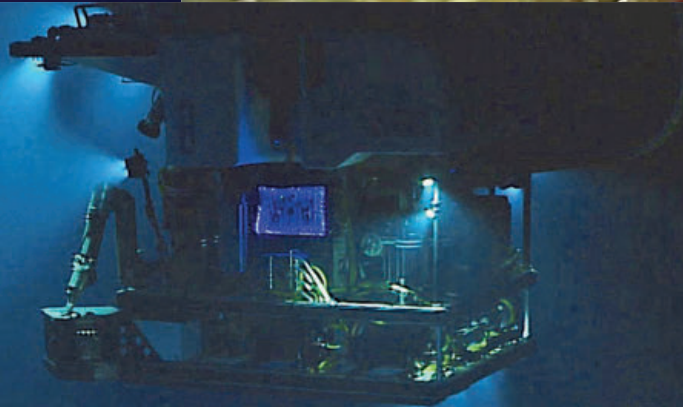
This deep-sea hydromedusa was documented during the expedition's midwater transects at 800 meters over a newly discovered petit-spot volcano. A petit-spot volcano is one that occurs outside of a tectonic plate boundary, where most volcanoes occur.



Bubblegum coral with unidentified green filaments. The science team wondered if the green filaments were algae snagged on the coral as they drifted down; generally, plants are not found at these depths due to the lack of light.

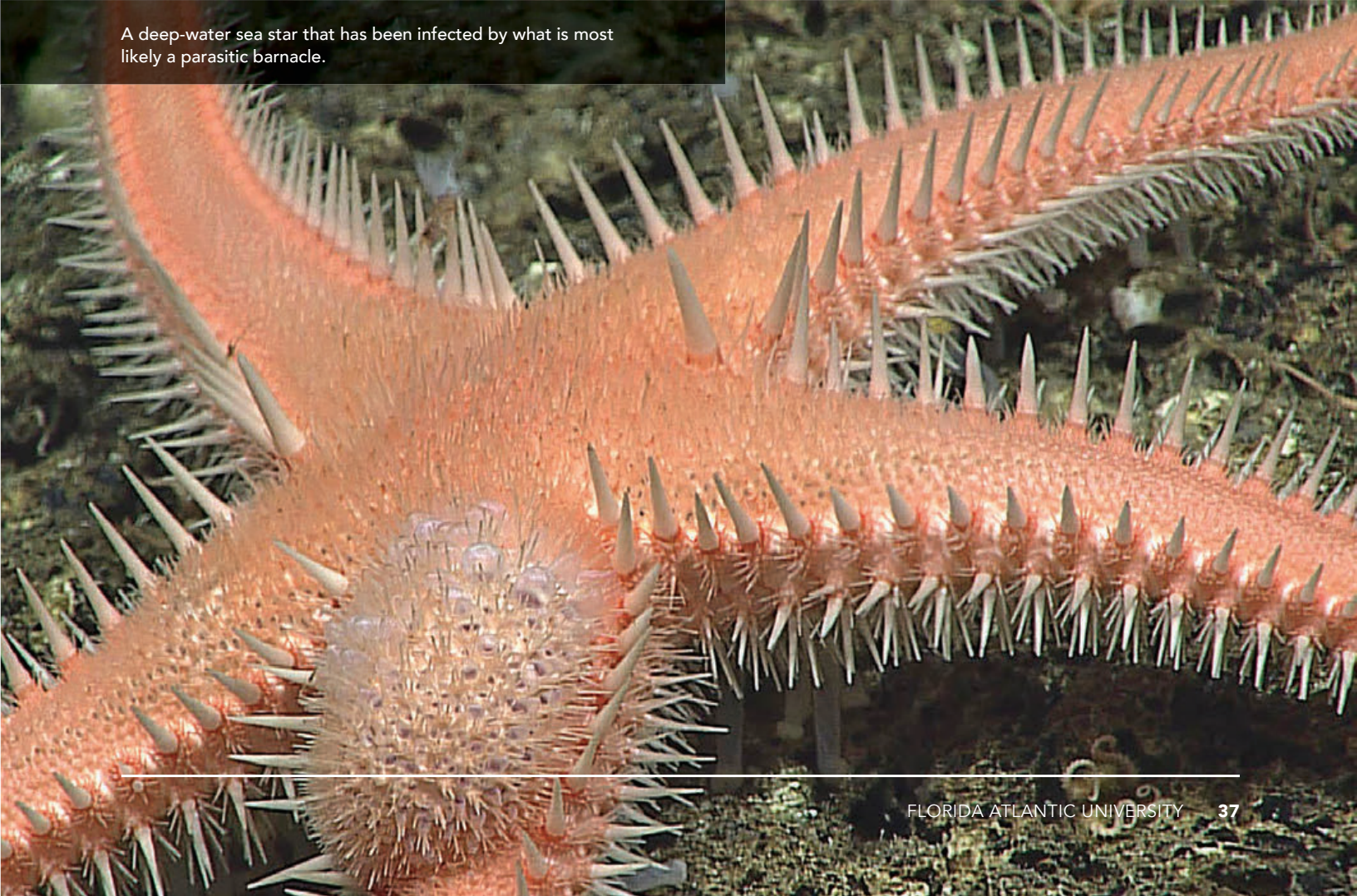


The remotely operated vehicle Deep Discoverer surveys a 14-meter tall hydrothermal chimney.





Brittle star clings to bubblegum coral.



A deep-water sea star that has been infected by what is most likely a parasitic barnacle.

INSIGHTS



Students assist Harbor Branch researchers with evaluating a nurse shark off of Ft. Pierce, Fla.

Matthew Ajemian, Ph.D., at FAU Harbor Branch works with Kim Bassos-Hull of Mote Marine Laboratory on sampling a small spotted eagle ray.

Shark and Ray Study First of Its Kind in Decades

Two scientists with FAU Harbor Branch have embarked on a study to learn about the sharks and rays living in the Indian River Lagoon (IRL), a 156-mile-long estuary located along Florida's east coast. The tiniest species to the biggest predators — everything from phytoplankton to sharks — inhabit the Indian River Lagoon, making it one of the most biodiverse estuaries in North America.

Matt Ajemian, Ph.D., assistant research professor and principal investigator, and Adam Schaefer, an epidemiologist, recently captured, sampled and tagged nearly 100 sharks and rays in the lagoon, including two endangered smalltooth sawfish. The researchers hope to gain a better understanding of how anthropogenic factors like algal blooms and rain events affect these predators.

"The IRL has lacked consistent sampling of sharks and rays over the years, preventing an understanding of how this environment is potentially influencing these important species," said Ajemian. "Now that we've acoustically tagged these animals, we're able to find out where they go through the Florida Atlantic Coast Telemetry (FACT) network."

The FACT network is a collaborative monitoring effort led by the Florida Fish and Wildlife

Conservation Commission and supported by other institutions to gain a better understanding of the movement patterns of a variety of aquatic species. Ajemian and Schaefer are collaborating with Kim Bassos-Hull of Mote Marine Laboratory on ray sampling. Together, they have successfully captured, sampled, tagged and released several protected spotted eagle rays.

Sharks and rays, with their slow growth rate, late maturity and low fecundity, are among some of the most sensitive marine vertebrates to ecosystem shifts. This study allows the scientists to evaluate the health of these sentinel species by measuring characteristics like length and weight, taking blood and microbial swabs, and utilizing acoustic transmitters to track movement.

The shark and ray study is made possible through proceeds from sales of the "Save Our Seas" specialty license plate, granted through the Harbor Branch Oceanographic Institute Foundation, Inc. and awarded to Ajemian and Schaefer. This research also provides the opportunity for a multitude of other scientific collaborations on both local and regional scales. ♦

College of Nursing Strives to be Research Intensive

"I think I bring unique insight into what a good grant proposal might look like, and how to craft it according to the science priorities of the funding agency, the impact of the proposal, and the review criteria."

LINDA WEGLICKI, PH.D.

Linda Weglicki, Ph.D., has a goal: Substantially increase federal funding received by the Christine E. Lynn College of Nursing, helping to boost FAU's reputation as a research intensive university.

As the associate dean of research and scholarship and Ph.D. studies and Schmidt Family Foundation Distinguished Professor, at the college, she's the perfect person to lead the charge.

Weglicki came to FAU in 2014 from the National Institutes of Health's National Institute of Nursing Research, where part of her responsibilities included managing grants and writing funding opportunities to advance science priorities.

"I think I bring unique insight into what a good grant proposal might look like and how to craft it according to the science priorities of the funding agency, the impact of the proposal, and the review criteria," she said.

Weglicki oversees the college's Office of Research and Scholarship that is well supported by key staff. The team includes a bio-statistician, two coordinators of research services, one with expertise as a budget specialist and one with expertise in proposal-specific instructions and processes, and a grant-writing expert — to ensure top-notch grant proposals.

"The Christine E. Lynn College of Nursing Office of Nursing Research and Scholarship is not unique. Nursing schools have been pioneers at institutions of higher education and developed health research centers and offices to support research in colleges of nursing since the 1960's," said Weglicki. "I'm trying to build and strengthen that model in this office in order to enhance and extend our academic activities by helping faculty and graduate students develop and conduct research to advance caring science to promote health, healing, and well-being of the whole person." ♦

Grant to Fund Advanced Nursing Program

A \$2 million grant awarded to the Christine E. Lynn College of Nursing will be used to address unmet healthcare needs of underserved populations by increasing high quality primary care providers in South Florida.

The three-year grant from the U.S. Department of Health and Human Services' Health Resources & Services Administration will fund a nursing education program focused on advanced practice nurses specializing in primary care with an emphasis on the integration of behavioral health for underserved and rural populations.

FAU's grant "will result in a redesigned nurse practitioner workforce in this region, and will ultimately yield healthier communities and improved patient outcomes, satisfaction, and cost-savings,"

said Lynne Dunphy, Ph.D., principal investigator and associate dean and professor in the college. Increasing the number of "practice ready" advanced practice registered nurses will enhance access to care for those most vulnerable in our community.

Florida's growing population, particularly the elderly and minorities, has resulted in declining health outcomes. ♦

FAU's grant "will result in a redesigned nurse practitioner workforce in this region, and will ultimately yield healthier communities ..."

LYNNE DUNPHY, PH.D.



Collaborators on a federally funded nursing education program shown left to right: Susan Bulfin, D.N.P., Lynne Dunphy, Ph.D., and Karethy Edwards, Dr.PH.

Polling Initiative Helps Students Develop Research Skills

In the fall of 2014, Florida Atlantic University Associate Professor of Economics Monica Escaleras, Ph.D., with the assistance of seven students, launched a polling initiative with a four-pronged purpose:

- Garner FAU name recognition;
- Promote undergraduate and graduate research;
- Increase interdisciplinary collaboration across departments and colleges; and
- Engage the community.

The Business and Economic Polling Initiative's (BEPI) success was fast and furious.

"I wanted to do a survey regarding Hispanics' opinions and attitudes about the economy and social issues, and as the elections were coming, it turned to more political polls," said Escaleras. "When the election is over, we're going to look at Floridians' and Hispanics' opinions toward serious issues that will affect the nation like the economy, immigration, terrorism and safety, and income inequality."

The Business and Economic Polling Initiative's results have frequently been cited by the media locally and nationally – including the *Sun Sentinel*, *The Washington Post*, *Morning Joe* on MSNBC and *Politico*.

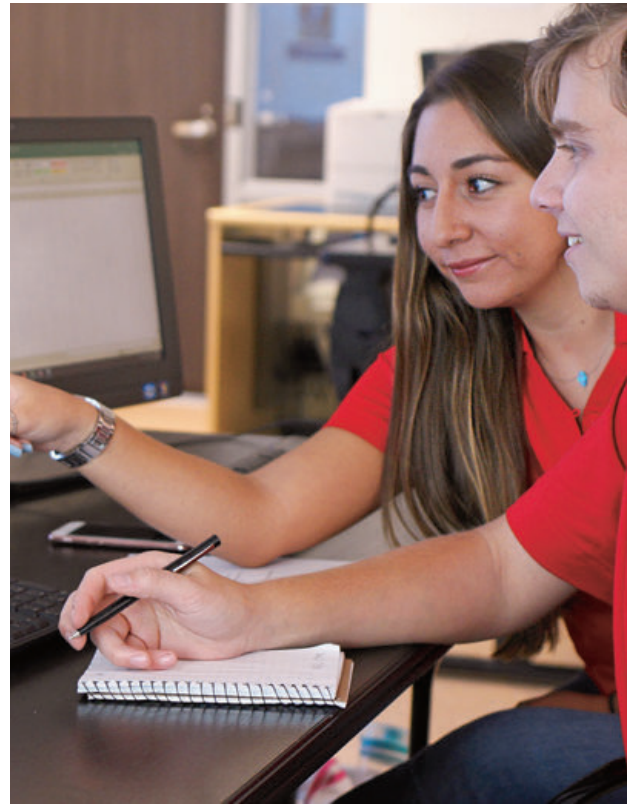
Now in its third year, BEPI results have been cited by major news outlets, including *Meet the Press*, *The Washington Post*, *Yahoo News* and the *FOX Business Network*.

Escaleras, whose extraordinary contributions to FAU were recognized with the 2016 Faculty Talon Award, and her undergraduate and graduate students created a Hispanic Consumer Sentiment Index that mimics the national Consumer Sentiment Index published monthly by the University of Michigan. The indexes measure consumer confidence.

"We look at how Hispanics feel about personal finances and the economy on a monthly basis," she explained. "Hispanics are a growing population in the U.S. and will have a big impact on the demand for goods and services."

The skills students have developed — things like how to conduct survey research, analyze the data and present the results at conferences — have implications beyond the classroom, according to Escaleras.

"It has helped students become more assertive, meet deadlines and get jobs," she said, noting that Sony has hired two BEPI participants. The company



Undergraduate students Laura Gomez and Onur Basman working on their research project.



Business and Economic Polling Initiative Director Monica Escaleras, Ph.D., and Eric Levy, assistant director.

has been so impressed by them that it is looking to hire more.

BEPI uses both online and auto-calling databases to contact 500 Hispanics nationwide each month. The students must devote a portion of their day to come to a call center to make their calls. Surveys are conducted in English and Spanish, depending on the participant's preference. It's interesting, she said, to see evolving views on a variety of topics, such as healthcare.

"Every April we've asked about Obamacare," said Escaleras. "The first year a lot of Hispanics were very satisfied with the program. The second year, with increases in the cost of Obamacare, the number of uninsured did not decline as we expected. Hispanics are talking a lot about affordability being an issue."

"The students get very excited learning hands-on," she said. "It's been a learning experience for all of us." ♦

POLIT



A Side Show Like No Other: Electing a President in 2016

It was a historic and controversial election that culminated in November. It had many ranting and raving. But it also had FAU faculty exploring avenues to further ongoing public discussion about engaged citizenship, democratic values, social justice, civil discourse and community amid stark differences. That resulted in an exhibition at the University Galleries in the Dorothy F. Schmidt College of Arts and Letters called "Political Sideshow 2016: From 'Bitch' to (Big) 'Nuts' and Beyond." The exhibition presented election campaign paraphernalia and contemporary artworks that examined the presidential campaign. The works were created by Kenneth Tin-Kin Hung, Pip Brant, Jamilah Sabur, Veronica Mills, Aurora Molina and Randy Burman.

The exhibition was the brainchild of Jane Caputi, Ph.D., co-curator and professor from the Center for Women, Gender & Sexuality Studies; and Communication & Multimedia, in conjunction with AdrienneRose Gionta, the exhibition's designer and co-curator as well as an alumna and adjunct professor in visual arts and art history. ♦

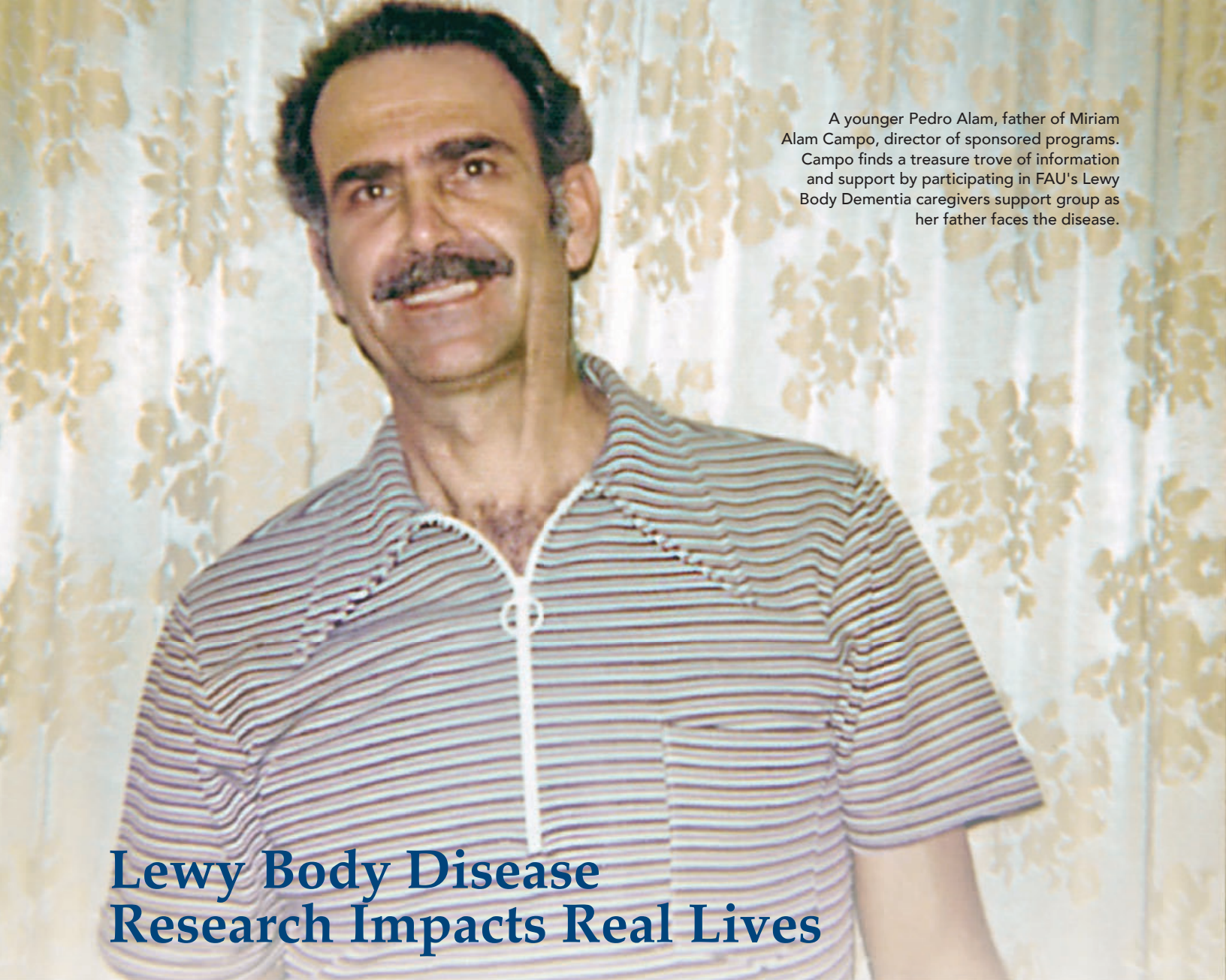
Creator & Curator Jane Caputi PhD Women
Curator & Designer Adrienne Gionta MFA V

POLITICAL SIDESHOW 2016

"Nuts" and Beyond



Presidential campaign materials on exhibit at University Galleries.



A younger Pedro Alam, father of Miriam Alam Campo, director of sponsored programs. Campo finds a treasure trove of information and support by participating in FAU's Lewy Body Dementia caregivers support group as her father faces the disease.

Lewy Body Disease Research Impacts Real Lives

The research happening at Florida Atlantic University touches families and friends near and far. Time and again, the results of our scientists' work positively impacts our lives. Here we share an example that's close to home. Miriam Alam Campo is the director of the Office of Sponsored Programs. She's worked with researchers throughout her professional life. Now, the work of one FAU researcher gives her family hope for a better future. We asked her to write about her experience. Here's what she had to say:

In Her Words

My parents are amazing people who, in 1970, left their homeland of Cuba to ensure that their three

daughters would have a better life than they did. They worked hard their entire life. My dad was always the provider; my mom, the glue that holds our family together. Dad will tell you his greatest triumphs are the college degrees that his three girls earned.

Not long ago, my personal and professional lives came together in a way that was never expected. Research has been an integral part of my career. As a research administrator, I've seen many research projects make a difference. However, research has never been as relevant to me as it is now.

About four years ago, my dad, Pedro Alam, was diagnosed with Lewy Body Disease (LBD). I had



A young Miriam Alam Campo, director of sponsored programs (far left), with her sisters and father.

never heard of it and rushed to read about this disease impacting my dad's life. What I learned was scary. And for a while, it felt like my family and I were alone in this new struggle. There was no doubt that we would do everything we could to help him as he faced this degenerative disease.

According to the Lewy Body Dementia Association, "LBD refers to both Parkinson's disease dementia and dementia with Lewy bodies. The earliest symptoms of these two diseases differ, but reflect the same underlying biological changes in the brain. Over time, people with either diagnoses develop similar cognitive, physical, sleep and behavioral symptoms."

My dad has already experienced these symptoms plus hallucinations, another common indicator of LBD. The disease eventually robs people of their dignity, independence and quality of life. As things with dad became increasingly challenging, I searched for a support group for help and guidance.

Shortly after I began working at FAU, I met James Galvin, M.D., associate dean for clinical research in the Charles E. Schmidt College of Medicine and a world-



Miriam Alam Campo pictured with her parents.

renowned LBD expert. To my surprise, Galvin had worked with the past president of the local chapter of the National Parkinson Foundation, Bonnie Austin, to launch a LBD Caregivers Support Group.

The meetings, led by Austin and Keri Greenfield, an adult/geriatric nurse practitioner, are held monthly at FAU and are guided by group members. Although I'm not the primary caregiver for my dad — my mom is — I find solace, comfort, information and care by attending this support group. We share personal stories, strategies, products and services available to assist with the challenges of LBD. Sometimes we laugh. Other times, we cry as the pressures of being a caregiver become overwhelming. This is where we find some peace.

Though he may no longer have a spring in his step, with Dr. Galvin's research, I am confident that help for LBD patients is around the corner. Although it may not be soon enough for my 85-year-old dad, I remain hopeful that others will benefit from the advances that will come from FAU research. ♦

Scientist's Path from Bench to Boardroom

After earning his doctorate in neurophysiology at the University of Toronto, Ken Dawson-Scully went to work for Olympus Corporation, designing applications for high-end laser microscopes and selling them to universities, hospitals and biotech companies.

"At Olympus, the salary was quite high, but I felt my creativity was dying," recalled Dawson-Scully, now an associate professor in the Department of Biological Sciences and the associate director of the FAU Brain Institute.

He left the high-paying job to take a \$40,000-per-year postdoctoral fellowship and hasn't looked back.

"I had career choices of money or love what you do every day and I went with the latter," he said.

Dawson-Scully is one of two FAU researchers whose work to find a treatment for a specific type of debilitating migraine headache helped them join FAU Tech Runway's fourth business accelerator class this year.

Dawson-Scully and his former student, Stacey Caplan, Ph.D., have studied the fruit fly to understand how different animals adapt to different types of environmental stress, such as low oxygen and high temperature.

Their research provides important insight for humans whose brains are deprived of oxygen after suffering a stroke, as well as for people who suffer from febrile seizures that occur with spikes in body temperature.

The pair has patented therapeutic targets for neurological pathologies involving traumatic brain injury, spinal cord injury and stroke. In 2015, Dawson-Scully and Caplan — part

Ken Dawson Scully, Ph.D., and Stacey Caplan, Ph.D., of start-up company Neuro Pharmacologics.



"My life's passion is doing research at the university, but I also want my research to serve a purpose in human health"

KEN DAWSON-SCULLY, PH.D.

of the Jupiter Life Science Initiative — founded Neuro Pharmacologics to develop therapies for people with rare neurological diseases.

They applied, unsuccessfully, for a small business grant from the National Institutes of Health. Undeterred, they entered the Tech Runway Launch Competition 2016, where they had the benefit of mentors from the business and medical fields.

One mentor, a pharmaceutical company executive, helped the scientists streamline their strategy. The executive suggested they rename the company Neuro Pharmacologics instead of its original moniker, Neuro Pharmacologics. Dawson-Scully and Caplan followed his advice.

The counsel the scientists received from Tech Runway changed the course of the company, which is now on its way to big things.

"The pharmaceutical executive on our pitch scrub for Tech Runway said that the migraine market is too competitive of a space," Dawson-Scully said. "He advised us to go after an orphan indication." That executive is now the start-up's CEO.

The Orphan Drug Act, passed in 1983, provides incentives to find treatments and cures for diseases

that affect fewer than 200,000 people in the United States and comes with numerous incentives.

Neuro Pharmacologics, Inc. is now an orphan drug company targeting hemiplegic migraines, a severe type of migraine that sufferers can experience 15 times a month, which can paralyze half the body.

"It's a terrible disease that we can target with our potential treatment," said Dawson-Scully.

The company, which currently has five employees, is raising capital — its initial goal is \$2.5 million for pre-clinical work and the initial FDA filing — and working toward FDA approval to begin trials.

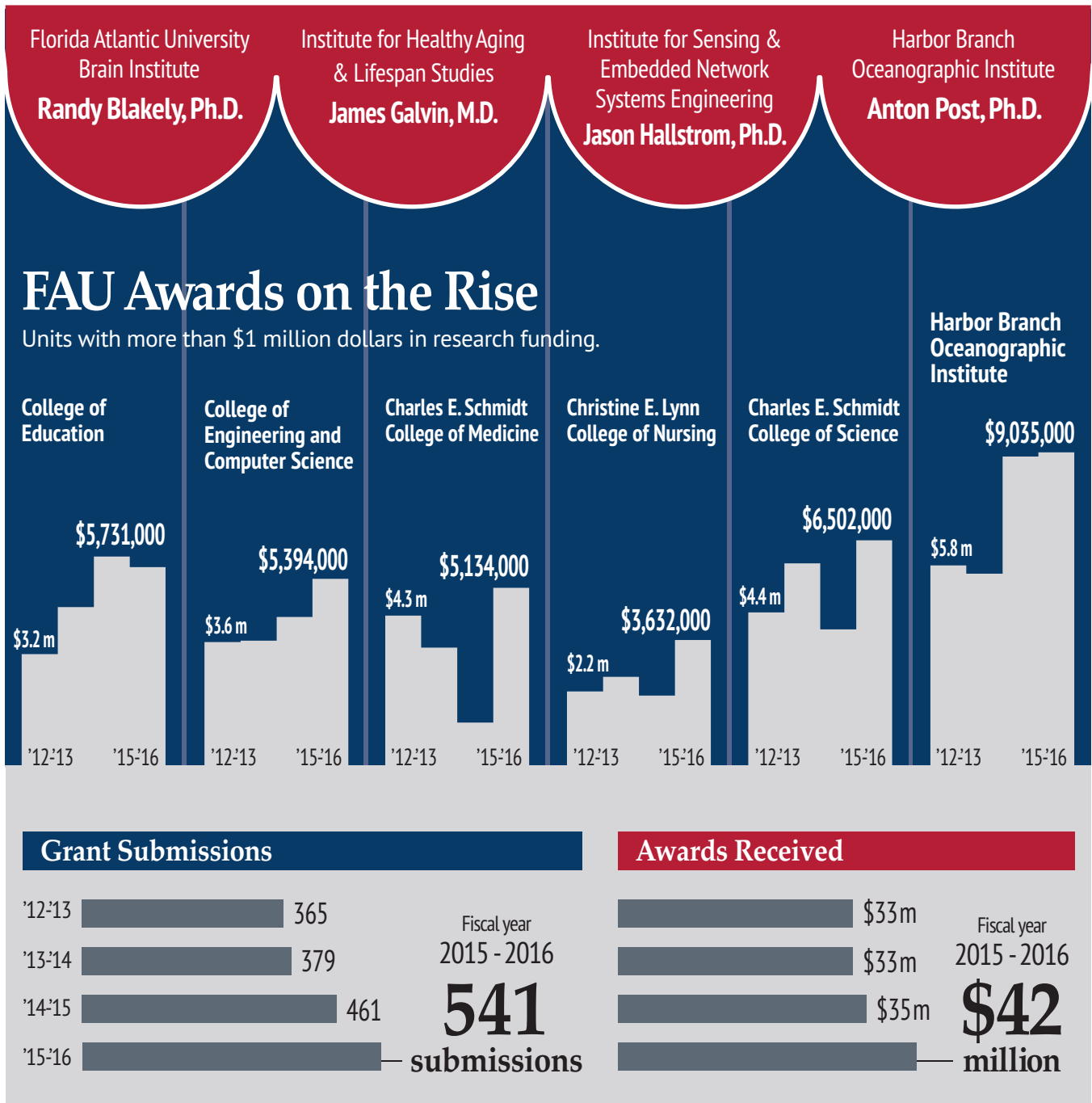
"Hopefully we'll have a drug for this disease in the next five to seven years," Dawson-Scully said. "My life's passion is doing research at the university, but I also want my research to serve a purpose in human health." ♦

Stacey Caplan, Ph.D., of Neuro Pharmacologics.

“Race to Excellence”

Florida Atlantic University charges forward with Strategic Plan.

2016 FAU completes its mission to hire top-tier leadership for its four research pillars, strengthening its foundation as a research university.



Source: Florida Atlantic University, Division of Research

Off the Shelf

BOOKS



"Strangers in a New Land: What Archaeology Reveals About the First Americans"

James M. Adovasio, Ph.D., director of archeology, Harbor Branch Oceanographic Institute
(Firefly Books, 2016)

A great addition to physical and cultural anthropology, archaeology and prehistory collections. This book discusses the prehistory of New World arrivals. It includes Clovis, Folsom, and pre-Clovis sites from Canada to Chile, bringing groundbreaking findings together. The book is co-authored by David Pedler.



"Projecting Race: Postwar America, Civil Rights and Documentary Film"

Stephen Charbonneau, Ph.D., associate professor, Dorothy F. Schmidt College of Arts and Letters
(Wallflower Press, 2016)

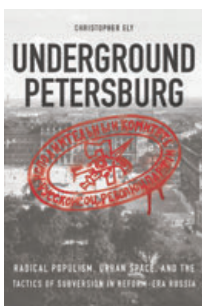
Through extensive archival research and exploration, Charbonneau presents a history of postwar-era civil rights and race relations. The evolution of non-theatrical race-based cinema is tracked from neorealism to the real-time recording of reality.



"Springer Handbook of Ocean Engineering"

Manhar Dhanak, Ph.D., professor and director of SeaTech, College of Engineering and Computer Science (Springer, 2016)

This handbook is a comprehensive account of the development and research in ocean and marine engineering, related disciplines and contributions by leading experts. Coverage includes ocean as an energy resource, offshore and subsea engineering, automation and coastal protection techniques. The book is co-authored by Nikolas Xiros, Dr. Eng.



"Underground Petersburg: Radical Populism, Urban Space, and the Tactics of Subversion in Reform-Era Russia"

Christopher Ely, Ph.D., associate professor, Harriet L. Wilkes Honors College (Northern Illinois University Press, 2016)

This innovative study considers unaddressed questions about the radical populist movement in Russia during the reign of Tsar Alexander II. Ely argues that the revolutionary underground movement created was its most powerful weapon. His reinterpretation clarifies its place in Russian and terrorism history.

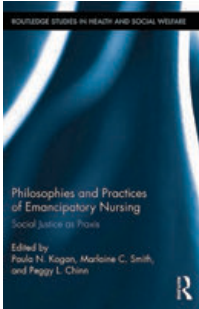


“The Temptations of Trade: Britain, Spain, and the Struggle for Empire”

Adrian Finucane, Ph.D., assistant professor, Dorothy F. Schmidt College of Arts and Letters

(University of Pennsylvania Press, 2016)

Finucane traces the relationships between British and Spanish merchants that arose from the two governments' asiento agreement. Individuals' actions in this trade relationship could drive the countries to war. This book reveals the difficulties of colonizing regions far from strict imperial control.



Philosophies and Practices of Emancipatory Nursing: Social Justice as Praxis

Marlaime Smith, Ph.D., dean, Christine E. Lynn College of Nursing
(Routledge, paperback 2016)

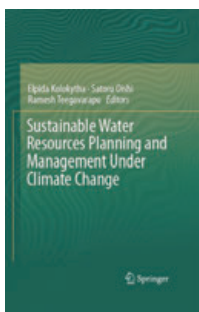
This anthology presents perspectives of nurse scholars focusing on promoting nursing research, practice and education within frameworks of social justice and critical theories. The book received two first place awards from the *American Journal of Nursing*, including Book of the Year. Paula Kagan, Ph.D. and Peggy Chinn, Ph.D., are co-editors.



“The Long Sixties: America, 1955-1973”

Christopher Strain, Ph.D., professor, Harriet L. Wilkes Honors College
(Wiley-Blackwell, 2016)

This book covers the major political, social and cultural developments of this period, allowing readers a deeper understanding of American life. Strain covers a multitude of topics from the Cold War shortly after World War II, through civil rights movements to Watergate, which occurred in the early 1970s.



“Sustainable Water Resources Planning and Management Under Climate Change”

Ramesh Teegavarapu, Ph.D., associate professor, College of Engineering and Computer Science

(Springer Singapore, 2016)

This comprehensive overview offers approaches, methodologies and innovative paradigms for water resource management that is supported by results from a number of case studies around the world. The book is co-authored by Elpidia Kolokytha, Ph.D., and Satoru Oishi, Ph.D.

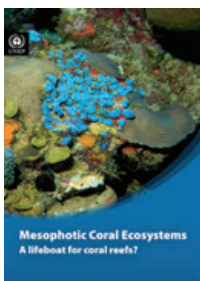
BOOK CHAPTERS



The Pitti Tondo: A "Sibylline" Madonna, a chapter in "Michelangelo in the New Millennium: Conversations about Artistic Practice, Patronage and Christianity"

Emily Fenichel, Ph.D., assistant professor, Dorothy F. Schmidt College of Arts and Letters
(Brill, 2016)

Fenichel's study is one of six that offer an innovative look at Michelangelo's art, his artistic intention and the meaning in his early religious works and late papal painting projects.



Pulley Ridge, Gulf of Mexico, USA; Threats to Mesophotic Coral Ecosystems and Management Options, chapters in "Mesophotic Coral Ecosystems – A Lifeboat for Coral Reefs?"

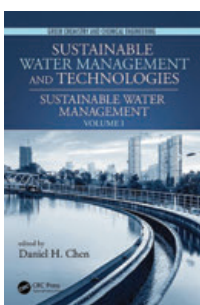
John Reed, research professor, Harbor Branch Oceanographic Institute
(United Nations Environment Programme and GRID-Arendal, 2016)

Thirty-five experts come together to protect global mesophotic coral ecosystems, largely unexplored ecosystems. Reed's chapters focus on these ecosystems and Pulley Ridge, one of the deepest in the United States.

Sponge Grounds as Key Marine Habitats: A Synthetic Review of Types, Structure, Functional Roles, and Conservation Concerns, a chapter in "Marine Animal Forests: The Ecology of Benthic Biodiversity Hotspots"

Shirley Pomponi, Ph.D., research professor, Harbor Branch Oceanographic Institute
(Springer, 2017)

Pomponi's chapter focuses on monospecific and multispecific sponge aggregations. This reveals the limited understanding of their biological, environmental and geochemical factors, recognizing the need for additional research.



Sustainable Monitoring of Algal Blooms, chapter in "Sustainable Water Management and Technologies"

James Sullivan, Ph.D., and Michael Twardowski, Ph.D., research professors, Harbor Branch Oceanographic Institute
(Taylor & Francis Group, 2016)

This work provides the most comprehensive coverage of water sustainability, management and technology available. The first volume, containing Sullivan and Twardowski's chapter, covers strategy and management issues on best management practices for water resource allocation, groundwater protection and water-quality assurance.



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