Florida Tech TOA A magazine for Alumni and Friends of Florida Institute of Technology

# WYCLEF JEAN HOMECOMING REMIX

ONE BIG QUESTION "ZIKA: WHAT HAS MOSQUITO CONTROL TAUGHT US?" P. 15



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COVER PHOTO: Grammy award winning, multi-platinum artist Wyclef Jean wears a Florida Tech jersey during his Oct. 14 performance in Downtown Melbourne. The performance honored the legacy of Florida Tech women's soccer coach, Fidgi Haig '92.

1,585 DEGREES EARNED FOR SUMMER, FALL 2016 T. Dwayne McCay, who was inaugurated as Florida Tech's fifth president in July, welcomed Harris Corp. chairman, president and CEO William Brown as commencement speaker at the undergraduate ceremony. McCay, who led his first commencement ceremonies as president of Florida Institute of Technology, offered the keynote address at the graduate ceremony.

# Florida Tech TODAY

#### http://today.fit.edu

Florida Institute of Technology

PRESIDENT **T. Dwayne McCay, Ph.D.** 

VICE PRESIDENT FOR MARKETING AND COMMUNICATIONS Wes Summer

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### **PRESIDENT'S** MESSAGE



Dear Alumni and Friends,

For the past few months, we have undertaken a process to identify Pillars of Excellence for our university. After careful review and considerable input from faculty, staff and industry, I am pleased to announce five initial pillars for further consideration and tell you about our next steps:

1) Hardware and Software Cybersecurity: Research into hardware-based authentication, cyber countermeasures and related areas for clients including the Department of Defense and Department of Homeland Security is under way across the university.

2) Aerospace and Space Systems: Our faculty are focused on the air and space above us. International Space Station experiments, pilotless aircraft and unmanned aerial vehicles, jet engines with improved performance—all examples of areas where Florida Tech researchers are advancing knowledge.

3) Autism Treatment and Research: Central Florida families have experienced the service, research and expertise available at our Scott Center for Autism Treatment, but a new push that harnesses technology to overcome a host of hurdles, from geographic to financial, will ensure many more people will benefit.

4) *Human-Centered Design and Manufacturing:* Florida Tech is contributing research for the next era of manufacturing. From exploring 3-D printing as a cost-effective way to generate new products to the idea of twinning, or using computer simulations to model and test new engineering designs before they are manufactured, these areas are critical to the 21st Century economy.

5) Ocean, Lagoon, Climate Science and Engineering: Florida Tech scientists and engineers are in the forefront of understanding the reasons the Indian River Lagoon is in decline and, more importantly, figuring out ways to fix it. Other areas, from biofouling to coral reef health, from lightning to beach erosion, offer opportunities for our researchers to make significant, positive contributions.

Leaders in each of these pillars will be expected to develop three-year strategic plans outlining goals, objectives and requirements. Additional pillars will be considered as funding becomes available.

I view these first five pillars as the beginning, not the end. We must focus our academic and research efforts to provide the highest quality education possible to our students, building on the momentum that already exists. Research that benefits all humankind is at the core of who we are and what we can contribute. We have many other areas on the edge of being pursued to greatness.

Working together, we can achieve this, and much more.

Sincerely,

Dwayne Mc Cay

T. Dwayne McCay, Ph.D. President



During fall semester, employees across campus pitched in as the university successfully weathered the effects of Hurricane Matthew.



President McCay visited with Flora Chia-I Chang, president of Tamkang University Taiwan, on the 66th anniversary of that university's founding. McCay made a presentation regarding the internationalization of higher education, and the two signed a memorandum of understanding for dual B.S. degrees in aviation.



2017 Julius Montgomery Pioneer Award Celebration President McCay, Rev. Nathaniel Harris (JMP recipient), Michael Cadore Sr. (Harvey L. Riley Bridge Builder Award Recipient), Bino Campanini.



#### **Hold Hands Across Florida Tech**

Florida Tech embraces diversity and strives to prepare students for global citizenship. This approach has been fundamental to the university's mission from the earliest days to now, when students from more than 100 countries grace our campus. On Dec. 1, the campus community came together at the Panthereum to listen to President T. Dwayne McCay and Joni Oglesby, chief diversity officer/Title IX coordinator, speak at this celebration of diversity on campus—afterward members of the campus community joined hands to show their unity.

*Pictured, from left:* Frank Webbe, School of Psychology professor; Richard Aronson, biological sciences department head; Mary Beth Kenkel, College of Psychology and Liberal Arts dean; and President McCay.

Students from two dozen states and 4.2 countries received their diplomas during two ceremonies Saturday, Dec. 17, at the Charles and Ruth Clemente Center. The undergraduate ceremony featured 291 students. A total of 529 students received master's and doctoral degrees in the afternoon session. Including 310 graduates from off-site programs, 536 graduates from the university's online programs and several dual degree recipients, Florida Tech bestowed 1,585 degrees for summer/fall 2016.

# Engineering a Living Shoreline

Florida Tech and its Indian River Lagoon Research Institute (IRLRI) have launched two programs to help restore the health and natural defenses of the Indian River Lagoon.

IRLRI director Robert Weaver, second from left, and several students survey the lagoon shoreline as part of preliminary work on developing a man-made oyster reef that will help buffer the banks from erosion.



### Living Shoreline

Over the years, over-harvesting, pollution and coastal construction have wiped out huge numbers of oyster beds, which act as natural reefs that help block wave energy and prevent shoreline erosion. Oysters themselves act as living filters, removing impurities from the water naturally, efficiently and constantly.

The Brevard Zoo and IRLRI, using funds from a \$500,000 Florida Department of Economic Opportunity grant secured by JODY PALMER '07, the zoo's director of conservation, are working to develop and construct a showcase "living shoreline" design in Indialantic, just off the Melbourne Causeway. The efforts include creating an engineered oyster reef made with aguiculturegrade mesh bags filled with oyster shells seeded with oyster spat (baby oysters) to block erosion. The project also calls for working with participants to select appropriate shoreline vegetation, such as mangrove and marsh grasses which, when planted on the banks, help buffer waves and attract fish.

### Living Dock

The IRLRI's Living Docks program invites Brevard residents to turn docks and seawalls along the shores of the lagoon into homes for oysters and other benthic organisms such as clams and sponges. Doing so will improve the health of the lagoon while also providing food and habitat for fish.

Participants hang mesh bags filled with used oyster shells from the sides of docks or seawalls, submerged into the water. The presence of the shells attracts oyster larvae, which then propagate and grow. A single dock with 37 pilings—with an average of 32 oysters per piling—can filter about 21 million gallons of water per year.

The IRLRI and the Brevard Zoo are seeking community members to participate in these and other lagoon-related projects. Volunteers interested in the Living Shoreline project may contact Jake Zehnder at Brevard Zoo at jzehnder@brevardzoo.org. Those seeking to volunteer for the Living Dock initiative may contact **ROBERT WEAVER** at rjweaver@fit.edu.

### The Anthony J. Catanese Varsity Training Center

This fall, the south campus athletics facility and home to Florida Tech Football was renamed to honor president emeritus Anthony J. Catanese, acknowledging his significant commitment to athletics expansion and integration into campus life. The Anthony J. Catanese Varsity Training Center includes offices for the football coaching staff, a large meeting room, locker room, laundry and equipment facilities, athletic training room and a large weight training room.

Head Football Coach Steve Englehart, third from left, with student-athletes, Wayne Saunders II, Dalin Modican, Matt Nelson, Cody Krueger and Kevin Delgado



Florida Tech is the top university in Florida and No. 2 in the nation for the academic performance of its first-generation students, according to 2016 rankings from *Washington Monthly* magazine.



# ASK THE EXPERT: 3-D Printing

3-D printing continues to grow in popularity and accessibility. Students now have access to two 3-D printing laboratories on campus to support creative development and student design. **MARTIN GALLAGHER**, Digital Scholarship Lab support manager, offers the following tips on getting the best 3-D printing results:

### All Filament Is Not The Same.

3-D filament is mixed by many providers and the consistency and quality is not always the same. You should always do a couple of test prints when you use a new roll to make sure the print settings work with that roll (temperature, speed, layer height, etc.).

### **Great Prints Start At Layer 1.**

Getting a level print bed and contact surface is key to getting the best print. Make sure you level the print bed correctly, use the correct print bed temperature and surface for holding the print to the bed when printing (blue painters tape, Ultem bed cover, hairspray, Elmer's glue, etc.).

### Design For 3-D Printing.

When modeling a part for 3-D printing, remember to think about support material and how it will print, you may need to break this away post-printing, the less support the cleaner the print. Also, remember the strength of the print is the direction it is printed in, the layers and where they bind is the weak part of the print, more surface area creates a stronger layer binding.

### Think About Sustainability.

Most 3-D printed parts on campus are made from ABS filament, which is not biodegradable. (We have done a full testing for 3-D Printlife filament, which is biodegradable). PLA filament is easier to print with and is fully biodegradable. If you understand the use for your part, you can choose better filament. There are many different types available and many more in development.

### **Combining Hardware And Electonics.**

Some 3-D printers allow for the print to be paused, giving the ability to insert metal parts (nuts, bars, hinges) and electronic components. The print then continues, enclosing the parts within the print. With this ability, you can create multimaterial parts and sealed electronics.

Ask the Archivist

Ever wondered what goes in to the Harry P. Weber University Archives? What types of materials and what is their significance? University archivist **Erin Mahaney** shares the criteria and composition of this university treasure.

What kinds of things are in the Harry P. Weber University Archives? We collect items documenting university beginnings, growth and challenges; key decisions affecting the future of the university; the activities, history and culture of the university; and key functions of the university and its operations. The types of materials in the archives are extremely varied. Content fixed in tangible form of any kind is a record, so the documentation of the university takes many forms: architectural records; maps; artifacts and textiles; founding documents such as articles of incorporation, charters, bylaws; newspaper clippings and press releases; correspondence; speeches; manuscripts and drafts of research; directories; catalogs; all kinds of reports, handbooks and manuals; memoranda; oral histories; minutes of meetings;

ship

membership lists and rosters; audiovisual materials like motion picture, audio recordings, photographs,



slides and film; memorabilia like scrapbooks and other types of ephemera, in-house publications like student newspapers, departmental newsletters, yearbooks, etc.; and digital content like websites, blogs and social media content.

# Graduate Opportunities for Law Enforcement: The Hybrid MPA Cohort

In 2014, FIT Spaceport launched a pilot program targeted toward bringing graduate education in public administration to public service and public safety personnel where they worked. That inaugural cohort graduated last summer—law enforcement personnel from a variety of local agencies who earned their Master of Public Administration (MPA) degree through the program's hybrid on-site/ online format hosted at Rockledge Police Department.

"The hybrid program was essential to our success," explains Sergeant CHRISTOPHER CRAWFORD '16 MPA who graduated from the inaugural cohort. "It allowed for the students, most of whom work shift work, to attend class once a week but still achieve the required contact hours. A traditional college schedule would be very difficult."

On the heels of that success, the site has four additional cohort programs under way—for Titusville Police Department, Melbourne Police Department, Brevard County Sheriff's Office and Brevard County Fire-Rescue.

The 11-course program, completed in lock-step fashion in two years, helps prepare officers for advancement and leadership in their community. "The community gets better trained and better educated police officers, most of whom are, or are going to be, in supervisory positions," says Crawford. "This allows for these officers to affect positive change throughout their organization and city with the goal of providing the best service to the community possible."

ANENE NNOLIM, director of the Spaceport site, expects continued growth of program with current partners and hopes to expand to new organizations in the future.



# A Boat Named Joh

Trustee **ERIK JOH** christens a rowing shell named in his honor at the Anchorage boathouse this fall during Homecoming festivities. Through his efforts, the university has established an endowment fund that annually provides support for the men's and women's rowing programs.

# **Enriching Research**

### FIGURING OUT PHOTOACIDS CHEMISTS YI LIAO and CLAYTON

**BAUM** recently received a \$400,000 National Science Foundation grant to refine methods for using metastable-state photoacids, a class of molecules that have the ability to control certain biochemical reactions when exposed to light. These reversible photo-sensitive molecules are exciting for their myriad of potential applications such as drugreleasing vehicles, antibacterial compounds and on-off "switches" in chemical reactions.



UNDERSTANDING SIGHT IN ENDANGERED SPECIES Neuroscientist MICHAEL GRACE, doctoral student LORIAN SCHWEIKERT and scientists from the University of Tampa found that a genetic mutation in the eyes of right whales hampers their ability to see in bright light. This mutation may make them more susceptible to entanglements in fishing nets, one of the major causes of death for this critically endangered mammal. The researchers hope a better understanding of the sensory systems will help in protection efforts as well as offer insight into human vision.





# Exploring Folk Art Through Color and Culture: Fast Facts About Upcoming Arts Exhibits

- The cochineal is a scale insect native to Central America from which a vibrant red dye is derived. This precious bug juice is used in art from Mexico and South America to Europe, the U.S. and beyond.
- Red—the color of blood, passion and courage—influences artists internationally, shaping the creative process as well as the artist's materials.
   Visit *The Red That Colored the World*, an exhibition organized by the Museum of International Folk Art in Santa Fe, New Mexico, on view at the Foosaner Art Museum Jan. 21–April 15.
- The Bedouin are Arabic-speaking nomadic people of the Middle Eastern desert region. The very essence of their culture is understood through its impermanence—with constant movement across the sands of time and space.
- Bedouin arts and crafts frequently bridge the gap between aesthetic and utilitarian purposes, using natural dyes, fibers and materials.

Visit *Traditional Arts of the Bedouin*, an exhibition curated by Amber Clifford-Napoleone of the University Museum at the University of Central Missouri, on view at the Ruth Funk Center for Textile Arts Jan. 28–April 29.

Photo credit (above left): Molleno, St. James, New Mexico, ca. 1805–1845. Water-based pigments on hide, 59 x 38 x 1  $\frac{1}{2}$  in. Museum of International Folk Art, Gift of the Historical Society of New Mexico. Courtesy Museum of International Folk Art. Photograph by Addison Doty.

*Photo credit (above right):* Bedouin Face mask with coins; cotton, silver beads, glass beads, coins, leather, 16 1/4 x 13 1/2 x 1/2 inches; Courtesy of Nance Collection, McClure Archives and University Museum, University of Central Missouri.

### ONE TO WATCH: LEONIA HUNT

**G**I chose aviation because I want to travel. My ultimate goal is to become an international airline captain flying for Delta, KLM or Lufthansa.



—Leonia Hunt, an aviation management with flight senior, has been awarded 10 different scholarships this academic year in recognition of her academic success and extracurricular participation. She earned her private pilot license while still in high school. Today, she is a Dean's List honoree, a member of the Phi Theta Kappa and Phi Eta Sigma honor societies, speaks Dutch, German and Spanish, and actively participates with Florida Tech's Women in Aviation chapter.

### ENHANCING JET ENGINE EFFICIENCY

Aerospace engineer **RAZVAN RUSOVICI** was awarded a new patent for a system that controls the angle of attack for jet engine inlet guide and compressor vanes in turbojet engines. The system will primarily help to increase the performance of smaller turbine engines in unmanned aerial vehicles and smaller aircraft. Rusovici's patented system will precisely adjust the angle of attack of the vanes in response to flight conditions and help solve performance issues.



### HELPING FLORIDA CORALS FLOURISH

Biologist **ROBERT VAN WOESIK** received a grant from the Florida Fish and Wildlife Commission to find optimal locations for coral survival along the natural Florida reef. He and his team will analyze factors such as temperature and water flow conditions to pinpoint strategic transplant locations. The goal is to optimize survival rates of corals relocated from coral nurseries in Florida waters ranging from Broward County to the Dry Tortugas maintained by the Florida Reef Resilience Program.

### ON CAMPUS

Florida Institute of Technology is among the best universities in the U. S. in producing graduates employers want to hire, a new survey found. Among the top U.S. universities, Florida Tech is tied for 32nd with Cornell University, Carnegie Mellon and Rutgers, among others, and is one of just three Florida-based schools on the list.

Released by London-based *Times Higher Education*, the U.S. University Employability Survey 2016 is a collaboration between the human resources consultancy Emerging and the employment research group Trendance. It reflects which universities recruiters at top companies think are the best at preparing students for the workplace.

# Florida Academy of Sciences Moves Headquarters to Florida Tech

Florida Academy of Sciences (FAS), the 81-year-old organization known for recognizing the state's top scientists through its annual FAS Medalist program, moved its corporate offices from the Orlando Science Center to Florida Tech this fall.

The academy had been housed at the science center for decades before recent renovations eliminated its office space. FAS president Jeremy Montague said the move to Florida Tech will make the organization more centrally located and allow for greater accessibility to the public.

**RICHARD TURNER**, Florida Tech professor of biological sciences and a past FAS president, said the move makes sense, given the university's long association with the academy and steady participation by faculty in FAS activities.

FAS is the only Florida-wide organization that represents scientists from all disciplines.

In addition to awarding its annual medals to one Sunshine State scientist—Florida Tech oceanography professor **GEORGE MAUL** won in 2016, joining TERRY OSWALT and JOHN TREFRy as Florida Tech faculty members receiving one of Florida's highest academic honors— FAS promotes research and interest in the sciences, encourages the diffusion of scientific knowledge and upholds ethical application of the sciences to the service of humanity.

FAS also gives middle and high school students opportunities to demonstrate research skills through its Florida Junior Academy of Science program, where students can compete at the state level, network and share common scientific interests. FAS also serves faculty, undergraduate and graduate students, and government and corporate scientists and engineers through its peer-reviewed quarterly journal, *Florida Scientist*, and with its annual meetings.

The academy is an affiliated state academy of the American Association for the Advancement of Science as a member of the National Association of Academies of Science and the American Junior Academy of Science.

### LEMP NAMED weVENTURE EXECUTIVE DIRECTOR ERICA LEMP is the new

executive director of weVENTURE, a nonprofit launched at Florida Tech focused on accelerating sustainable business growth for entrepreneurs. Lemp, who started in mid-October, comes to weVENTURE after serving as CareerSource Brevard's community resources manager for the past two years and program planning officer for four years.

### HIGH MARKS IN INAUGURAL WSJ RANKING

Florida Tech is among the top 20 percent of colleges and universities in the United States, according to a new ranking released this fall from *The Wall Street Journal* and *Times Higher Education* that examined learning environment, alumni earning power and more than 100,000 survey responses from students to develop the comprehensive list.

### A TIER ONE BEST NATIONAL UNIVERSITY

Florida Tech is once again among the top universities in the United States, according to the 2017 *U.S. News & World Report* Best Colleges rankings. The university is one of just six Florida universities in Tier One and the second-highest ranked private National University in the Sunshine State, behind only University of Miami.



## A CLOSER LOOK AT

Florida Tech's department of physics and space sciences maintains a variety of interesting and often unseen research initiatives and equipment. Here's a closer look:



### LIGHTNING

#### LAUNCHING FOR LIGHTNING

How can you study something as unpredictable as lightning? When will it strike? Where will it strike? Uniting engineering prowess and scientific savvy, Florida Tech researchers launch rockets trailing copper wire to initiate lightning strikes for targeted research.



### **ASTROBIOLOGY**

#### **ORBITAL EXPERIMENTS**

A Florida Tech experiment focused on Alzheimer's disease launched to the International Space Station to study the behavior of amyloid-beta fibers in zero gravity. The results were unexpected, prompting further research.

# Physics & Space Sciences

### **PARTICLE PHYSICS**

The Clean Room in the high bay area of the Olin Physical Sciences Center hosts research with worldwide reach. Here, students build detectors used in the Compact Muon Solenoid (CMS) experiment at CERN-36 pie-shaped boards are assembled and tested on campus before being shipped to Geneva, Switzerland.

Additional research focuses on muon tomography, which can detect threatening nuclear materials even if they are heavily shielded by materials such as steel or lead.



### **MARS CHAMBER**

This insulated pressure vessel was made by Kennedy Space Center around 2005 to simulate Martian and lunar environments for research and instrument testing. When funding halted its development, Florida Tech acquired the chamber and began reburishment efforts. Once fully operational, the chamber will be able to mimic the atmosphere and temperature of the Martian worldfacilitating experiments such as Florida Tech's research into Martian gardening.



An additional micro presssure chamber can test smaller pieces of equipment in a simulated space environment.







### **EYES ON THE SKIES**

The Olin Physical Sciences Center rooftop is home to several research cameras:

- 1-An additional camera is used in triangulation with a camera at Sanford University to monitor a patch of sky. By analyzing data from the different cameras, researchers can determine the numbers of meteors and reconstruct the orbits of these space debris.
- 2-Two lightning cameras monitor localized lightning strikes and transmit the data to a laboratory on the third floor.
- 3-The All-Sky Camera monitors transient phenomena such as meteors and lightning for later follow-up analysis.







# Florida Tech's Second Annual Day of Giving Breaks New Records!

Florida Tech participated in Giving Tuesday for the second year in a row on Nov. 29, 2016, and for the second year in a row well surpassed our goal. Aiming for 1,500 donors in 24 hours, the midnight tally showed **1,942** donors from 61 countries.

Once again a Day of Giving themed website tracked the progress of the overall donor goal as well as individual college and unit goals. The mission this year: Find our lost mascot, Pete the Panther. Social media played an even larger role this year with the Alumni Association Facebook page posting "breaking news" videos to provide updates on the search for Pete.

The Bisk College of Business, who were narrowly defeated in the college competition last year, ran away with the top prize of \$15,000. In true competitive form, Athletics made a strong push for participation and almost doubled the number of donors they had last year. Overall, donors could select from five colleges, 22 varsity sports teams, and five non-academic units across campus.

Young alumni and students made it known that they care about their university in a big way: the Class of 2016 had the highest number of participants, and the school saw more student donors on that day than ever before.

If you weren't able to participate on Nov. 29, there is still time to help Florida Tech! The number of alumni who donate to their university has a direct impact on university rankings which in turn help increase the value of your degree. Visit give.fit.edu/dayofgiving to make a gift online. Gifts received by April 30 will be counted in our current reporting cycle.

give.fit.edu/dayofgiving



Our Panther4Life Grad Bash event for graduating students and their families was held on Crawford Green the event featured food, drinks and live music while allowing us to congratulate our graduates and welcome them into the FTAA.





# The Oceanographer's Companion

Professor **GEORGE MAUL** has published his eighth book, *The Oceanographer's Companion: Essential Nautical Skills for Seagoing Scientists and Engineers.* The book is intended to familiarize readers with the basics of navigation, seamanship, marine engineering, communications, safety-of-life-at-sea, shiphandling, knots, first aid and more.

# Rubio Visits Larsen Motorsports

U.S. Sen. Marco Rubio, R-Florida, toured Larsen Motorsports at Florida Tech's Research and Development Center in Palm Bay in October to highlight the importance of Science, Technology, Engineering and Math, or STEM, education to advanced manufacturing and design. Rubio interacted with several university officials, including Larsen Motorsports CEO Chris Larsen, who led the tour, and **MICHAEL GRIEVES**, executive director of Florida Tech's Center for Advanced Manufacturing and Design.





# Campus Cleanup

Each semester, the Office of Student Affairs organizes a Campus Cleanup to tidy up the Botanical Garden and spark Panther pride in our campus. participants checked in

**60** bags of trash were collected from 9 different areas around campus



# Miss Arab USA

BAIAN TALEB, a senior in

interdisciplinary science, was crowned Miss Arab USA on Sept. 10. She will serve as a representative for Arab Americans and an ambassador for humanity and goodwill. She sees the title as a platform for continuing her humanitarian efforts and supporting other Arab American women.

"As an Arab American, I learned so much from both cultures, and I can't wait to reveal their beautiful colors."





# ONE BIG QUESTION with Gordon Patterson

# Zika: What Has Mosquito Control Taught Us?

In nature's great blood-and-sex drama, mosquitoes are indisputably the senior participants. Taxonomists place mosquitoes in the Diptera (flies) order of the Arthropod phylum, which emerged more than 200 million years ago. Entomologists have identified more than 3,500 species of mosquitoes belonging to the Culicidae family of the Diptera order. On average 18 new species are classified each year. Scientists estimate there are roughly 170 different species of mosquitoes in the United States, and more than 75 species in Florida. As in other fields of scientific endeavor, the privilege of naming newly discovered species goes to the discoverer. Names such as Haemagogus lucifer, Ochlerotatus tormentor and Psorophora horrida suggest something of the quality of the relationship between our species and the family of six-legged-bloodsucking pests.

The Zika virus (ZV) pandemic has again reminded us that no creature has posed a greater threat to human beings than this tiny insect. ZV was first identified in 1947 near Entebbe, Uganda. Five years later researchers confirmed the role of mosquitoes in the virus' transmission. The first clinically documented human case of Zika came a year later in Nigeria. During the next 50 years, ZV was considered a mild disease producing flu-like symptoms in 1 in 5 individuals who contracted the virus. Between 1947 and 2007, the World Health Organization (WHO) reported there were only 14 documented cases ZV. In 2007, the first large ZV outbreak took place on Yap Island in the Federated States of Micronesia, where an estimated 73% of the population had been infected. During the next 8 years, ZV made its way to French Polynesia, Easter Island, reaching South America in 2015. In October 2016, the Pan American Health Organization (PAHO) confirmed ZV's presence in 47 countries and territories in the Western Hemisphere. In Brazil alone, it is estimated there have been between 500,000 and 1 million ZV cases.

The discovery that ZV can cause serious birth defects, a spectrum of pregnancy problems as well a rare neurological disorder producing paralysis (Guillain-Barré syndrome) has sparked a worldwide campaign to find a cure for the disease.

What do we know and what can we do? First, ZV is vectored by mosquitoes and can be transmitted through sexual contact. Second, at present there is no cure or vaccine for ZV. Third, mosquito control is the principal means of preventing the spread of ZV. There are practical steps that can be taken. The species of mosquitoes (Aedes aegypti and Aedes albopictus) which are the ZV's primary vectors are container breeders with a short flight range (100-200 yards). One hundred years ago medical entomologists, sanitarians, engineers and physicians waged successful campaigns against these disease-bearing insects through mosquito control. Recently, the American Mosquito Control Association reminded citizens of some of the lessons that can be learned from the past: The "3 Ds" of mosquito control: 1. Dump and Drain; 2. Dress appropriately; 3. Defend, use repellents. These are practical steps that each of us can take to protect our families, neighbors and communities.

The development of mosquito control in the 21st century will in large measure be determined by the success of control efforts in facing the challenge posed by the resurgence of dengue fever, malaria and the appearance of Zika on the world stage. Mosquito control and, in the case of Zika, the practice of safe sex, remain the only means to break the transmission cycle of mosquito-borne pathogens. If there is a lesson in the history of mosquito control, it is that there are no "magic bullets." Protecting the public from pathogen bearing and nuisance mosquitoes depends on research to improve mosquito control and an abiding respect for the environment. When at its best, mosquito control is applied ecology. For now, each of us must do our part in "Fighting the Bite."

Gordon Patterson, professor of history, came to Florida Tech in 1981. He is the author of *The Mosquito Wars* and *The Mosquito Crusades*. In 2010, he was awarded the Presidential Medal from the American Mosquito Control Association. In 2014, he was invited to lead the Bloomberg School of Public Health Department of Molecular Biology and Immunology Seminar at Johns Hopkins University.

Florida Tech

On Oct. 6, the women's soccer team earned one of the greatest victories in program history, knocking off threetime defending National Champion (2013–15) and No. 1 ranked, Grand Valley State on the road in Allendale, Michigan. Trailing at the half, Keira McCarthy scored a pair of second goals, the final coming in the 87th minute, to propel the Panthers past GVSU 2-1 and snap the Lakers' 34-game win streak.



LORIDATCH



Just four seasons into the program's history, Florida Tech earned its place as one of the elite teams in NCAA Division II football by advancing to the playoffs as the No. 3 seed in Super Region II. The Panthers finished out the regular season at 8-2, including a 5-2 mark in Gulf South Conference play.

> Following a stellar 11-4-1 regular season campaign, the Florida Tech men's soccer team received the No. 3 seed in the 2016 NCAA South Region Tournament and would face No. 2 seed Palm Beach Atlantic in the first round in West Palm Beach, Florida. The selection marks the program's first to the Division II Men's Soccer Championships since the 1994 season.

In 2016 redshirt-senior cornerback Manny Abad rounded out what has been an illustrious career in Crimson and Gray. In November, the Cuban native received quite possibly the biggest honor of many when he was named a First Team CoSIDA Academic All-American. Abad became just the second male and sixth Panther in school history to receive the laurel that recognized excellence both on the field and in the classroom.







FIT repeated as Varsity Heavyweight Eight Champions at the 2016 Dad Vail Regatta, outpacing Drexel by nearly a full boat length. It is the second consecutive year that the Panthers have claimed the Richard O'Brien Trophy. In 2015, FIT ended a 27-year drought with a win on the Schuylkill River.

Men's soccer senior Sam Sawyer was named the Sunshine State Conference's Defensive Player of the Year this past season, becoming the first Panther to receive the award in program history. Also recognized on the All-SSC First Team, the Bideford, England, product led an FIT defense that recorded six shutouts during the season and limited opponents to a 1.00 goals against average. Florida Tech athletics director Bill Jurgens was bestowed the Jack Kelly Award by USRowing and the National Rowing Foundation at the 6th Annual Golden Oars Awards Dinner at the New York Athletic Club in New York City on Nov. 17. The award recognizes an "individual who represents the ideals that legendary Philadelphia rower Jack Kelly lived by and has accomplished superior achievements in rowing or serves as an inspiration to American rowers."

"I am humbled that USRowing and the National Rowing Foundation believed me worthy of receiving this award," said Jurgens. "I learned a lot from rowing as a student-athlete and rowing coach, and I've tried to apply these lessons to my life and professional career as an athletics director. I am most grateful to Florida Tech for giving me the opportunity to be a part of a work-culture that fosters excellence and promotes a family environment among its employees."

For more than 50 years, Jurgens has been a coach, teacher and mentor for thousands in the rowing community. His reach has not only affected those student-athletes attending Florida Tech under his tutelage but also rowers from around the world.

Some of the rowers he impacted during his career made their way to the New York Athletic Club that night to join their former coach and mentor in the celebration, including Casey Baker '74, a former Florida Tech student-athlete and assistant coach under Jurgens. Baker was there to present his old coach the Jack Kelly Award on stage at the event.

Jurgens became Florida Tech's first ever rowing coach in 1969, following the program's inaugural campaign. Since then, he has guided the Panthers to 17 national championships, including two men's and women's overall crowns in 1982 and 1987 as well as three consecutive men's overall titles from 1986–88. He was honored as the Dad Vail Coach of the Year in 1986.



# Every year for the last five years, Holly Vinson has been a Hogwarts student for Halloween.

She is a self-described Harry Potter super fan who has read all the books, watched all the movies, visited the theme park and got the T-shirt, er, the wand and robe.

"Everyone who knows me associates me with Harry Potter," Vinson, a first-year chemistry student, said.

So you can imagine her delight while perusing the course schedule and registering for her first semester at Florida Tech to see a reimagined, themed adaptation of Florida Tech's first-year student staple, University Experience: FYE 1000—Harry Potter ... a class for students interested in "Quidditch, muggles, butterbeer and magic!"



his fall, the university rolled out this new take on its age-old graduation requirement to excite and engage incoming students while building a foundation for success.

University Experience (UE) is a one-credit seminar that introduces first-time-in-college students to Florida Tech resources and the expectations of college life. Activity-based course work covers everything from study habits and time management to campus engagement and conflict resolution.

Traditionally, the experience was informational, yet unremarkable. But, staff in the First Year Experience Office, which administers the course, saw an opportunity to super-charge student engagement through topical trends—rolling out nearly a dozen themed UE sections to entice Disney fanatics and Enginerds alike.

Interested in preparing for a zombie apocalypse? There's a section for that too.

"The focus is more on fun and integration," explains **JESSICA HA**, associate director of transfer and transition programs, who coordinates the curriculum.

With an enhanced emphasis on building a sense of community and connection among incoming students, the seminar is designed to promote student involvement, which according to the National Survey of Student Engagement (NSSE) is directly linked to student success.

And enthusiasm abounds.

For example, the zombie apocalypse camp filled in just one day, prompting the opening and repeated frenzy for a second section.

Many Potter patrons clicked well before classes even began.

Vinson connected with some of her fellow classmates through the Florida Tech Class of 2020 Facebook group, an online community linking incoming students with their peers. She met them in real life on the first day of Orientation.

"I've found that a lot of people who have the same UE section end up having the same outside interests too," said **LAUREN ZEIGLER**, a biomedical science premed student and one of Vinson's Potter peers. "With Harry Potter, we like a lot of fantasy books and have other similar interests." Even though they have a crazy theme, they are truly about motivating students to understand the college environment, help them develop study skills and find the resources they need to succeed.

> Jared Campbell University Experience instructor

The students say the themed section is also a lot more interesting than a traditional section might be.

While the core content is the same, themed sections add a topical twist. For example, Harry Potter students bond over quandaries like: would you rather brush Lucius Malfoy's hair every day for a year or have Moaning Myrtle in your toilet for a year? While zombie apocalypse students are immersed in a game to navigate campus securing food, medicine and weapons without becoming infected with a T-virus.

"My Zombie Apocalypse UE sections are really fun," says instructor **JARED CAMPBELL**. "Even though they have a crazy theme, they are truly about motivating students to understand the college environment, help them develop study skills and find the resources they need to succeed."

Continued on page 20

# SUCCESS FOR a LIFETIME

"Student success has always been at the heart of what we do," says **MONICA BALOGA**, senior vice president for academics and provost.

Now, under the leadership of president **T. DWAYNE MCCAY**, that core value has expanded to emphasize a lifetime of success, not just four years or a single academic milestone, explains Baloga.

"I think this adds a deeper dimension—to really engage a student's mind—to reach both their academic and personal goals," she says.

To this end, the university is establishing a Council on Student Success to focus on success beyond the classroom. How do students connect emotionally, intellectually, culturally?

The council will evaluate a holistic model for student success, identifying extracurricular opportunities for engagement. Areas of focus include livinglearning communities, an honors college and cultural competence initiatives—efforts designed to develop the breadth and depth of a student's educational experience throughout his or her university tenure.

If the success of the University Experience transformation is any indication, these new endeavors are sure to delight.

Panthers through Orientation, registration and advising, a trip series and the freshmen honor society.

In tandem with the UE makeover, the university also revamped the freshmen registration process this academic year. Rather than block scheduling new students into the first handful of courses within their chosen major, students now register themselves with the guidance of FYE advisors.

"Now, students come in with a much larger skill set of how to add and drop classes and manage their own schedule as opposed to having everything done for them," explains Ha.

It's one more step in empowering students for success.

Beginning as early as April leading up to their first fall semester, FYE advisors contact students, coach them through the registration process and prep them for Orientation.

"They may not have met everyone personally," says Bonhomme, "but the students have had contact with their FYE advisor; they have a name, an office location, a phone number and an email address."

When they arrive on campus for Orientation, they already have a support system in place.

Then, as their first academic year comes to a close, students transition to faculty advisors—more college-savvy, well-connected and prepared for new horizons.

"Ultimately, we strive to connect students to the university," says Ha. "We hope students finish off their first year with positive academic and social experiences."

As it turns out, one credit of whimsy is proving magical in fostering that connection.

-Christena Callahan

### Continued from page 19

"I'm making the case that the affliction that turns people into brain-eating zombies is somehow combated by developing good study habits, specifically in mathematics and chemistry, two classes that directly impact our retention rates."

**ASHLEY BECKER**, instructor of the Harry Potter section as well as a traditional non-themed section, also sees promise with the playfulness.

"I'm seeing a benefit to what we've done with the themed sections even in non-themed assignments," she says. "My Harry Potter students are so friendly with each other and know each other so well they really engage quickly, work together and come up with the answers. The students are engaged in the topic because they are already engaged in the class."

"When we heard sophomores were interested in retaking University Experience to enroll in a themed section, we knew we must be doing the right thing," laughs Ha.

## Building a Village

While the new UE experience is helping students make connections and build their home away from home during their first semester on campus, their support through the First Year Experience (FYE) Office begins much earlier—in fact, as soon as they enroll.

Established five years ago to facilitate first-year student transitions, the FYE Office quickly grew to support transfer students as well. Today, a team of six advisors, led by executive director **RAY BONHOMME**, supports the onboarding of new

**G** My Harry Potter students are so friendly with each other and know each other so well they really engage quickly, work together and come up with the answers.

Ashley Becker, instructor of the Harry Potter section and a traditional non-themed section



# MENU of THEMED SECTIONS

#100HappyDays FORSTUDENTS INTERESTED IN A Challenge, Social Media and Increasing Your Happy	Harry Potter FORSTUDENTS INTERESTED IN Quidditch. Muggles. Butterbeer and Magic	TO INFINITY & BEYOND FORSTUDENTS INTERESSTED IN Rockets, Planes, Space and Astronauts
FOR STUDENTS INTERESTED IN Making Healthy Choices & Increasing Overall Well-Being	Preparing for a Zompie Apocalyse FORSTUDENTSTINITERESTEDIN Tips & Tricks for Surviving the Inevitable	ENGINERDS UNTER- FORSTUDENTS INTERESTED IN Designing. Creating and Building Cool Things
COLL things Disney, FORSTUDENTS INTERESTED IN Princesses, Mickey's Pals and Never Growing Up	Musically Inclined FORSTUDENTS INTERESTED IN Creating, Playing, Writing and Singing Music	JUST KEEP SWIMMING FOR STUDENTS INTERESTED IN The Ocean. Water Sports. Marine Life and A Dash of Positivity

# MISSION TO MARS

EXPLORING THE RESEARCH AND EDUCATION INITIATIVES OF THE BUZZ ALDRIN SPACE INSTITUTE AT FLORIDA TECH

Class began with a hum of nervous energy; students fidgeted in their seats, eyes drifted around the room. There was a rumor that the world's most famous astronaut would make an appearance here in this small intimate classroom on the fourth floor of the Olin Physical Sciences Center. Heads kept turning to the door near the back of the room as astrophysics professor **Daniel Batcheldor** went over the syllabus for the brand new class called "Living off the Land in Space: In-Situ Resource Utilization."

Anyone who follows the astronaut on Instagram knows he jets around the world promoting STEAM— the acronym for Science, Technology, Engineering, Art and Mathematics—often wearing his Get Your Ass to Mars T-shirt while flanked by giddy fans. So, maybe he wouldn't make it: best to expect disappointment.

But, just as Batcheldor handed the conversation over to NASA scientist **Jeffery Smith**, the professor leading the think tank-like course, the door cracked open. There he was: **Buzz Aldrin**, decked out in rainbow suspenders, chunky crystal bracelets and rings on every finger—including a gold band with a diamond crusted star on one end and a crescent moon on the other.

Aldrin, the Apollo pioneer, didn't disappoint.









**G** Thinking about ways to live on Mars is the ultimate test of sustainability; those new ideas can be applied right here on this planet.

Daniel Batcheldor Astrophysics professor and interim department head of physics and space sciences

The Buzz Aldrin Space Institute at Florida Tech has identified several key

# SPACE ENTREPRENEURSHIP



### Establishment of the ISU-Robert A. Heinlein Institute for Space Entrepreneurship and Space Innovation

Soon to be located at Kennedy Space Center Visitor Complex, the academic program will partner with space researchers around the world to create a think tank environment for eligible students and offer certificates in Commercial and Entrepreneurial Space Studies. Andrew Aldrin says the location offers the advantage of a constant influx of scientists and engineers coming to the Cape to launch their rockets and experiments. He hopes to bring in VIP for training and lectures while they're on location.



### Training the Next Generation of Space Leaders

A flight to Mars is still decades away, which is why it is important to teach and encourage students to do research that will be fundamental to future missions. Classes such as "In-Situ Resource Utilization Mission Design" and curriculum focused on innovation encourage students to think of feasible ways of getting to the red planet and staying there long term. Batcheldor says this research will also have a positive impact here on Earth: "Thinking about ways to live on Mars is the ultimate test of sustainability; those new ideas can be applied right here on this planet."

# RESEARCH



### Lunar Ice Propellant

Fuel is expensive and heavy, so repeated, long-duration travel to Mars will require novel ways to fuel spacecraft. Lunar ice is one material that may be prospected for fuel as well as ice on meteors and Martian moons. Areas of study include prospecting from the air, reliability of various fuel sources, examining the complexity of creating fuel in-situ and storage solutions in space.

#### Continued from page 22

This visit came a little more than a year after the Buzz Aldrin Space Institute (BASI) debuted at Florida Tech with the intention of not only getting man to Mars but also colonizing the planet. Since that time, workshops, symposia and brainstorming sessions with Florida Tech faculty, partnering universities and industry leaders have honed in on several key areas of research that aim to make Aldrin's dream a reality.

In fact, the In-Situ class, which finished its first run in December, is part of BASI's goal to train the next generation of space innovators.

Buzz Aldrin dictates the mission of his institute, but it's his son, Andrew Aldrin, who directs the day-to-day affairs. The

younger Aldrin's career has focused on the business side of space as president of Moon Express and former director of development for both Boeing and United Launch Alliance. Today, he's using his acumen at Florida Tech to produce peer-reviewed research yielding tangible results.

"Our focus is to take on fundamental problems of colonizing Mars," Aldrin says. "Real science needs to be done before getting anywhere close to engineering and technology. Florida Tech is well-situated to solve some of the problems that require more thinking and less hardware: building things, growing things and keeping people sane."

Buzz Aldrin may not show up to every class personally as BASI gains momentum, but he's passing the torch on to those destined to be the first Martians who embrace his can-do attitude and dedication to deep space travel—and Florida Tech is poised to lead the way.

-Shelley Preston

# research and education initiatives that are already under way:





### Martian Gardening

NASA says shipping food to Mars will cost about \$1 billion per astronaut per year. Any attempt at a sustained presence on Mars means eventually growing food there. In partnership with NASA scientists, Florida Tech researchers are growing Outredgeous lettuce (a variety of red romaine) in a variety of settings from Earth soil to regolith simulant to find the magic formula for the type and amount of nutrients needed to grow a plant in inhospitable Martian dirt. Florida Tech also wants to make a more accurate regolith simulant with a chemical composition closer to real Martian dirt than what scientists currently have available to them.

October 13-15, 2016

ming 2016

244

CC

By the Numbers

- 509 participants at Homecoming 5K
- 15,000 estimated crowd at Homecoming Fest
- 48-14 win over Ft. Valley State at Homecoming Football Game

• 500+ alumni and friends at Homecoming Gala

2391

200

2360

359

# This is our Dean's idea of Group Therapy!

un

# A special reception to honor the 2016 alumni award winners was held at Yellow Dog Café. Reception

3000+ fans watched FIT defeat Ft. Valley State 48–14

56

LORGON

Florida Tech Today | 27



FLORIDA TECH ALUMNI ASSOCIATION













Audi Melbourn

# Outstanding Alumni

- Jerome P. Keuper Distinguished Alumni Tim Wakefield, B.A. '89
- 2 College of Aeronautics Fin Bonset '99 MSA
- 3 College of Business Davon Kelly '90 B.S.
- College of Science Wadad Dubbelday, Ph.D., '81 B.S.
- 5 College of Engineering Doug Schuler (Alumni Board Member), '72 B.S., '91 M.S.
- 6 College of Psychology & Liberal Arts Elizabeth Lunny '93 B.S.

Congratulations to all winners.

0110

Audi Melbo

# Awards Dinner

# **ALUMNI** NEWS



News from the desk of Andv Kirbach '90 Florida Tech Alumni Association President

### FELLOW ALUMNI, FIT FRIENDS AND FAMILY

As I am beginning my alumni board presidency, I can attest to the excitement of the 2016-2017 academic year as we work with T. Dwayne McCay as Florida Tech's fifth president. I am honored to be working closely with him and other university leaders to represent the voice of our over 60,000-plus alumni worldwide.

Your alumni board works diligently to advance and support university and FTAA initiatives. We continue to attract the best and brightest. The Alumni Legacy Scholarship enabled us to award over \$11,000 to four deserving students. I'm pleased to report the outreach to students is

evident by their participation in programs such as the Real World 101 conference, mentoring and, of course, Grad Bash. In fact, a big shout out to the Class of 2016 who was the largest alumni group to donate during the hugely successful second Day of Giving.

I encourage you to participate to represent FIT through chapter events, current and student outreach events and receptions. Stay connected—join our Facebook and LinkedIn group.

I challenge you to be the best FIT ambassador you can be. Thank you.

> Go Panthers! Andy Kirbach '90

YOUR ALUMNI ASSOCIATION OFFICERS

Andy Kirbach '90 | President | Melbourne, FL | akirbach@gmail.com Rhodie Humbert '82 MBA | Secretary | Melbourne, FL | rhodiehumbert@aol.com Brian Stahl '86, '88 M.S. | Treasurer | Satellite Beach, FL | brianmstahl@gmail.com Kim Bozik '87 | Member-at-Large | Chandler, AZ | kim.b.bozik@intel.com David Murphy '91, '01 M.S. | Member-at-Large | Winter Garden, FL | davemurphyrr@hotmail.com

# FIT Jensen Beach **An Inspirational Rowing Reunion**

Today, it would surprise many Florida Tech students and alumni to learn that FIT was once home to two vibrant, bustling Florida campuses. One, of course, is the university's current, historic location in Melbourne; the second, much smaller campus, was located some 70 miles south, in the community of Jensen Beach.

FIT Jensen Beach, as it was known, was located on a picturesque semitropical riverfront compound that had previously been home to another small college. When FIT acquired that property in the early 1970s and established the School of Marine and Environmental Technology, an entire new generation of proud FIT alumni was born.

This story chronicles the inspirational reunion of five such alumni ...

# In the fall of 1973.

FIT rowing coach Bill Jurgens transported an old but serviceable eight-oared rowing shell from Melbourne to the Jensen Beach campus-to help establish the FIT Jensen Beach rowing team. John Hennon, an accomplished oarsman and recent graduate of Florida Southern College, was then living and working in the Jensen Beach area. Hennon soon learned of the fledgling rowing squad and accepted the challenge of developing the FIT Jensen Beach Crew

By the following fall, Hennon had built a solid nucleus of more than two dozen rowers and had resourcefully raised funds from the local community to add an additional eight-oared shell to the small team's "fleet." That same year, four freshmen, Bill Bater, Glenn Bunting, Jay Niec and Tim Tress, joined the team. Bater was a talented and successful high school rower from the Philadelphia area; neither Bunting, Niec nor Tress knew the first thing about the sport.

Nevertheless, by the end of that 1974-75 school year, Hennon took this group of freshmen rowers, along with coxswain and teammate Eric Botnick, to the Dad Vail Regatta in Philadelphia, then considered the "Small College National Championship" for the sport of rowing.

At that two-day event in May 1975, Botnick skillfully steered a borrowed shell containing the FIT Jensen Beach rowers down the Schuylkill River race course in the "Collegiate Freshman Four" event. The crew advanced handily through their preliminary heats, earning a lane assignment in the Saturday afternoon Finals-next to five other crews from prestigious colleges across the country. Then, in one of the more improbable races of the regatta, the upstart FIT Jensen Beach crew earned the respect and appreciation of thousands of cheering spectators lining the banks of the Schuylkill River as they rowed an almost flawless race that saw them surge strongly into the lead at approximately the 1,200 meter mark of the 2,000 meter race course, and then gradually increase that lead for an open-water victory over the entire field.

#### Thus it was that the FIT Jensen Beach Crew earned gold medals at Philadelphia's 1975 Dad Vail Regatta, adding an inspiring exclamation point to that year's dominant performance by the FIT Melbourne Crew—who captured gold medals in no fewer than three (!) of the Dad Vail Regatta's eight-oared events.

Although each member of that victorious FIT Jensen Beach crew continued their collegiate rowing careers, the 1975 Dad Vail would be their last collegiate race together, as two of their members transferred to other schools, including that "other" FIT campus.

Eventually, the members of the 1975 FIT Jensen Beach freshman crew completed their educations, raised families and developed successful careers. Unfortunately, as so often occurs, the teammates also lost contact with one another.



After receiving Dad Vail gold medals: (Left to right): Tim Tress, Jay Niec, Glenn Bunting, Bill Bater, and Eric Botnick (back to camera)

# Fast Forward Four DECADES ...

In 2015, one member of the crew, upon reflecting on the now-40th anniversary of their Dad Vail victory, located another crew member via the internet. Together, they spent the next couple of months tracking down their remaining three teammates.

After reconnecting with one another and learning that each member of their boat had been blessed with good health and had remained active and fit, the five teammates decided to do what any other similarly situated group of rowers would do—climb into a rowing shell together for some practice, and then return to the site of their previous victory for a reunion race on Philadelphia's Schuylkill River.

The teammates' first challenge was to find the time, and a suitable location, to reunite for practice. All five individuals are immersed in busy, challenging careers (banking, engineering, law, media production, safety/IH) and reside in California, Indiana, Maryland, Florida and Louisiana, respectively. Notwithstanding that geographic dispersion, the question of location was solved with a single phone call—to Bill Jurgens, who, although officially "retired" from coaching, continues to serve as Florida Tech's athletics director. Jurgens immediately agreed



From February 2016 practice session with Bill Jurgens in Melbourne clearing away 40 years of cobwebs.

to donate one of his rare "open" weekends to coach the rowers in Melbourne. With that offer in hand, the five crew members coordinated their work and family commitments and traveled to Melbourne in late February to reunite for five on-the-water practices during a three-day weekend under Jurgens' tutelage.

By the end of that February practice session, Jurgens' efforts were readily apparent—the crew members were again synchronized to move together in the boat as one, and there were some promising signs of boat speed. The plan was on track! The crew agreed to step up their training programs at home and race together at the Head of the Schuylkill Regatta in late October.

For countless hours over the next eight months, the crew members doggedly immersed themselves in their respective training regimens—in order to be in "racing shape" by Oct. 29, 2016, the date of the regatta.

When that date came, they were ready.



Race day! Another extraordinarily strong and smooth race on the Schuylkill.

### Back to the Schuylkill ...

The crew members convened in Philadelphia on Wednesday evening, Oct. 26, for two days of practice prior to their race. Fittingly, John Hennon, their FIT Jensen Beach coach, joined them as well; his presence made possible by some additional internet searching that had finally revealed his Washington State address. The crew was now complete!

On Thursday morning, Oct. 27, at Bachelor's Barge Club on Philadelphia's historic "Boathouse Row," the crew gently lowered a borrowed four-oared rowing shell into the Schuylkill River, repeating the identical process from 41 years earlier.

Their practice row that Thursday was encouraging, as was their Friday row. As an added bonus, Hennon was able to borrow a coaching launch from Drexel University, allowing him to coach the crew as he followed them on the river.

# Finally, race day!

After waking up to a brisk, sunny, autumn day, the crew members made their way to the boathouse for final pre-race preparations. By 9 a.m., the crew pushed away from the dock to begin their warmup while proceeding three miles upriver to the regatta's starting line. An hour later, they started their race.

Forty-one years melted away in an instant. The FIT Jensen Beach crew had yet another extraordinarily strong and smooth race on the Schuylkill. Seventeen minutes later, they had completed their journey! A journey that had begun at freshman orientation in early September, 1974, at the Jensen Beach campus of Florida Institute of Technology.

2016

The bond between these members of the 1975 FIT Jensen Beach crew is one that has remained strong and intact for over four decades, and that is sure to continue for many more. Now, these particular Florida Tech alumni have already begun preparation for their next challenge—more training, and an encore performance at next year's Head of the Schuylkill Regatta!

—Glenn Bunting

From left: in the order in which they rowed in the boat, beginning in the bow: Tim Tress, Jay Niec, Glenn Bunting, Bill Bater and Eric Botnick, cox







### Homecoming 2016 Celebration in Italy stan piltin '76 M.S., kevin hylton '79, bill bukevicz '76,

**STEVE RANDALL** '75 and **PAUL TURINA** '79, former FIT (Jensen Beach) classmates, had a wonderful time in Italy celebrating their own FIT Homecoming! They visited the Ponte Vecchio in Florence, Italy, while on a personal tour of Florence arranged by Paul, who now lives in Panicale, Italy.

First row, from left: Gilda Piltin, Lisa Perachio and Betty Turina; Second row, from left: Stan Piltin, Kevin Hylton, Donna Bukevicz, Bill Bukevicz, Steve Randall, Paul Turina and Yvonne Hylton.

### **Nostalgia** About the 1984 International Friend Festival

"A friend sent me this photo asking if this was me. Yes, the lady standing in the middle is me. In 1984, my name was **SHARON DIERBERG** (now Fox), and I was married to Dr. Forrest Dierberg, who taught in the environmental chemistry department at FIT. He was friends with Bob Goldberg, who I think helped organize this event or maybe was just the photographer, and Bob had suggested that we perform. We were a Polynesian dance group from Palm Bay, Palama Ku'ono Dancers, dancing to the



Hawaiian ancient chant "He'eia." I was the leader/teacher. I am still dancing but no longer teach."

# 1970s



JAMES CARLETON '75 was recently nominated by the National Space Club and inducted into the Space Hall of Fame for demonstrating sustained performance in making significant contributions to enhancing U.S. access to space in the category of Space Launch Technology. His distinguished career spanned 40 years at the Kennedy Space Center where he retired as the space shuttle solid rocket booster program manager after supporting all 135 space shuttle launches.



JOE GRASELA '77 retired on June 30, 2016, from the Kansas City Kansas Community College after 15 years as a reference librarian. He and Pete visited the Florida Monument to the soldiers from Florida who fought at the Battle of Vicksburg during the Civil War.

**RICHARD COOK** '80 retired after a 36-year career with Signature Flight Support at Fort Lauderdale-Hollywood International Airport, where he got paid to play with airplanes and hang out with pilots! He now spends his time flying (private pilot for over 40 years), reading, writing (4 published books), target shooting, bicycle riding, hiking the Appalachian Trail (1/3 of the AT completed) and drinking Jack Daniel's old No. 7 (lakeside, poolside, inside). Earlier in life he restored a 22-foot sailboat for cruising Florida's coastal waters.



RAYMOND CARLSEN '81 M.S. serves as chief executive officer at Scatec Solar AS, a global integrated independent solar power producer. He has over 20 years of industrial experience, previously

# on the **road** Seattle

To see more reception photos visit alumni.fit.edu and click on Events>Photo Gallery



Mary Helen McCay, President T. Dwayne McCay, Leslie McFarland '94, David Forcucci '83



Nikhil Nilakantan '00, Rogelio Gutierrez '12, Jamarus Brooks '10, Bino Campanini

### **ALUM**NOTES

serving as executive vice president of Aker Solutions ASA.

#### **KEVIN MCLAUGHLIN** '82

recently accepted a senior consultant position with Sequence QCS. He will be providing validation services to the life science industry, specializing in equipment and utility validation.



HUNTLEY A. LAWRENCE '85, a 31-year veteran of the Port Authority, has been named the agency's new director of aviation, as head of the nation's largest airport system. The Port Authority oversees operations at John F. Kennedy International, Newark Liberty International, LaGuardia, Teterboro and Stewart International airports and has a management agreement at Atlantic City International Airport. He is an accredited member of the American Association of Airport Executives as well as a licensed pilot.



LARRY POLLACK '85 and ZACHARY RUBENFELD '16 manned the Florida Tech table at the Fairfax County College Fair held at Hayfield High School in Alexandria, Virginia.



DONALD W. STURDIVANT '85 MBA was recently appointed operating partner for Snow Phipps Group, a private equity firm. He has more than 30 years of experience. Most recently, he was CEO of FleetPride, the largest distributor of truck and trailer parts in the independent heavyduty aftermarket channel.

# Calling All Panther Cubs!

Congratulations! If you've recently welcomed a Panther Cub to your family, contact us for your free Panther Cub apparel item. Choose from a T-shirt, bib or onesie. Then send us a photo of your child in their Panther swag, and an AlumNote about yourself. We will proudly display it in Florida Tech Today.

For details, email **alumnotes@fit.edu** 



Homecoming 2016 Tailgater DEB HEYSTEK '79 and CLARKE FOWLER '80 rallied the Panthers for a great tailgating party!

19 Alumni | 9 Squamish Brothers | 3 FIT marriages
2 biological siblings (both alumni) | 2 retired professors
1 daughter of the founding president

*Front row (kneeling, from left):* Chris Ferraro '78; Debbie Poffenberger (Poff) '77, '79 M.S.; Brian Tevlin '77; Ski Theoldman; Clarke Fowler '80; *Standing (from left):* Bruno Ferraro '78; Erin Bankert; Deb Heystek '79; Jill Vogel '76; Melanie Keuper; Bev Wells; Allyn Saunders '72, '78 M.S.; Gary Wells; Tony Flohre '77; Vern Buchanan '81; Jim Wood '74; Debbie Charnasky '78, '84 M.S.; John Morris; Patricia Wood; Bubba; Sandie (Lyons) Grugan; Steve Bankert '76 M.S.; Doug Dunbar; Dave White; *Not pictured:* Charlie Venuto '80 M.S., '07 Ed.S.; Zach Duys '81, '88 MBA; Kate Morris.



KAREN M. GARRISON '86 MBA was recently elected non-executive chairman of the board for SP Plus Corporation, a leading national provider of parking, ground transportation and related products. She has been a member of the company's board of directors since the initial public offering in June 2004. She is the former president of Pitney Bowes Business Services from 1999 until her retirement.

MICHAEL R. WRIGHT '86 M.S. is a NASA flight systems integration and test (I&T) engineer at Goddard Space Flight Center. He has served for over two dozen spaceflight projects. He has developed low-latency telerobotics (LLT) operations concepts for the Evolvable Mars Campaign (EMC). He presented this work at the 3rd International Conference

Continued on page 34

# Tampa



Patrick Furlow '03, Greg Larose '13, Sabrina Ottman '04



Karla Blank, Ryan Blank '13, Bino Campanini, Marcia Alvarado '04, Michael Matern '11

### **ALUM**NOTES

Continued from page 34

on the Exploration of Phobos and Deimos.

Leading registered nurse **DIANE DONOHUE-HAND** '87 MBA is now part of the International Nurses Association as a new member listed in the Worldwide Leaders in Healthcare publication. She is serving patients at the Leonia Middle School, St. Mary's Hospital and Clara Mass Medical Center.





Captain MARTIN A. GORDON '90 and first officer ALLISTER M. HOWIE '96 MBA, flying for United Airlines, are proud of the flight training they received at FIT.



Gen. **AUNDRE F. PIGGEE** '90 M.S. is the new deputy chief of staff, G-4. He becomes one of 50 lieutenant generals in the United States Army. He oversees policies and procedures used by all Army logisticians from the Pentagon.

RICHARD WHITE '90 MBA assumes the role of senior vice president – Business Development, Government Systems for Space Systems Loral, a leading provider of innovative satellites and spacecraft systems. He was previously chief executive officer at Capstone Corporation and served in senior management roles at Harris Corporation.

ANTHONY R. JIMENEZ '93 M.S., chief executive officer of MicroTechnologies, LLC, received the Tech Award from the Hispanic Heritage Foundation. This award, established in 1987 by The White House to commemorate the creation of Hispanic Heritage Month in America, recognizes the contributions and accomplishments of Latino leaders. It is considered among the highest honors for Latinos. MicroTech has grown from a startup into a multimillion-dollar company. Jimenez has been named among the "Most Influential Hispanics in the Nation" by *Hispanic Business Maaazine*.

**CARLOS GARCIS-GALAN** '97 is one of the leaders of Project Orion, which will send a manned flight to Mars in 2030. Recently, he gave a motivating speech to students at the Salvador Rueda school in Velez-Malaga. He shared that NASA was his dream and encouraged the students to be patient and determined to achieve their dreams. He hopes to be selected as an astronaut. He is proud to be part of such a complex challenge of sending humans to Mars.





WEYNI NAZON '01 and Nedgy welcomed baby Talia to the Panther family!



KEVIN M. ELLIS '02 and Lauren M. Ellis '06 welcomed their second Panther cub, Emily Vera Ellis and proudly share her baptism photos. FIT's own Catholic Campus Minister Fr. DOUG BAILEY performed the baptismal ceremony.



AMANDA NOBLE '03 M.S. welcomed baby girl Iris to the Panther cub club. She is the first granddaughter of athletics director **BILL JURGENS**. Perhaps she will be the first oarswoman in the family.

LAUREN M. JACKSON '04 is pregnant and promises to send a photo of her Panther cub. We think the Panther onesie is going to be the coming home outfit.



DANIELLE A. HAGENBUCH '06 and her husband Christopher welcomed a new addition to their family. Christopher Michael Hagenbuch Jr., goes by CJ, and is sporting his new Panther gear proudly.



MARY CULLEN '08 M.S. has been appointed vice president of nuclear propulsion at Huntington Ingalls Industries Newport News Shipbuilding division. She will be responsible for overhaul engineering, reactor services, test engineering, radiological controls, construction and process

### In Memoriam.

### CHARLES WILLIAM HACKNEY

'71 M.S. passed away Sept. 13. A 50-plus year resident of the Space Coast, he worked for the space program during its peak as well as for various aviation and aeronautics companies and as a Realtor.

#### MADELYN POCOSKI '85 M.S.,

Psy.D., passed away Oct. 24, 2016. She was in private practice as a psychologist in Melbourne for 25 years.

RONALD BEASLEY '90 M.S. passed away June 15, 2016. He proudly served in the U.S. Army for 30 years and retired as a colonel in 2004.

JACOB A. DAVIS, former instructor in the College of Engineering, passed away Oct. 5.

RICHARD DEAN MCCREARY, retired professor in the School of Aeronautics, passed away Dec. 11.



DIONE (DEE) NEGRONI-HENDRICK, a compassionate and

active patron of the arts at Florida Tech and across the Space Coast, passed away Jan. 5.

As director of the Foosaner Foundation, established by her

father Sam, a tax and estate planning attorney and former member of the Florida Tech board of trustees, and inspired by her mother, Renee, an artist and teacher, Negroni-Hendrick supported a variety of artistic endeavors, from the Brevard Symphony Orchestra to the Cocoa Village Playhouse. One of the foundation's signature gifts was to Florida Tech: a \$1 million gift to acquire and make improvements to what would become the Foosaner Art Museum.

In addition to the museum, the Foosaner Foundation donated funding for the footbridge between the Denius Student Center and the north campus housing area as well as a gazebo in an area of the Florida Tech Botanical Garden now called the Negroni-Hendrick Pavilion. engineering. She has worked in several departments since she began her career at the shipyard in 1985.

#### DONNA K. KEVAN OUGLAS

KELSEY '09 M.S. has recently been recognized and endorsed by Worldwide Branding for her notable professional efforts and accomplishments. She has been named Top Female Executive. Prior to her employment by DNV GL, she served in management roles at America West and U.S. Airways.



ALEIDA (YOUNG) HIGGINSON'11 successfully defended her Ph.D. in heliophysics from the University of Michigan. Her thesis was titled "The Dynamics of the S-Web and Implications for the Solar Wind and Heliosphere." Her simulations revealed new insights into how the solar magnetic field can affect

the distribution and composition of the solar wind and energetic particles. She is now a postdoc at NASA Goddard Space Flight Center in Greenbelt, Marvland,



DANIELA M. NATALI '11 and JAMES SUSINI '11 returned to Melbourne to get married at the Hilton Melbourne Beach.



NORA B. O'FARRILL '11 M.S. proudly shares that she finally graduated from the MDA Career Development program and is married to her wonderful husband Jorge. They got married in Hawaii at Poipu Beach. They hope to

### Casey Turner: Space Jam

Musician Casey Turner's single "Waves on the Ocean" debuted in space this fall—an island reggae first—when it was played aboard the International Space Station on Mission 49 in October 2016. Turner '94



music full time. Still, his space connections helped launch his music to interstellar heights. After executives from Johnson Space Center heard him play several years ago, they reached out and asked him to choose a song to play aboard the ISS.

"I feel honored, thankful and completely floored," says Turner about the opportunity. "It's like everything somehow came full circle. I left Kennedy Space Center years ago after contributing to the space program as an engineer and now re-emerging into it again by interjecting some good vibes and music. Reggae meets space. Epic!" Find the music video and song at: http://caseyturnermusic.com

expand their family in the near future.



ANDREW PETERSEN '11 M.S. and wife Cassandra have two children, Ethan and Jackson. The family is excited to have Ethan join the family.



SHEILA A. BARRETT '12 shared the exciting news that another Panther cub is joining the team, her daughter Ginnifer "Ginny" Grace Barrett.

DANIEL B. SUNDBERG '12 M.S. uses his FIT education to launch a language learning program for travel. The Tandem Traveler, a California tech startup that teaches foreign languages for travelers, launched a crowdfunding campaign on Kickstarter.com to fund development of a mobile learning app. He took a course in behavior analysis from FIT online program junior year at UC Berkeley and was hooked on FIT.



STEPHANIE M. DOHNER '13, '15 M.S., earned a research fellowship to study coastal storms by Virginia Sea Grant. This is funded by National Oceanic and

### **ALUMNOTES**

Atmospheric Administration (NOAA) to bring together federal, state and local organizations to reduce negative impacts of coastal storms, like hurricanes, nor'easters and tropical storms.

ALEX MARTIN '14 leads the We Fly program for We Florida Financial. one of south Florida's top credit unions. It provides loans for all elements of aviation to AOPA (Aircraft Owners and Pilots Association) members.

#### PATRICK MAC CARTHAIGH '15

MSA, airfield supervisor at Orlando Melbourne International Airport (MLB), conducted an economic impact study showing an estimated \$2.61 billion annual economic impact on the community of the airport while completing his Florida Tech master's degree in airport development and management.



GERALD MARKU '15 M.S. is pleased to announce his engagement to Ashley Ring. They met in romantic Florence, Italy, when Ashley was studying abroad. A summer 2017 wedding is planned in the Washington, D.C., metro area, He works as a technical support engineer at Rohde & Schwarz in Columbia, Maryland.



WARREN P. PITTORIE '15 is going into his second graduate semester at FIT studying aviation human factors. He is the resident director for Harris Village, one of the apartment complexes for on-campus housing. He was selected as the next president of the Student Government Association.

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Doherty Hall, aka the Tradewinds Hotel (1973)



Studying at my desk at Doherty Hall (1974)



Checking out new B737 FO, FIT grad, and former fellow Doherty Hall resident, Tom Colucci. Incidentally, Tom was our excellent "Piano Man" entertainer at Doherty Hall. (1996)

# A Pilot's Life

Bob Schmelzer '74, '75, is a Chicago-area designated pilot examiner, a United Airlines captain and Boeing 777 line check airman. He has been an active flight instructor since 1972.

Okay—I'll admit it—my aviation career has been a Cinderella story. Discovering early in life that becoming an airline pilot was my perfect 'dream job' really helped me remain focused on that goal and to make several excellent career-path decisions. Funded entirely by my part-time grocery store job, I began my initial flight training at age 16, emerging as a flight instructor while still a high school senior at age 18. After spending a year at the University of Illinois in mechanical engineering-intended as a 'fall-back' career option-I soon realized that no matter what, I was destined to land in aviation. So I transferred to Florida Institute of Technology in 1973, where I managed to complete a four-year degree program (Bachelor of Air Commerce) by December of 1975, all while working as a flight instructor at Melbourne Aviation, preparing dozens of fellow Florida Tech students for their own pilot certificates and ratings.

Upon graduation from FIT, I continued to advance my pilot skills by flying air taxi, air mail and commuter airline services before joining United Airlines as a new flight officer in 1978 at age 24. I began my United career as a flight engineer before advancing to co-pilot and finally captain in 1990. I have enjoyed flying United's Boeing 727, 737, 757, 767 and 777 aircraft along the way. With just two years remaining in my 40-year career with United Airlines before reaching the mandatory retirement age of 65, I am living my dream as a senior captain and line check airman responsible for training and checking other United Airlines pilots transitioning to the Boeing 777 aircraft.

I was selected to become an FAA Designated Pilot Examiner (DPE) in 2001, which has enabled me to administer flight test examinations to new pilots as they complete their training programs. I was also honored in 2007 to become a regular contributor to Aircraft Owners and Pilots Association's (AOPA) *Flight Training* magazine for their "Checkride" column, where I offer bimonthly articles that include helpful insights and "tips for success" to student pilots preparing for their FAA checkrides.

As fulfilling as my achievements have been for me, the truth is I owe much to the education I received at Florida Tech. Thank you Florida Tech and to all of the great teachers I was fortunate to encounter along the way. You helped me reach my goals!



Currently training new pilots on United Airlines' B777s

DEGREES: '74 Associate of Flight Technology;

'75 Bachelor of Air Commerce FAMILY:

Wife, Dolores; David, 32 and Kathryn, 27

CURRENT CITY: Antioch, IL

HOBBY:

Sailing

LITTLE KNOWN FACT: I was NOT a participant in the highly entertaining "streaking" sensation of the time!

#### NOTABLE ACHIEVEMENT:

Earning several of my pilot certificates at the earliest possible age, making "seniority" especially valuable to me during my long and rewarding airline career.

FAVORITE FLORIDA TECH MEMORY:

Spending my first year at the old "Doherty Hall," also referred to as the "Tradewinds," in Indialantic, was a fantastic experience. I met many lifelong friends there and have tons of great memories from that year.

### FIRSTPERSON

# The DBA is an intense, three-year, parttime program for senior business leaders and individuals seeking to enter academia.

AS DEAN OF THE BISK COLLEGE OF BUSINESS, I ENCOURAGE ALL OF OUR UNDERGRADUATES TO CONSIDER GRADUATE SCHOOL. And I encourage you, as an alumnus of this fine university, to consider it as well. It's never too late to pursue an advanced degree and the payoff can be substantial.



Theodore Richardson Dean, Bisk College of Business

Consider the benefits. A graduate degree in business can lead to:

*Greater employment opportunities:* When the door is closed to professionals who only hold a bachelor's degree, a master's or doctorate can be the key.

*Greater career advancement:* When you show the dedication and hard work it takes to earn a master's or doctorate, your boss will notice.

*Greater financial reward:* When you hold a master's or doctorate, you're likely to earn more money in the long term. (According to the U.S. Census Bureau, U.S. workers 21–64 with a master's degree or higher earn an average salary of \$55,242 whereas those with a bachelor's earn an average \$42,877—a nearly 30% difference!)

As the global business world becomes more integrated, sophisticated and complex, the educational institutions that prepare students have evolved as well. I can tell you that for the last 30 years, the Master of Business Administration (MBA) has been the standard credential for business advancement. But things are changing and a new degree is emerging to provide the highest level of business education for leaders in the corporate, government, health care, educational and nonprofit sectors.

#### A HIGHER LEVEL

A Florida Tech MBA is more accessible than ever. All classroom locations, including Melbourne, now offer the MBA at \$600 per credit hour—a total of \$21,600 for the 36-credit degree program.

Administration (DBA). The Bisk College of Business offers the DBA here in Melbourne, as well as at our extended sites in Huntsville, Alabama, and Patuxent, Maryland. The DBA is an intense, three-year, part-time program for senior business leaders and individuals seeking to enter academia. Its 42 credit-hour curriculum is focused on research, strategic management, entrepreneurship and critical thinking for decisionmakers who want to apply relevant knowledge to contemporary business problems in their industry or workplace.

That degree is the Doctor of Business

Developed by our expert business faculty, the DBA program challenges experienced leaders to further cultivate their skills in strategic planning, organizational behavior, human resource management, financial management, innovation, and quantitative research and analysis. In other words, we designed the DBA to be the ultimate business degree. By challenging already successful business professionals to take their skills to the next level, your university is helping to create true "next-level leaders."

The DBA emphasizes academic writing and research. Once enrolled in the program, students are pushed to develop, enhance and expand upon their critical thinking skills and knowledge of pertinent theory. Common career paths for DBA recipients are senior managerial consultants, chief executive officers, operations managers, college professors and business training professionals. Applicants need an MBA or master's degree in a related field to be considered for admission to the FIT DBA program.

#### BUT FIRST, THAT MBA

If you no longer live near campus, you may be interested to know that your alma mater offers such programs at nearly 20 site locations outside of Melbourne. In Florida alone, you can study at our site in Orlando, at the Kennedy Space Center Visitor's Complex in Titusville, and at Eglin Air Force Base just outside Valparaiso. Florida Tech also operates multiple sites in Alabama, Maryland, Virginia, New Jersey and Missouri.

Another way to get a career-boosting graduate degree in business from your alma mater is online. For adults navigating careers and managing households, online education is a solid choice. You can earn a Florida Tech master's degree in areas such as cybersecurity, logistics management, operations research, organizational leadership and space systems, 100% online.

Once you've earned your master's degree, I hope you will come back and see us about a DBA.



Friday, March 24, 2017 • 5:30 p.m. (ball drop 6:30 p.m.) • Suntre ed not be present to win. A Florida Tech representative will con

14<sup>th</sup> Annual

# Friday, March 24, 2017 Suntree Country Club

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# Do you remember the Leviathan?

This trip down Memory Lane brought to you by the Harry P. Weber University Archives. (see story on page 7)

### Tell us about it at fltechtoday@fit.edu

