

# FLORIDA TECH

M A G A Z I N E

FALL 2019



## What'll It Be?

**Brews, food, camaraderie—  
alumni pub owners serve it all  
with a side of Panther pride.**



# In This Issue

Fall 2019 • Volume 28, Issue 2

## DEPARTMENTS

- President's Perspective . . . 4
- On Campus . . . . . 5
- One Big Question . . . . . 6
- Panther Athletics . . . . . 10
- Research . . . . . 12
- Etc. . . . . 15
- Abecedy . . . . . 16

ANY TIME, ANYWHERE  
[floridatech.edu/  
magazine](http://floridatech.edu/magazine)

## FEATURES

- 18 What'll It Be?**  
Brews, food, camaraderie—alumni pub owners serve it all with a side of Panther pride.
- 24 Space 3.0**  
From moon landings and shuttle launches to space stations and Mars rovers, we've come a long way in 58 years of spaceflight. As we usher in the next era of space exploration, the question is, what's next?
- 28 Chip Heflich: Keuper Distinguished Alumni Award Recipient**  
Starting in space and ending as an internet pioneer, Chip Heflich spent his professional career challenging present technology in the most life-changing industries of his era. As he forges through retirement, he's not done leaving his mark yet.
- 30 Homecoming Preview**  
In addition to the annual 5K, awards gala and free concert in Downtown Melbourne, this year's Homecoming festivities include a "Panther Pub Prowl" with drink specials and photo ops at local alumni-owned establishments all weekend long.



Florida Tech hosted the 2019 American Society of Civil Engineers National Concrete Canoe Competition, attended by hundreds of college students from all around the U.S.

## FLORIDA TECH MAGAZINE

[floridatech.edu/magazine](http://floridatech.edu/magazine)

PRESIDENT Dwayne McCay, Ph.D.  
VICE PRESIDENT FOR MARKETING AND COMMUNICATIONS  
Wes Sumner '18 DBA

*Florida Tech Magazine* is published three times a year by Florida Tech's Office of Marketing and Communications and is distributed to over 85,000 readers.

EDITORIAL DIRECTOR Andy McIlwraith  
ART DIRECTOR Christena Callahan '07 M.S.

EDITOR Karly Horn

ASSOCIATE EDITOR Stephanie Herndon '07

ASSOCIATE EDITOR Erin Fox '15 MBA

CONTRIBUTORS Dan Batchelder, Cindy Berger, Erin Fox, Stephanie Herndon, Karly Horn, Jillian Leclerc, Andy McIlwraith, Ryan Randall, Wes Sumner, Daniel Supraner, Dzmityr Yuran

PRODUCTION Kristie Kwong

WEB LAYOUT Erin Fox, David Smith

CIRCULATION Ali Faisal

PHOTOGRAPHY Dominic Agostini, Mike Brown, Andreas Seibold

### Alumni Office

SENIOR VICE PRESIDENT OF STUDENT LIFE AND ALUMNI AFFAIRS AND EXECUTIVE DIRECTOR, ALUMNI ASSOCIATION

Bino Campanini '90, '92 MBA

321-674-8434, [bcampanini@fit.edu](mailto:bcampanini@fit.edu)

ASSISTANT VICE PRESIDENT OF ALUMNI AFFAIRS AND GIVING

Stephanie Bacon, 321-674-7198, [sbacon@fit.edu](mailto:sbacon@fit.edu)

DIRECTOR OF ALUMNI MARKETING

Cindy Berger, 321-674-6141, [cberger@fit.edu](mailto:cberger@fit.edu)

ALUMNI ENGAGEMENT OFFICER

Jillian Leclerc, 321-674-6826, [jleclerc@fit.edu](mailto:jleclerc@fit.edu)

Have a Story Idea? Email [magazine@fit.edu](mailto:magazine@fit.edu).

Address Updates: Florida Tech, Office of Development Services, 150 W. University Blvd., Melbourne, FL 32901  
[advs@fit.edu](mailto:advs@fit.edu)

Unsubscribe: [advs@fit.edu](mailto:advs@fit.edu)

 **FLORIDA TECH**  
FLORIDA'S STEM UNIVERSITY®

[floridatech.edu](http://floridatech.edu)

© Copyright 2019 by Florida Institute of Technology. All rights reserved. Reproduction by any means whole or in part without permission is prohibited.

For reprint information: 321-674-8963 or [magazine@fit.edu](mailto:magazine@fit.edu)



Florida Tech Magazine is printed on Sustainable Forestry Initiative (SFI)® certified paper.

Florida Institute of Technology is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate, baccalaureate, master's, education specialist and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097 or call 404-679-4500 for questions about the accreditation of Florida Institute of Technology. Florida Institute of Technology does not discriminate on the basis of race, color, religion, sex, national origin, genetic information, sexual orientation, gender identity, disability, protected veteran status or any other protected minority in the admission of students, administration of its educational policies, scholarship and loan programs, employment policies and athletic or other university-sponsored programs or activities. Contact the Title IX coordinator at 321-674-8700.

## ALUMNI NEWS

- 32 From the FTAA President
- 32 Gatherings
- 34 AlumNotes
- 38 In Memoriam
- 39 Alumni Profile: Mike Moses

### CONNECT WITH US



[/floridainstituteoftechnology](https://www.facebook.com/floridainstituteoftechnology)



[@floridatech](https://twitter.com/floridatech)



[/floridatech](https://www.instagram.com/floridatech)



[/FloridaTechAlumniAssociation](https://www.facebook.com/FloridaTechAlumniAssociation)



[@alumnifit](https://twitter.com/alumnifit)



[/fltechalumni](https://www.instagram.com/fltechalumni)

On the cover: Kevin and Rebecca Menard '03, who have owned and operated Broken Barrel Tavern for more than 10 years, share good drinks and conversation with close friends, regulars and fellow Florida Tech alumni Christopher Durie '99, '01 M.S., '07 MBA; Vic Ross '90; and Ed Gula '03.

## PRESIDENT'S PERSPECTIVE

Dear Alumni and Friends,

I have often said that if I were given the opportunity to rebuild Florida Tech anywhere in the world, I'd choose to keep it right here, in Melbourne. Where better to locate a top-tier national research university than the ever-evolving, high-technology mecca that is Florida's Space Coast?

In the past few months alone, the innovative space-based internet company OneWeb opened its satellite factory at the Cape Canaveral Spaceport. Boeing announced that it will move its space division headquarters to our area. And, we saw our longtime corporate ally and employer of many Florida Tech alumni, Harris Corp., merge with L3 Technologies Inc. to form L3Harris Technologies Inc., making it the sixth-largest aerospace and defense contractor in the world.

All of this bodes well for Florida Tech. Where we are helps us to remember who we are, and who we are is a small-but-mighty university making direct contributions—through educational programs, innovative partnerships and outstanding alumni—to some of the largest, most future-focused companies in the world. We're right where we belong.

The theme of this year's homecoming celebration is "Bringin' it Home: Destination Florida Tech," and I hope that when you return to campus, it is with the same pride of place that you felt during your time here. This is an exciting time for Florida Tech, and you are a part of it.

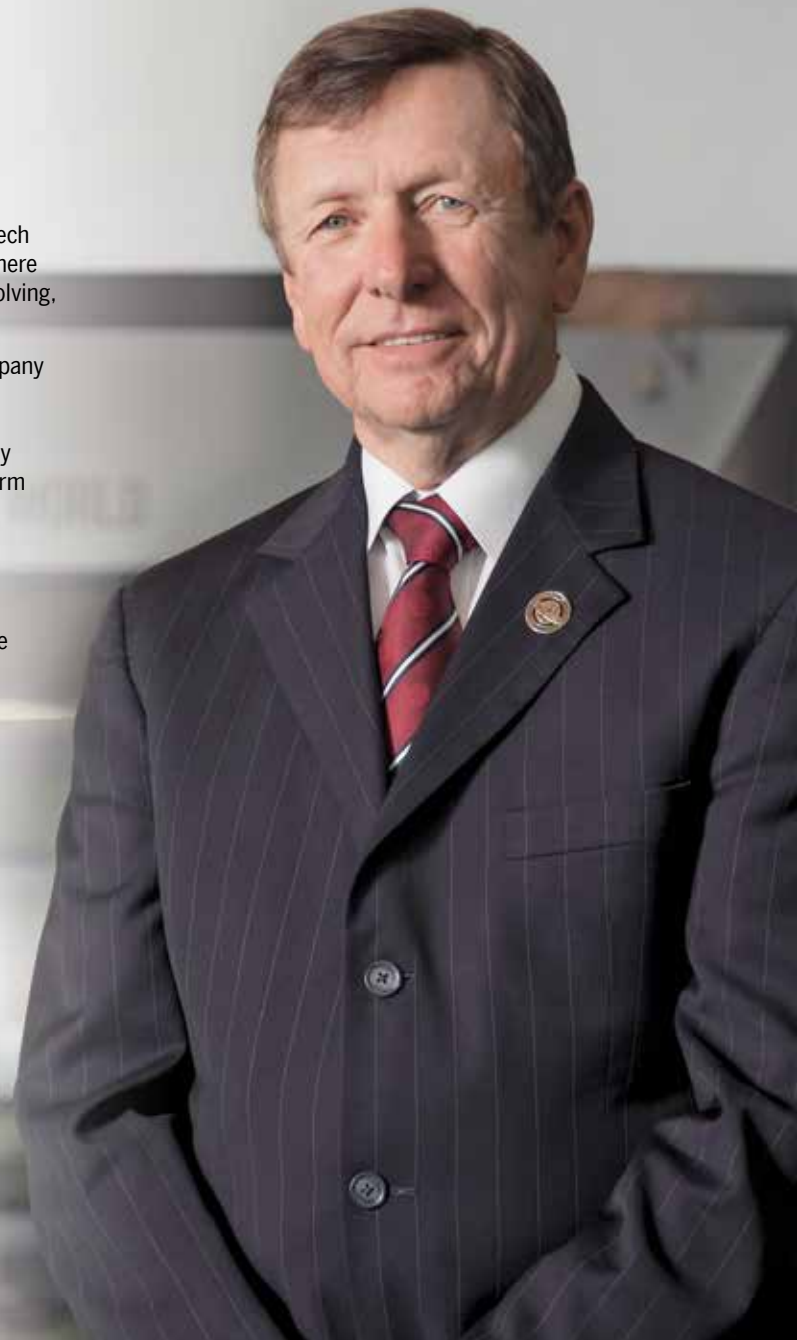
I look forward to welcoming you back to campus and hope you enjoy this year's Homecoming festivities. If you choose to visit any of the establishments featured in our cover story, please do so safely and responsibly. This magazine is prepared with an alumni audience in mind, but if you share it with a younger person, please join me in reminding them of the perils—and illegality—of underage drinking.

As always, thank you for your support.

Sincerely,



Dwayne McCay, Ph.D.  
President



### 3 FINAL THOUGHTS

#### A NEW APPROACH

Many universities treat student and alumni engagement as discrete activities, but I have adopted a more holistic stance. When students become alumni, we want them to be as connected, involved and supported by Florida Tech as they were while undergraduates. Bino Campanini '90, '92 MBA, senior vice president of student life and alumni affairs, leads the charge.

#### A FRESH LOOK

As part of Florida Tech's ongoing brand rollout, the university's new logo is being deployed all around campus and beyond. While not quite yet ubiquitous, it may be found everywhere from our website and marketing materials to the college bookstore and pole banners lining our roads. On the horizon: signage and vehicles.

#### A DURABLE COAT

Florida Tech first lady and University Research Professor Mary Helen McCay directs the new Center for Advanced Coatings (CAC) in the Applied Research Laboratory at Florida Tech. The focus of this center is to develop, test and validate protective coatings for metal parts that are required to function within harsh environments—power plant turbine blades, for example. I encourage you to learn more at [floridatech.edu/coatings](http://floridatech.edu/coatings).

## Frosty Friday

Everything but the weather was chilly Aug. 16 at “Frosty Friday,” the last of this year’s weeklong orientation activities welcoming about 1,200 incoming students to campus. With winter-themed bounce houses, Rita’s Italian Ice and a surfboard simulator, the event closed out with a Florida-fashion melted snowball—aka water balloon—fight.



# Do I Fake My Own News?

While the term “fake news” dates back to the 1890s, the phenomenon is probably as old as the idea of news itself. Even our Founding Fathers used fake news as a powerful political tool. While on a diplomatic mission in France, Benjamin Franklin fabricated a story to advance anti-colonial sentiment in a fake copy of the *Independent Chronicle*. Likewise, John Adams wrote about “Cooking up Paragraphs, Articles, Occurrences” for Franklin’s *Boston Gazette*. Political bias, especially when it aligns with our own, is one of the first red flags to look for in news.

Fake news is abundant outside of politics, too. With its virus-like contagion, fake news can rake in a great deal of advertisement revenue. Shocking discoveries always capture attention, but they are much easier to fabricate than to actually discover. Between advancements in graphics-editing software, the ease of internet publishing and the number of people who rely on social media as a news source—two-thirds of Americans, according

to Pew Research Center—the cooked-up sensations rapidly spread. In fact, a recent Massachusetts Institute of Technology study found that on Twitter, fake news and gossip travel six times faster than legitimate news. So, remember: If something looks too shocking to be true, it probably is.

Believe it or not, though, fake news publishers are not solely responsible for the spread of misinformation. The abundance of choices, as well as algorithms employed by social media and entertainment content providers, enhance the effects of selective exposure, or our tendency to avoid information that may challenge our beliefs. If that were not enough, confirmation bias makes us contort whatever information we

do receive to support our convictions, even if the facts in the piece directly contradict them.

Even our own memories can deceive us. In 2010, people were collectively remembering Nelson Mandela’s death in prison during the 1980s, despite that he was actually released in 1990 and didn’t pass away until 2013. The “Mandela Effect” and the similar “Lost in the Mall” line of research—started by a psychologist who got his brother to believe, and recall details of, a fictitious story about his getting lost—illustrate how our own memories sometimes can’t be trusted.

So, what can we do to reduce the flow of misinformation around us and stop it from affecting our decisions so profoundly? Do not rush. Read more than the headline, and determine where the story comes from before you react. Learn to identify your own biases and those of your sources with online tutorials or apps like *Factitious*. Recognizing that the lens through which we read news can be skewed with bias and blurred with inaccuracy is half the battle. The sooner we accept it, the sooner we can quell it.



Dzmitry Yuran is an assistant professor of journalism and communication in the School of Arts and Communication. His research interests include media effects, news production and media transformation.

## Don't Get Distracted

You can reduce the impact of misinformation and exercise your critical-thinking skills with these simple tips.

### TAKE YOUR TIME.

Like food, news takes time to digest. Take your time absorbing new information, evaluating how you feel about it and why and considering opposing viewpoints before you react or repost.

### READ MORE THAN THE HEADLINE.

"Clickbait" headlines are designed to drive traffic to websites, but they are by definition exaggerated, often misleading and, sometimes, downright inaccurate. Much like a book and its cover, don't judge a story by its headline.

### DETERMINE THE SOURCE.

If you've never heard of a publication or website, do some investigating. Be wary of personal blogs or strange-sounding URLs. If you got the news from someone else's mouth—or post—consider his or her personal biases before accepting it as fact.

### LEARN TO IDENTIFY BIASES.

Online tutorials or apps like Factitious can help. We might not be able to totally eradicate biases from our sources—or ourselves—but by simply recognizing them, we can minimize their ability to skew our perspectives from the truth.

## Florida Tech Elected to USRA



With a unanimous vote, Florida Tech was elected to the Universities Space Research Association at the 50-year-old nonprofit research corporation's meeting April 23.

USRA was founded in 1969 by James Webb, NASA administrator from 1961 to 1968, and Frederick Seitz, president of the National Academy of Sciences from 1962 to 1969, who recognized that the technical challenges of space exploration would require an ongoing and strong collaboration between NASA and the university research community.

Today, USRA members, including Massachusetts Institute of Technology and Georgia Tech, provide faculty and students to support government sponsors in four key areas: science, technology research and development, science facility management and operations, and educational and workforce development.

In 2018, USRA was involved with 1,038 research engagements at 340 research organizations, including universities—in the U.S. and abroad in countries like Canada, the United Kingdom, Germany, Switzerland, Israel, Australia, New Zealand and China—and other entities.

“Given our space heritage, STEM focus and ongoing student and faculty success in tackling the most important space and technology challenges before us, we are excited and honored to join an organization that will help us achieve even more, together.”

—Senior Vice President for Strategic & Research Initiatives Gisele Bennett



## Real World 101

Eager for résumé advice, career guidance and interviews with major employers of their choice, juniors and seniors in April convened on campus for the Real World 101 Conference, hosted by the Florida Tech Alumni Association and Career Services. To help soon-to-be alumni prepare for the “real world” that awaits them after graduation, Real World 101 features an alumni meet-and-greet reception, résumé reviews and educational conference sessions. One such session was hosted by Patricia Neunie, human resources business partner at Sun Nuclear Corp., who gave attendees a crash course on the world’s largest professional network and popular job-search platform, LinkedIn.

“LinkedIn is a valuable tool that can assist you in establishing your career, whether you are currently searching for a job or just starting to build your professional networks.”

Patricia Neunie, human resources business partner at Sun Nuclear Corp.

Here, Neunie has condensed her presentation into her top tips for tactfully navigating LinkedIn that translate to first-time jobseekers and seasoned professionals alike.

Before graduating in May, David Handy '19 receives résumé and job interview advice at the Real World 101 Conference.

## Get LinkedIn or Left Behind



### USE A PROFESSIONAL PHOTO.

People are used to posting fun photos as their profile pictures, using various filters and stickers on platforms like Instagram and Snapchat. On LinkedIn, however, you must use a professional-looking photograph to make a good first impression. The ideal LinkedIn profile picture shows:

- A clear shot of your shoulders and face, wearing a pleasant facial expression
- You alone—no group shots
- You wearing professional attire against a neutral background

The perks? Members with a photo get up to:

- 9x more connection requests
- 21x more profile views
- 36x more messages



### WRITE A CAPTIVATING SUMMARY.

Your summary section is one of the first things that a viewer sees in your profile, so use it to share an engaging story about yourself that includes the education, skills and experience that you have garnered throughout your schooling and/or career. Incorporate keywords, highlight your accomplishments and include hard and soft skills to show that you are a well-rounded professional.



### GARNER POWERFUL RECOMMENDATIONS.

Recommendations provide your viewers with an outsider’s opinion on your skills and personality. First, make sure that you get recommendations from the right people: those who have worked with you closely and who can clearly articulate your strengths.

Next, ensure that the selected person writes a recommendation that accentuates your unique skills and achievements. When relevant, ask them to also mention your soft skills, like leadership, time management, etc.



### PERSONALIZE YOUR URL.

When you create a LinkedIn profile, you get a default URL that consists of your name followed by unwanted letters and numbers. To customize your profile URL:

- Click the “Me” dropdown under your profile picture toward the top right of the LinkedIn homepage.
- Select “View Profile.”
- Click on “Edit public profile and URL” at the top of the right-hand list.
- Click the pencil icon next to your current URL under the “Edit your custom URL” header, and enter the desired text (preferably, your full name, if available).



### SHOW SOCIAL VALIDATION.

In LinkedIn, you can display a portfolio of work, including videos, PDFs and presentations that you have worked on. Use this opportunity to showcase your skills and let others react to your work with testimonials, comments and feedback.



## University Earns National Recognition for Long-Held Truth

It's something every member of the Florida Tech family knows, but which has only recently become official: Florida Tech is a "College of Distinction."

Honoring excellence in undergraduate engagement and student success, the award comes to Florida Tech from the renowned national college resource Colleges of Distinction, which exclusively welcomes universities that exemplify a specific set of vital qualities.

These four "distinctions" are: engaged students, great teaching, vibrant community and successful outcomes.

"We are so proud to see Florida Tech walking the walk," says Tyson Schritter, Colleges of Distinction CEO. "Students learn and thrive best when they embrace hands-on learning in a vibrant, welcoming community. That's why it's so encouraging to find Florida Tech take such an innovative approach with its curriculum."

Colleges of Distinction also recognized Florida Tech for outstanding engineering and business programs and for providing valuable career development opportunities.



### Student Human Resources Group Receives Prestigious Award

The Florida Tech Society for Human Resource Management (SHRM) student chapter has received the 2018–2019 SHRM Merit Award for the superior growth and development opportunities it has provided to its members in the last year.

"As we work to shape better workplaces—where employers and employees can thrive together—we are energized by the work our student chapters are doing to encourage students to choose HR as a career path," says Johnny C. Taylor Jr., SHRM president and chief

executive officer. "Awarding this Merit Award designation is just one small way for SHRM to recognize and celebrate the big steps the Florida Institute of Technology SHRM student chapter has taken this past academic year."

The award, which encourages student chapters to require excellence in programming, professional development, support of the human resources profession and more, is granted based on the number of activities the chapter completes during the award cycle.

Under past President Kayla Bigerton, the student chapter hosted two professional development events open to all students, three internal education events for chapter members

and two fundraisers that saw great community turnout. Current chapter President Lida Ponce, who also recently received a \$1,000 scholarship from the South Brevard SHRM, looks forward to continuing the chapter's extensive involvement and enthusiasm for the human resources profession.

"Being a part of the student chapter of SHRM is such a fantastic opportunity, where we are able to get involved with the HR community early on in our career paths," Ponce says. "Getting this award means so much to us because it reflects all the hard work we have put forth toward being recognized by the SHRM community and organizations as a whole."

### Online Programs Make the Rankings

Florida Tech Online received two rankings for best online degrees from *Online Schools Report*:

#3 Best Online Bachelor's Degree in Forensic Psychology

#17 Best Online Bachelor's Degree in Homeland Security

The rankings are based on the programs' quality, student satisfaction, earnings potential, acceptance and retention rates, online presence and affordability.

### Griffith Named SIOP Fellow

Psychology Professor Richard Griffith was one of 20 psychologists named Society for Industrial and Organizational Psychology fellows in April. He was selected for his outstanding contributions, including conducting paradigm-changing research of faking on personality measures, developing Florida Tech's industrial/organizational psychology program and forming the university's Institute for Cross Cultural Management.

### Students Earn FICPA Scholarships

Undergraduate accounting student Nicholas Driscoll and graduate accounting and financial forensics students Ryan Fink and Shannon Kelley were each awarded a \$2,000 scholarship from the Florida Institute of CPAs (FICPA) Scholarship Foundation, which helps Florida accounting students reach their education goals and propels the CPA profession forward.

## Catching Up with Coach

Q&A with Head Football Coach Steve Englehart



Coming off a successful 2018 season that included their first Coastal Classic victory and a second appearance in the NCAA playoffs in the last three years, Head Coach Steve Englehart and the Florida Tech football team are ready for the seventh season in program history.

Englehart has guided the Panthers to a 39-29 overall program record, and he was named Gulf South Conference (GSC) coach of the year in 2014 and 2015. Under Englehart's tutelage, Florida Tech has accounted for 49 All-GSC awards, has had 20 players garner 52 All-American awards and has seen six Panthers sign rookie deals with NFL franchises.

As the Panthers broach the 2019 season, we caught up with Coach Englehart for his reflection on the past six seasons and an update on what we can expect this year.

### **Q: What have you taken away from the program's first six seasons?**

**A:** We have built a strong program over these few years. We compete at a high level in arguably the best NCAA Division II conference in the nation. We have great young men on our team who work hard to be great on the field, off the field and in the classroom. Not only have we made the DII playoffs two out of the last three years, but we also had over 60% of our team above a 3.0 GPA last semester.

### **Q: In the current climate, coaches move from place to place frequently. How important has it been to the program to have consistency in the staff in respect to Jayson Martin, offensive coordinator, and Chad Raymond, run game coordinator and offensive line coach?**

**A:** Our coaches are everything. Jayson and Chad are my right and left hands. To have that type of consistency is important on many different levels. They understand recruiting to Florida Tech, how the university operates and, most importantly, they have continuity with our players. I think it says a lot about our university and our location when you have coaches who don't want to leave.

### **Q: In just six years, the team has made two appearances in the NCAA playoffs. What has been the main factor in the team's quick rise in the Division II ranks?**

**A:** The types of young men we recruit. Florida obviously has football talent. We recruit young men who are motivated on and off the field and fit our university. When you have like-minded individuals working toward the same thing, good things will happen.

### **Q: What are some of the biggest question marks facing the team moving forward?**

**A:** From year to year, we always have questions about our roster because players come and go. We need to find what our players this year are good at and how we can put them in the best position to win. In addition, we need to continue to find ways to grow our program. We need to grow our fan base. We are looking at ways to improve the game day experience and are getting our students more involved. We have to look at the growth and improvement of facilities to get closer to our competitors in recruiting. We are like any other business in America: We are trying to find ways to improve on every level.

### **Q: For the first time in program history, you will start the season with three straight weekends on the road. How do you prepare a team for that early-season gauntlet?**

**A:** There is no doubt it's a tough way to start. We will prepare like we always do and travel like we always do. We will be consistent. The good thing is, there will be no surprises. Our players will know what they are up against.

### **Q: This year is special in that your son, Caden, has joined the team as a freshman quarterback. What excites you most about the opportunity to coach him?**

**A:** Caden has been a part of this program for as long as I have. He has traveled to many games, and he has been on the sidelines. This will definitely be a different experience for both of us. The surprising thing is, I have never really coached him. I think it will be great, just because it is a way that we can spend time with one another.



### Women's Golf Wins First National Championship

The Florida Tech women's golf team won the 2019 NCAA Division II National Championship, going head-to-head with California State University San Marcos in the title match. The Panthers dominated throughout the 18 holes and earned a 4-1 victory over San Marcos for the title.



### Women's Rowing Three-Peat

Led by Head Coach Adam Thorstad, the women's rowing team capped off the 2019 season blitzing the competition in all three races at this year's Sunshine State Conference (SSC) Championship, winning its third SSC title in a row and eighth in program history. The team was also runner-up at the NCAA Championship, the best result in program history.



### Historic Softball Season

The Florida Tech softball team had a historic 2019 season, winning the Sunshine State Conference for the first time in program history. Guided by Head Coach Val Silvestrini, the team earned its second berth into the Division II Championship and won the NCAA South Regional. The softball team finished the 2019 campaign at No. 10 in the nation.

## Researchers Explore Steel Mesh Oyster Mats

Oyster reefs are essential for healthy coastal ecosystems, filtering large volumes of water and improving water clarity and quality. In the Indian River Lagoon, where oyster populations have decreased as a result of overharvesting and habitat degradation, human-made oyster mats are helpful tools in the fight to restore the estuary's health.

Oceanography Assistant Professor Kelli Hunsucker, oceanography and ocean engineering Professor Geoffrey Swain, ocean engineering Associate Professor Robert Weaver and graduate student Afanasy Melnikov received a \$40,000 grant from the Brevard County

Tourism Development Council to investigate a new approach to oyster restoration in the lagoon.

They are exploring alternatives to plastic mesh, looking closely at using electrically charged steel mesh instead. The electricity causes a rise in the pH levels, which results in calcium carbonate depositing on the steel mesh, similar to reef substratum or limestone. It allows for increased oyster survival and growth through reinforced substrate stabilization. All of this allows for a more environmentally friendly approach to oyster rehabilitation.



### LIGHTNING VIEWS FROM OUTER SPACE

When Florida Tech Ph.D. candidate Levi Boggs' paper, "Thunderstorm charge structures producing gigantic jets," was published last December, it was key research in efforts to better predict a gigantic jet lightning strike, which is a rare type of lightning that exits the top of the thunderstorm and connects with outer space.

Boggs' newest research furthers the possibility of predicting these exotic lightning strikes—from a decidedly different vantage point.

The Florida Tech researcher, who is studying under Professor Hamid K. Rassoul in the aerospace, physics, and space sciences department, along with researchers from Florida Tech, the University of New Hampshire and Los Alamos National Laboratory, has analyzed gigantic jet lightning from 20,000 miles high, utilizing NASA's Geostationary Lightning Mapper (GLM). The GLM is a satellite-borne single channel, near-infrared optical transient detector on the GOES-16 satellite, allowing for the first lightning detection recorded from geostationary orbit.



## This is the Endgame: Superhero Regeneration and What It Means

In the comic film world, character regeneration is commonplace, and it's of great recent interest to fans due to the movie, "Avengers: Infinity War." Character regeneration is also a subject of research at Florida Tech.

Lisa Perdigao, Honors College assistant provost and School of Arts and Communication professor, has examined the roles of superhero death and rebirth in comic books, television and movies.

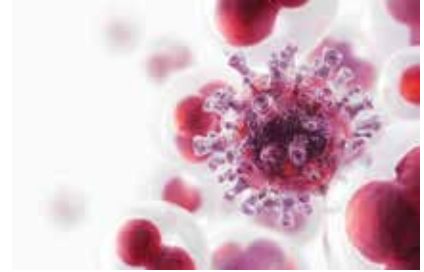
In her paper, "No Resurrections This Time': Thanos, Thanatos, and Eros in Avengers: Infinity War," presented at the October 2018 Popular Culture Association in the South and American Culture Association in the South conference, Perdigao analyzed the life and death of characters in "Avengers: Age of Ultron" and "Avengers: Infinity War" in relation to Yale Sterling Professor Emeritus Peter Brooks' study of narrative to further examine the role regeneration plays in the superhero world.

The juxtaposition of the finality of death and the recognition of it, as well as the attempts at resurrection, stood out to Perdigao when she

studied "Infinity War." She cited the representations of Loki and Vision and how their deaths are presented as final in a world where the audience is certain many deceased characters will return. Perdigao also explored Spider-Man's death in the movie and how the teenage web-slinger's pleas with Tony Stark in his final moments added a dose of harsh reality to the fairytale nature of comic films.

In the big business of film, the regeneration of a character also can be done to reinvigorate a series, as was the case in the film "Captain America: The Winter Soldier," and it represents the process of adaptation itself, of telling new stories.

"I think that the Captain America character and films epitomize, at least for Marvel, the idea of introducing a character to a new audience and a new world," Perdigao says. "Much of the film depicts his fish-out-of-water syndrome and how he adapts to the modern world, highlighting different aspects of the movie business itself. We're in an age, especially with Hollywood films, of sequels and adaptations."



### NEW RESEARCH TARGETS CANCER

Florida Tech's Eric Guisbert, assistant professor in the department of biomedical and chemical engineering and sciences, and Karen Kim Guisbert, a research assistant professor in the department, received a \$430,000 federal grant from the National Cancer Institute, part of the National Institutes of Health.

The Guisberts have discovered a new way that the HSF1 gene can be regulated, providing insight into the stress defense system in cancer and a new target to disrupt cancer cells with a goal of treating the disease.



### FRICTIONLESS TRAVEL

Florida Tech is conducting research funded by an \$80,000 grant from Collins Aerospace (formerly Rockwell Collins) on "multilocation passenger re-identification." The goal is to create what Michael King, associate professor in the department of computer engineering and sciences and the lead researcher, calls "frictionless travel," eliminating the need for passengers to present travel documents. King and his team are analyzing mainstream and more advanced forms of biometric technology to conceptualize designs for document-free passenger identification without compromising security.

OP-ED

# Lagoon Learning: Aiming to Understand—Not Advocate

By Florida Tech President Dwayne McCay

Knowledge begins with discovery—any good researcher will tell you that. The best researchers know that discovery involves studying situations from all possible angles. This means asking questions—even unpopular questions—to ensure good data are gathered so problems may be fully analyzed and evaluated. That’s exactly what Florida Tech researchers will do in their upcoming study of the Indian River Lagoon.

Critics have seemed to suggest that Florida Tech investigators are advocating for wholesale flooding of seawater into the Indian River Lagoon as a quick fix for decades of ignoring rapid population growth and its ecosystem impact. That’s untrue, and the stakes for our lagoon and our community are far too high to allow glib generalizations and uninformed opinion to distract from the pursuit of discovery.

I would like to describe what Florida Tech professionals have always done when conducting research on our lagoon. We bring science to bear in solving real-world problems. We are not lobbyists for policy changes. We provide solid data for policymakers.

## A LONG HISTORY OF LAGOON SCIENCE

Florida Tech has a decadeslong history of providing science to support the preservation and restoration of lagoon resources. Significant symposia on campus, as early as 1981, have highlighted many of the problems developing along the lagoon. The origins of the Marine Resources Council of East Central Florida were also on Florida Tech’s campus. The university’s discoveries on the damaging impact of lagoon muck have helped inform restoration efforts.

In more recent years, the university founded the Indian River Lagoon Research Institute (IRLRI) to focus on better understanding lagoon health. A team of more than 20 faculty members with decades of scientific research experience related to the lagoon form this multidisciplinary research group. Collectively, Florida Tech scientists and engineers explore solutions to the deterioration of the lagoon, including muck and nutrients, lagoon flow, nutrient reduction, sediment loading, ecosystem recovery and management and engineering technologies.

Part of the mission of the IRLRI includes outreach and education to help the community

and lagoon stakeholders understand the importance of lagoon problems and their role in creating solutions. The IRLRI collaborates with numerous institutions and agencies pursuing the common goal of improving the lagoon’s ecosystem through understanding.

## WHAT THIS STUDY WILL DO

The Indian River Lagoon, as a bar-built estuary, is far different from the well-known Tampa Bay and Chesapeake Bay systems. Many parts of the lagoon are poorly flushed. With this latest funding of \$800,000 from the Florida Legislature, the Florida Tech IRLRI will continue exploring customized solutions for improving water quality in our lagoon, with the initial phase of a pilot project to begin investigating the impacts of restoring periodic historical ocean inflows to the lagoon. This is not a proposal for an artificial inlet. Rather, this first phase of the study will gather data on water quality, organisms and circulation conditions at one or more potential locations for future temporary introductions of seawater. We must know what the conditions are so we can assess potential impacts.

## WHAT THIS STUDY WON'T DO

Florida Tech researchers won’t be making the difficult policy decisions that must be implemented to protect and restore the lagoon. Our local legislators have demonstrated their continuing commitment to finding lagoon solutions with their support of this type of research, and as the scientists who study the problem from every angle, we must provide them with the best data we can to inform their decisions.

For more than five decades, Florida Tech researchers have offered the best possible science to support those responsible for implementing strategies to save the Indian River Lagoon. Our researchers will continue doing what they have always done: providing the best science they can to empower those engaged in protecting, enhancing and restoring precious lagoon resources.

To do anything less would marginalize this critical natural resource and serve ignorance, not science.

## Indian River Lagoon By the Numbers

**156**  
miles long

**\$3.7B**  
annual economic value

**2,100**  
plant species

**2,200**  
animal species

**\$800K**  
grant to Florida Tech  
from state Legislature

Source: St. Johns River Water  
Management District

### Ad Astra Per Scientiam Cinema

Florida Tech alumni recognize the Latin words “ad astra” from our university motto. But this fall, they are taking on new popularity as the Brad Pitt film “Ad Astra” is released. The visually stunning sci-fi drama follows an astronaut as he travels the solar system to find his father and save the planet from destruction.

### The Fall

A degree from Florida Tech is just one of many notches on the belt of genius protagonist Angela Taylor in R.J. Pineiro’s space thriller, *The Fall*. The novel begins at Kennedy Space Center, where Angela watches her husband, Jack, take the world’s first orbital jump from space to Earth in a suit that she designed. She is in disbelief when he

mysteriously vanishes off the radar midjump. As Jack’s journey through an alternate universe unfolds, Angela traverses the Space Coast with help from a Florida Tech professor, desperately trying to untangle the mystery of Jack’s disappearance.



### CNN: McCay on Hurricane Relief

In an interview on CNN in September, President Dwayne McCay discussed Florida Tech’s Hurricane Dorian relief efforts that were spearheaded by the College of Aeronautics and local alumni and delivered more than 5,000 pounds of supplies to Sandy Point on Grand Abaco, Bahamas.



# MIND-BLOWING SCIENCE

Science may appear to be an agenda-driven practice undertaken by stubborn researchers striving to prove themselves right. But it's actually a wonderfully powerful process led by desperately cautious scientists striving to unravel the mysteries of existence. Science inspires art and entertainment, stimulates commerce, advances technology, expands our knowledge of the universe and—perhaps, more astoundingly—moves people to think differently. Often inspiring, occasionally threatening but always intriguing, here are 26 mind-blowing examples.

## A ARTIFICIAL INTELLIGENCE

Scientists have taught computers to play chess, drive cars and converse directly with humans. What's next? At Florida Tech, professors are leveraging AI toward "deep learning," which uses neural networks to help computers make decisions that allow for safer automation.



## BIG BANG

Even though—or perhaps because—the Big Bang offers a comprehensive explanation for a broad range of cosmological phenomena, the idea of an ever-expanding universe is hard to wrap one's head around.

## DNA

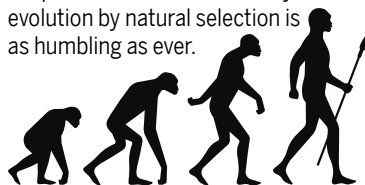
Pretty much everything about you is encoded in inherited molecules of deoxyribonucleic acid shaped like a twisted ladder—the famous double helix. Understanding the human genome has allowed scientists to develop more effective treatments for some of the most debilitating diseases. It also explains why you're so much like your parents.

## C CLIMATE CHANGE

Our world is warming, and evidence collected and analyzed by scientists all over the world—including many at Florida Tech—shows that human activity is the cause. The good news is that a better understanding of climate change can help us develop effective methods of mitigating it.



**E** **EVOLUTION** More than 160 years since Charles Darwin first published *On the Origin of Species*, his scientific theory of evolution by natural selection is as humbling as ever.



## FLEMING, ALEXANDER

His somewhat accidental but ultimately Nobel Prize-winning discovery of the world's first antibiotic, penicillin, makes Fleming one of the most influential scientists of all time. Who would have thought that mold could kill bacteria?



**K** **KUIPER BELT** This is the outer space home of Pluto, the dwarf planet that reminds us that what we know is only what we think we know. Just ask a scientist.



## G GENETICALLY MODIFIED ORGANISM (GMO)

Scientists use genetic engineering to develop high-yield corn, virus-resistant orange trees, bird flu-free chickens, faster-growing salmon, overall healthier pigs and enriched golden rice with the potential to prevent blindness among vitamin A-deficient world populations.

## H HUBBLE SPACE TELESCOPE

Since 1990, Hubble has dazzled the world with images of space and given scientists—including many at Florida Tech—a deeper scientific understanding of the universe. It has also spawned spinoff technologies that led to advancements in other fields and inspired generations to pursue science careers.



**I** **IVF** The first baby conceived by in vitro fertilization was born in 1978. By 2018, an estimated 8 million children had been born worldwide using IVF. Just think of all the happy families!

## J JENNER, EDWARD

Often referred to as "the father of immunology," Jenner pioneered the smallpox vaccine—the world's first—a scientific contribution that has prevented countless deaths and immeasurable suffering and has virtually eradicated numerous horrifying diseases.

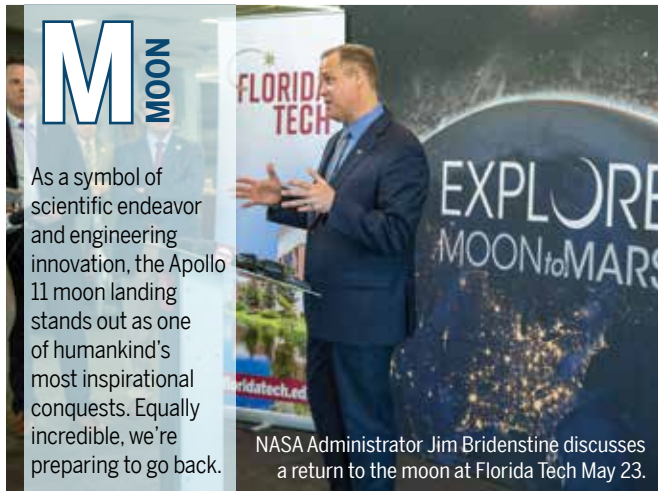


## L LARGE HADRON COLLIDER (LHC)

The largest, and arguably most complex, machine in the world, the LHC helps Florida Tech scientists observe and understand the most infinitesimal and fundamental particles in the universe, such as the elusive Higgs boson.







# M MOON

As a symbol of scientific endeavor and engineering innovation, the Apollo 11 moon landing stands out as one of humankind's most inspirational conquests. Equally incredible, we're preparing to go back.

NASA Administrator Jim Bridenstine discusses a return to the moon at Florida Tech May 23.



# Q QUANTUM COMPUTING

Typical computers work by manipulating bits that exist in one of two states: a 0 or a 1. In a quantum computer, information is encoded as quantum bits, or qubits, which can exist in superposition: both 0 and 1 and all points in between at the same time, making them millions of

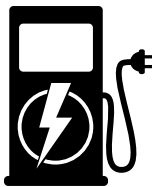
times more powerful. Advances in quantum computing could lead to better electric car batteries, impenetrable cybersecurity systems and astounding medical technologies.

# S STEM CELLS



have unique regenerative abilities that help clinical researchers develop treatments for conditions such as Alzheimer's disease, cancer, cerebral palsy, diabetes, heart disease, Huntington's disease, multiple sclerosis, Parkinson's disease—the list goes on.

# T TESLA

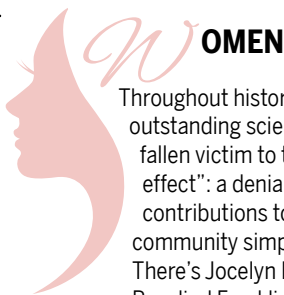


Who would have thought a car company would be leading the charge (pun intended) in developing renewable energy technologies for a sustainable future? And how about that Roadster!

# V VOLTA, ALESSANDRO



Battery technology has come a long way since the first one was invented by Volta around 1800. (You just wondered how much juice your phone has left, didn't you?)



# W WOMEN

Throughout history, some outstanding scientists have fallen victim to the "Matilda effect": a denial or repression of contributions to the scientific community simply—or mind-blowingly—because they were by women. There's Jocelyn Bell Burnell, who discovered the first radio pulsar, Rosalind Franklin, an important contributor to the discovery of DNA structure, and Lise Meitner, who laid the theoretical foundations for nuclear fission, to name a few.

# Y EAST

Yeast is a centrally important model organism for cell biology research and has been used by scientists to generate electricity in microbial fuel cells and to produce ethanol for the biofuel industry. But let's not forget yeast's most important contributions: bread and beer.



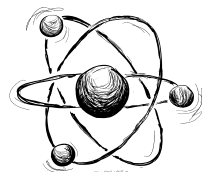
# N NAN SCIENCE

The science of the small is leading to gigantic advances in education, technology and medicine. Florida Tech researchers, for example, are studying ways in which gold nanoparticles can be engineered and deployed to neutralize poison, purify water and combat cancer.

# P PLATYPUS



This egg-laying, duck-billed, beaver-tailed, otter-footed mammal represents all of the strange and wonderful animals that have stirred human curiosity and imagination throughout history. After all, if he can exist, maybe there's hope for Sasquatch.



# R RELATIVITY

Einstein's theory of special relativity—that mass and energy are interchangeable—caused quite the stir in 1905. Even some of his friends balked at the idea that  $E=mc^2$ .

# U UNIFORMITARIANISM

In geology, it's the paradigm-shifting idea that the causes and effects you can observe today were probably happening in much the same way throughout prehistory. This is contrary to the once popularly held belief that Earth's structure resulted from series of catastrophic events.

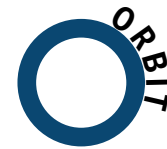


# X X-RAY

By giving physicians a way to observe and assess the insides of peoples' bodies, radiology revolutionized medicine. In fact, the use of X-rays for medical purposes paved the way for modern radiation therapy.

# Z ZOOLOGY

Human beings' persistent fascination with the animal kingdom makes one wonder, is it because of the ways in which we are different or those that make us alike? Do we study animals to learn more about them or to see what such studies reveal about us? Perhaps, all of the above.



Sorry, but the universe does not revolve around you—astronomer Galileo Galilei used an early telescope to prove it in the early 1600s. You mad? So was the Vatican, which charged him with heresy and put him under house arrest for promoting heliocentric ideas.



*Long Doggers co-owners Tony Gebhardt, John "L.J." Burr and Al Steingia at Meg O'Malley's Restaurant & Irish Pub. Burr also co-owns Hemingway's Tavern.*



# What'll It Be?

From brews and food to community camaraderie and school spirit, alumni-owned pubs serve everything with a side of Panther pride.

By Karly Horn

In the Green Dragon Tavern, fed up colonists plotted the Boston Tea Party.

The City Tavern was the unofficial meeting place for the First Continental Congress.

The Marine Corps was founded in the Tun Tavern, where the Corps held its first recruitment drive under the American Revolution.

Call them taverns, bars, pubs, saloons or speakeasies, but within their walls, likely over long bar tops and a few rounds, our country was born.

While not every happy hour's purpose is as noble as organizing a revolution in the name of freedom, there is no denying the prominence of the local watering hole in American society, as evidenced by its endurance throughout decades of pop culture.

Sam Malone and friends frequented Cheers daily during the '80s and early '90s. Homer Simpson has been a Moe's Tavern regular since season one. Even Harry Potter and the crew have broken up a few trips to Diagon Alley with a butterbeer at the Leaky Cauldron.

Is it merely the prospect of an ice-cold beer that keeps patrons—real-life and fictional—coming back for more?

Perhaps.

But if that were the case, a six-pack and a minifridge near the recliner would do the trick.

"We always ask our staff, 'If you can do it at home, cheaper, potentially faster and exactly the way you want it, why bother coming?'" says **Kevin Menard**, a Florida Tech alumnus who co-owns Broken Barrel Tavern with **Rebecca Menard** '03. "I think, more than anything else, it is the experience and the sense of camaraderie you build."

## Where Everybody Knows Your Name

The Menards have owned and operated Broken Barrel in Palm Bay for 10 of the 12 years they have been married. While its extensive selection of beers on tap and made-from-scratch barbecue attract Brevard County residents from near and far, experience has taught the Menards that it is more than food and beverage that attracts a loyal customer.

"If you think about your own habits and where you go frequently, you see that the people around you—either working there or the customers—probably match your character, your preferences or your style a little bit," Rebecca Menard says. "And I think that restaurants or bars can facilitate that in a way."

At Quarters Brewing Co., it is easy to spot the similar interest.

*continued on page 20*



Brock Tucker of Quarters Brewing Co.

continued from page 19

Owned by **Brock Tucker** '09, Quarters is Downtown Melbourne's first and only "barcade," featuring beer brewed in-house and about two dozen retro arcade cabinets stocked with games like "Ms. Pac-Man," "Centipede," "Space Invaders" and pinball.

"In Brevard County, being the technology hub that we are, we have the audience here," Tucker says. "We have folks who were around when the first video games were invented and folks who probably just turned 21 yesterday, but they all come in here and have a great time."

Florida Tech alumnus **John "L.J." Burr** calls that great time an "epic moment."

"Epic doesn't mean large, but it means an elevated, inspired and connected experience with the guest," says Burr, founder and part-owner of Brevard County staples Meg O'Malley's Restaurant & Irish Pub, Hemingway's Tavern and the Long Doggers franchise. "I used to just sell food and beer, but the story we're telling is really what it comes down to now—it's an experience."

Each of Burr's restaurants embodies a unique identity, which he infuses into their every facet, from menu to decor to social events. But to inculcate that persona and truly develop a customer's

continued on page 22

## Melbourne-Area Alumni-Owned Bars



### Want to grab a drink?

Mark your calendar for the Homecoming Panther Pub Prowl! See details on page 30.

## Sol-Tree Cocktail Co.

Not all bars need four walls and a roof to serve up good times and even better cocktails.

Sol-Tree Cocktail Co., the concept of which **Jessica Haines** '13 first established for a project in Florida Tech's Student Business Incubator, is a beverage catering and mixology company based in Melbourne.

"Underlying our work is passion—for what we do and for the community and valuable relationships we have built here over the years," Haines says.

With a focus on sustainability, Haines looks to the kitchen and the farm for inspiration when building new drinks. She incorporates seasonal produce and fresh ingredients to craft unique spins on classic cocktails at events like corporate gatherings, weddings, fundraisers—even your homecoming tailgate!

Crimson in color and refreshing in taste, "Panther Punch" is a Sol-Tree original cocktail. Mix up a single glass or a tailgate-sized batch to share while you cheer for the Panthers on game day.



## Panther Punch

Single	Ingredients	Batch
2 oz.	Cucumber Vodka	375 ML
5 oz.	Lemonade	1 gallon
1 oz.	Dry Red Wine (Cabernet or Merlot)	1/2 bottle

Plus, cucumber slices to taste.

Pour lemonade and cucumber vodka over ice.  
Top with red wine to create a layered effect.  
Garnish with fresh-sliced cucumber and enjoy!

### 1. Lost Shirt Brewing Co.

7025 Industrial Rd., West Melbourne | lostshirtbrewing.com  
Alumni Connection: Owner Johann Brockhausen  
BYOS: Bring your own snack to pair with an East Wind Honey Gold Ale

### 2. Hemingway's Tavern

1800 W. Hibiscus Blvd., Melbourne | hemingwaystavern.com  
Alumni Connection: Owner L.J. Burr  
Try Papa's Cuban Sandwich + an 1800 Hibiscus Margarita

### 3. Broken Barrel Tavern

4700 S. Babcock St., Palm Bay | brokenbarreltavern.com  
Alumni Connection: Owners Kevin and Rebecca Menard  
Try the BBQ Eggrolls + a Dragon Point IPA by Intracoastal Brewing Co.

### 4. Meg O'Malley's Restaurant/Irish Pub

812 E. New Haven Ave., Melbourne | megomalleys.com  
Alumni Connection: Owner L.J. Burr  
Try Meg's Threesome sampler of Potato Balls, Sausage Rolls and Cabbage Wraps + a Guinness

### 5. Quarters Brewing Co.

903 E. New Haven Ave., Melbourne | quartersbrewing.com  
Alumni Connection: Owner Brock Tucker  
Try the Bratwurst + a Dad Breakfast coffee porter

### 6. Chumley's Depot

1929 Depot Dr., Melbourne  
Alumni Connection: Owners Marcus Darnell and Mike "Chumley" Gaines  
Try the Marcus Wings + a Yuengling draft

### 7. Long Doggers (one of six locations throughout Brevard)

890 N. Miramar Ave., Indialantic | longdoggers.com  
Alumni Connection: Owners L.J. Burr, Al Steingina and Tony Gebhardt  
Try the Tico Pico Bowl + a Hatteras Red Lager by Intracoastal Brewing Co.



*Kevin and Rebecca Menard toast friends, regulars and fellow Florida Tech alumni Christopher Durie, Vic Ross and Ed Gula at the Broken Barrel Tavern.*

*continued from page 20*

affinity for their establishments, more than food or drink, owners rely on their staff.

“Anyone we hire to work the bar has got to be friendly and personable and have a similar interest to the crowd that comes here, so they can form those relationships,” Tucker says. “Yeah, we have great beer and great games, but we also know these people. We want to see them and find out what they’re up to.”

Yes, the creators of “Cheers” had it right when they suggested that “You want to go where everybody knows your name.”

But for **Johann Brockhausen** ’91 and his team at Lost Shirt Brewing Co. in West Melbourne, that’s only the beginning.

Rick has a bar stool with his name on it—literally. He also has a beer named after him. So does Jimmy. And Mike.

“These are the people who are going to sustain your business and keep you going,” Brockhausen says of his regulars. “But even if you’re new here, you don’t get treated any differently—you’re going to get treated like you’ve been here 100 times.”

## Which Came First

The bar or the bargoer?

In the case of alumni-owned bars and restaurants in Brevard County, arguably, the patrons came first.

Attending Florida Tech—making community connections and getting to know the area and its

residents—established alumni business owners in the community and resulted in a support system and instant customer base from which to springboard.

Burr’s first business was the College Campus Cafe, which he opened with a fraternity brother to fill the need for a nearby Panther hangout. Today, his Long Doggers co-owners, **Al Steingina** ’89 and **Tony Gebhardt** ’98, are also fraternity brothers.

Tucker brewed his first beer in his off-campus apartment while he was a student at Florida Tech.

Kevin Menard never dreamed of opening a bar or restaurant until he took his first bartending job at Taps Pub Bistro, a since-closed bar across the street from Broken Barrel, to pay for college.

Rebecca Menard was working at Florida Tech when they first opened the restaurant, making their soft opening a family, friend and Panther affair.

“When all of this was first coming together, it was wonderful to see that people were willing to take a risk on something that we were taking a risk on,” Rebecca Menard says.

Before opening the doors at Lost Shirt, Brockhausen relied on the feedback of everyone he encountered who would accept a free beer—so just about everyone: his friends and family, his fraternity brothers, parishioners at his church, other local brewers and bar owners, all of his doctors, his pool guy, his lawn guy, his high school classmates at their annual reunion.

“I’ve lived here awhile. I know a lot of people, and a lot of them have come in and supported the brewery,” Brockhausen says. “But since we’ve opened, my contacts, my exposure and the people I know have increased tenfold.”

Like the wine they serve, the community ties that the alumni bar/restaurant owners have developed over the years get better with age. And the benefits are mutual.

Sponsoring charity events, donating food, drink and catering services, hosting nonprofit organization fundraisers and selling products that benefit charitable causes enhance the relationships at the businesses’ very foundations.

“We do our best to donate back as much as we possibly can,” Kevin Menard says. “We continue to hopefully make an impact on the community because it has made such an outsized impact on us.”

## Not Every Night is a Party

It’s easy to see what draws people to visit bars, but what draws others to open them?

While the common warning that 90% of new hospitality-industry businesses fail within the first year is a myth, as in any industry, there are risks associated with opening your own business.

Despite common misconceptions, it’s not always a party when you’re



Johann Brockhausen of Lost Shirt Brewing Co.

the immanent host. Owning a bar, a restaurant or some combination of the two is a lot more than sipping—or even serving—cocktails.

“Job title is irrelevant,” Kevin Menard says. “In the last 24 hours, I’ve been the cook, the dishwasher, the plumber, the barback, the bartender, expo—any number of jobs—just whatever needs to be done.”

And since no one can do everything alone, keeping others motivated is a full-time job in itself.

“Some of the most challenging parts of opening restaurants have been learning skills to motivate people, creating training platforms and building a system that supports people having new opportunities,” Burr says.

Still, people quit. Equipment breaks. Employees call out at the last minute. The power goes out—maybe for a week at a time, as the Menards learned the hard way in the days following Hurricane Irma.

Paperwork, bills and pressure build. And yet ...

Last week, one of her employees thanked Rebecca Menard for the raise he received—the raise he earned.

Burr hired Jimmy Tarasavage to work at Meg O’Malley’s when he was 18 years old. About 14 years, some mentorship and a lot of hard work later, today, Tarasavage is his business partner and co-owner at Hemingway’s.

A couple of servers fell in love while working at Broken Barrel—where they hosted their wedding and reception.

For every unpleasant customer who walks through their doors, there’s a birthday boy, a couple on their first date, one family gathering for a reunion, another to say goodbye and celebrate a life well-lived.

“We have been so lucky to watch the people who grace us with their presence every day,” Rebecca Menard says. “Whether they work here or just choose to be here as our guest—it’s just such an honor to have them choose us.”

In short, the reason to visit a bar and the reason to open one are the same: community.

## Born in a Bar

At the local pubs, with its lively music and friendly faces, the conversation, drinks and—for some—creative juices flow. Many big ideas started as just a scribble on a cocktail napkin and grew to be so much more.

**Shark Week** During a discussion about programming strategies over a few drinks at the bar, Discovery Channel executives decided that a full week dedicated to sharks would do well. They were right.

**Pet Rock** After lamenting the commitment of pet ownership to fellow patrons at the local watering hole, Gary Dahl wrote the *Pet Rock Training Manual* and started selling the maintenance-free pets that quickly became a must-have fad in the '70s.

## “A Few Good Men”

Aaron Sorkin wasn’t sipping drinks when he wrote “A Few Good Men”—he was serving them. As a bartender at Broadway’s Palace Theater, Sorkin went home from work every night with pockets full of cocktail napkins inscribed with the beginnings of a script for what became the hit legal drama.

**NASCAR** Since stock cars themselves were invented by Prohibition bootleggers trying to outrun police, it’s not altogether surprising that the National Association for Stock Car Auto Racing (NASCAR) was founded at a rooftop club in Daytona Beach, Florida.

**Florida Tech** As legend has it, our very own roots stem from a bar—specifically, the Pelican Bar, where a stranger overheard Florida Tech founder Jerry Keuper suggesting that the area needed a university to support NASA’s burgeoning space program. The man slid his 37 cents of change down the bar and quipped, “Go start your college with this.”



**“WE CAN MAKE A BETTER PLANET  
HERE BY USING THE SPACE WE  
HAVE OUT THERE.”**

—LAURA SEWARD FORCZYK '06



# SPACE 3.0

## 58 YEARS OF SPACEFLIGHT—WHAT'S NEXT?

BY STEPHANIE HERNDON

### Space 1.0: Humans in Space—Feats of Engineering

On April 12, 1961, Yuri Gagarin became the first human to travel to space. He, alone in his 7-foot space capsule, Vostok 1, made humankind's first orbit around the planet in 89 minutes.

Just weeks later, Alan Shepard flew Mercury Freedom 7 in a suborbital flight, followed by John Glenn's orbital flight aboard Mercury-Atlas 6 in 1962.

That year, rocket technology pioneer and past Florida Tech commencement speaker Wernher von Braun backed the idea of a lunar orbit rendezvous mission. Von Braun's dream was realized by the Apollo program, which enabled 12 astronauts to walk on the surface of the moon.

Humans in space? Check.

### Space 2.0: Exploration in Space—Feats of Science

Mariner 9 ushered in a new age in spaceflight: the first mission to explore beyond Earth's orbit. Set to study Mars, the unmanned spacecraft launched May 30, 1971, soon followed by Pioneer 10 and 11, with sights set on reaching Jupiter and, years later, Saturn.

Meanwhile, the first missions of international cooperation, the Apollo-Soyuz Test Project, launched in 1975 to carry astronauts and cosmonauts to Skylab, the

first U.S. space station and home to nearly 300 experiments.

Following Skylab's orbital decay in 1979, the 1980s ushered in the shuttle era, a 30-year span of missions for scientific discovery through a gamut of experiments aboard the shuttle itself and the International Space Station.

Exploration of space? Check.

### Space 3.0: Travel in Space—Feats of Enterprise

Now, the big question is, what's next? Commercial space endeavors are already a profitable business. The global space economy exceeded \$414 billion last year, according to the Space Foundation. Most of that amount was accounted for in satellite communications (SATCOM): mapping, GPS, weather forecasting, radio and more.

But getting to that point of revenue was a long and rocky road, according to **Andy Aldrin**, director of Florida Tech's Center for Space Entrepreneurship.

"In the late '90s, we had something happening that has some striking similarities to what's going on today," Aldrin says. "There were probably a dozen different massive [satellite] constellations, some of which, like Teledesic, were going to have 900 spacecraft in them."

Of those dozens of companies that spent billions to build and launch these satellites, Aldrin says, only three constellations were actually built and deployed into space. Much of that business went bankrupt and sold for a small fraction of the investment.

"We've got a saying in the space business: 'If you want to make a small fortune in space, start with a large one,'" Aldrin says.

While today's SATCOM industry has many similarities to the bubble in the '90s, and with far more massive constellations planned—up to 20,000 spacecraft, Aldrin says—there are some important differences.

"You've got some individual entrepreneurs who are very much invested in this that weren't really there in 2000," Aldrin says. "Another difference is, obviously, technology—that you can build a spacecraft now for orders of magnitude less than what it cost to build a spacecraft before. The third is capital structure ... the financing structure is really different and, I think, a lot healthier."

These differences in today's space economy impact the future of human spaceflight, as well.

When the shuttle program ended in 2011, the mainstream population was left wondering if U.S. progress toward

*continued on page 26*

the next era of human spaceflight was slowing down. However, throughout the shuttle program's last decade, private aerospace companies on America's west coast were quietly forming and growing.

First was Space Adventures Inc. in 1998, followed by Blue Origin in 2000. Then, SpaceX in 2002 and Virgin Galactic in 2004. Their goal? Space—on their terms: affordability, reliability and practicality for routine transport.

The Space Foundation estimates that one quarter of last year's global spending on "space" went toward launch vehicles, as governments began contracting with dozens of private companies to make and launch rockets for ISS resupply missions and satellite launches. NASA, for example, has selected Boeing's Starliner and SpaceX's Crew Dragon capsule to transport U.S. crews to and from the space station in coming years and end the U.S.'s reliance on Russia to take our crews into space.

However, Virgin Galactic and SpaceX want to take things in another direction: recreational travel and tourism.

### The Challenges

Although a vacation cruise through space instead of through sea with "ports of call" on the moon and Mars may seem far-fetched, perhaps it's not as far off as one might think. In fact, Virgin Galactic has launched multiple successful test flights for what will be a 90-minute suborbital tour around the planet—for the bargain price of \$250,000.

However, there are more factors than just getting there to consider before space vacations longer than Virgin Galactic's quick jaunt become a reality.

Biologically, accounts from astronauts like Scott Kelly, who spent a year in space, have taught us much about the impact that sustained low or no gravity can have on the human body: blurred vision, kidney stones, loss of bone and muscle mass, gene expression levels and much more.

Psychologically, the effect Earth's blue sky has on our circadian rhythm and mental health and the human interaction that even the most introverted people need are pivotal to human health and mortality.

As the prospect of suborbital trips, orbital trips, lengthy vacations and even permanent human civilizations off this planet become more plausible,

### The Rewards

Colonies in space, on the moon, on an asteroid or on another planet "will naturally come to be," Forczyk says. However, it won't be for humans to flee Earth in search of a new home like the characters in "Wall-E" and other sci-fi movies do.

"Earth is what we've grown up with, what we know. Earth is the paradise," Forczyk says. "There's no other place in the entire solar system that is as perfect for us as Earth."

In fact, it is a love for Earth that motivates some people to pursue space operations. In the 1960s, Princeton University physics Professor Gerard O'Neill asserted

## COMMERCIAL SPACE COMPANIES: THEIR GOAL? SPACE, ON THEIR TERMS—AFFORDABILITY, RELIABILITY AND PRACTICALITY FOR ROUTINE TRANSPORT TO SPACE.

as a species, we must consider the evolutionary processes humans will go through as a result.

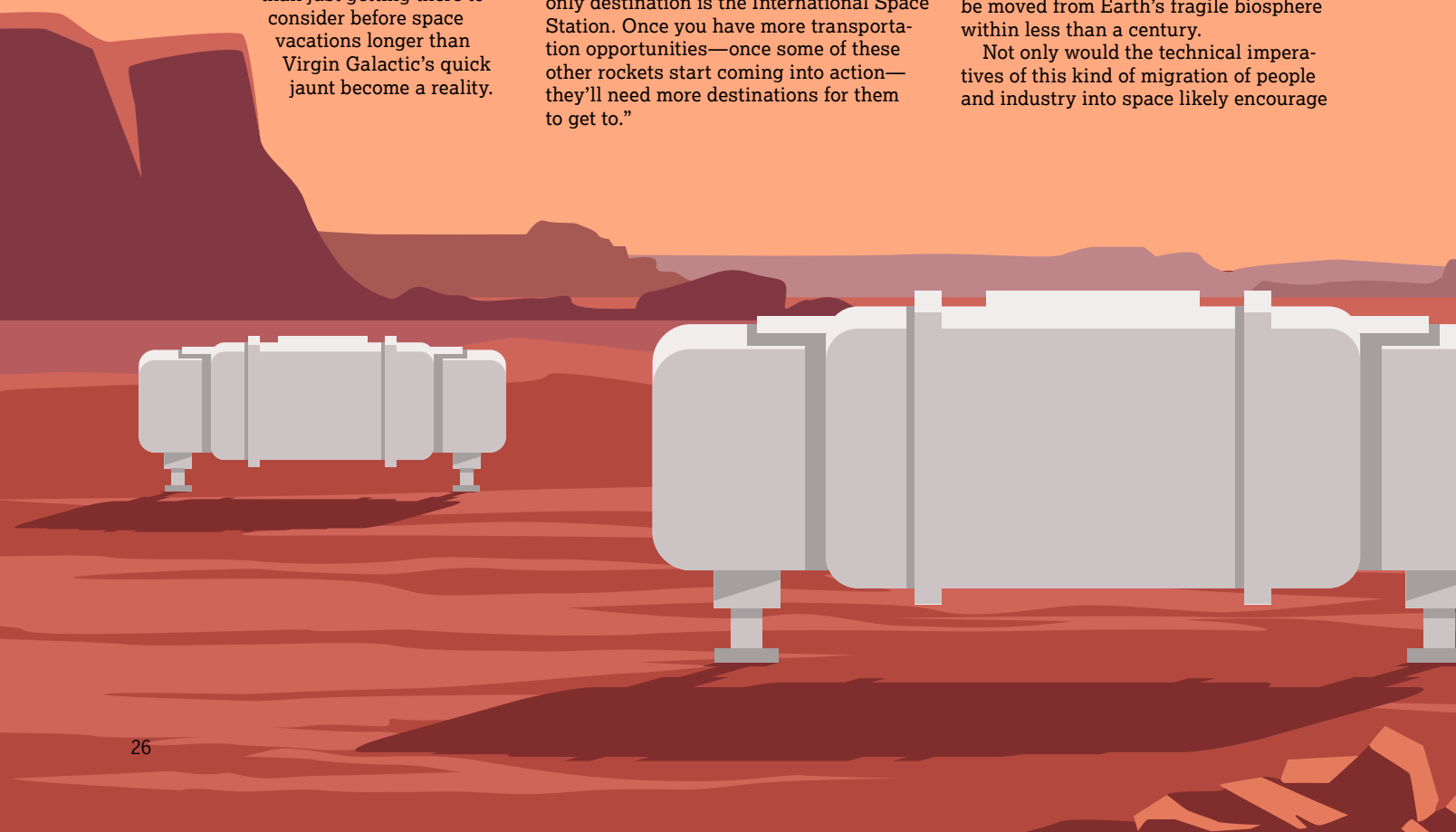
Still, the technology must first catch up with the dream.

"You can't really have a sustained presence in low-Earth orbit without both transportation and destination," says **Laura Seward Forczyk '06**, founder and owner of Astralytical, a space research and consulting company. "Right now, the only destination is the International Space Station. Once you have more transportation opportunities—once some of these other rockets start coming into action—they'll need more destinations for them to get to."

that future dwellings and industrial operations in space would not replace Earth as our home but would make Earth a better home.

After O'Neill ran calculations and dug into the impact that productivity, sourcing materials and more would have on space colonization, his 1974 paper, "The Colonization of Space," in *Physics Today* concluded that if work is begun soon, nearly all of our industrial activity could be moved from Earth's fragile biosphere within less than a century.

Not only would the technical imperatives of this kind of migration of people and industry into space likely encourage



self-sufficiency, small-scale governmental units, cultural diversity and a high degree of independence, it would increase the ultimate size limit for the human race by at least 20,000 times and would do so without harming anyone or polluting anything, according to the paper.

O'Neill isn't alone. People and companies are already trying to find ways to move manufacturing into space or low-gravity environments to get it away from Earth's surface.

"If we can create space stations or space outposts that are doing the heavy lifting, we can use the resources of space," Forczyk says. "We don't have to be resigned to the way that we've destroyed our planet already. We can make a better planet here by using the space we have out there."

### The Implications

Like space tourism today, at first, air travel was only available to the very wealthy. But when the government realized that transporting mail across the country—a time-intensive effort in those days—would be much easier and faster if done by air, it invested in air travel for more than just passengers, providing society many more options much more affordably.

Likewise, opening options in space travel beyond government missions and 90-minute tourism experiences for the wealthiest of enthusiasts will eventually make space travel more affordable and, therefore, more accessible.

"NASA is trying to create the infrastructure to create a self-sustaining economy so we aren't dependent on the ISS," Forczyk says. "In order for companies to have the incentive to put their own resources into getting into space,

there needs to be something in it for them: money."

Private industry's primary motivators today are business from government contracts for getting into space and for creating an actual settlement and potential profit from space tourism, however far off that may be. The business-to-business opportunities for things that space-dwelling civilizations will need—propellant, cement, raw materials, 3D printing, radiation shielding, even water—will follow.

"And one of the great things is we don't even have to imagine it all right now," Forczyk says. "There are applications we have no idea are out there and coming that no one has thought of yet."

Much like cellphones, which were only capable of making phone calls before innovators added cameras, music players, Wi-Fi, games, apps and so much more throughout the last 40 years, space travel will evolve as humans capitalize on the opportunities that arise.

We're already seeing that ingenuity at play with remote-sensing satellites. Originally used for basic observation, reconnaissance and communication, today they have millions of applications spanning industries from law enforcement and emergency services to agriculture and more.

"You have a platform, you have a technology, and the creativity of humanity will come up with additional applications for it," Forczyk says. "It's that kind of application that we don't have to predict. Human ingenuity will get there eventually."

## PANTHERS IN SPACE

Florida Tech students and faculty—some of whom were astronauts themselves—are hard at work writing the next chapter of human space travel.

### Aldrin Space Institute (ASI)

The ASI was created to advance space exploration and development toward establishing and sustaining a permanent human presence on Mars and maintaining the scientific and technical legacy of Apollo 11 astronaut **Buzz Aldrin**.

### International Space University

Florida Tech has partnered with the International Space University to create the Center for Space Entrepreneurship, offering a graduate certificate in commercial space studies, the only graduate-level certificate of its kind in the U.S.

### Human Spaceflight Laboratory (HSL)

Assistant Professor **Ondrej Doule** is the founder and director of the new HSL, home to Florida Tech's first spacesuit trainer and spaceship cockpit simulator. The lab spun off from the university's innovative and interdisciplinary Human-Centered Design Institute.

### Mars Desert Research Station (MDRS)

In 2011, College of Aeronautics Professor **John Deaton** spent two weeks on the Mars Society's MDRS in Utah researching how to improve the quality of life on Mars. Since then, four Florida Tech students have followed in his footsteps: **Tatsunari Tomiyama** '18 M.S. served on MDRS Crew 188 as the health and safety officer in 2017, and earlier this year, three astrobiology students—**David Masaitis**, **Nathan Hadland** and **Hannah Blackburn**—joined the international Crew 205 with their project Research to Advance the Development of Interstellar Horticulture (RADISH) to study regolith simulants. Next up, eight ARES students will make up the first exclusively Florida Tech crew.



# JEROME P. KEUPER DISTINGUISHED ALUMNI AWARD RECIPIENT:

# CHIP HEFLICH

By Karly Horn

**Henry “Chip” Heflich** ’73 came to Florida Tech in the late 1960s to be close to the budding space program and to study electrical engineering. But it was a lesson in Professor Catherine Ackerson’s history class that has had, perhaps, the largest impact on his career.

“She told us, ‘When I got my bachelor’s degree, I thought I knew everything there was to know about the world’s history. When I got my master’s degree, I gathered that I might not know as much as I thought I did. When I got my Ph.D., I realized I didn’t know anything at all,’” Heflich recalls. “For some reason, that stuck with me, and as the years went by, I realized how utterly, perfectly on target Dr. Ackerson was.”

The philosophy sparked a passion for lifelong learning that led to Heflich’s exciting, successful career and his receipt of this year’s Jerome P. Keuper Award.

In one of the earliest renditions of Florida Tech’s cooperative learning program, Heflich worked for NASA at Kennedy Space Center while he was earning his bachelor’s degree. After working on the first stage of the Saturn V rocket’s electrical systems and Apollo program missions 12 through 17, Heflich received his Florida Tech diploma and a job offer from NASA.

However, as the space industry’s interest shifted to the shuttle program, Heflich’s shifted to the semiconductor industry, and he accepted a position designing analog integrated circuits for Texas Instruments. While there, he earned his master’s degree in electrical engineering from Southern Methodist University as well as an MBA from the University of Dallas.

As his passion for invention grew, so did his entrepreneurial spirit, and Heflich left Texas Instruments to form MicroNet Research, a company that designed corporate, local and wide area network computer systems.

Meanwhile, soon to be opened up for commercial applications, what Heflich referred to as a “newfangled idea” was gaining traction: the internet.

He didn’t know much about it, but he knew he wanted to be part of it. So, Heflich dove into the books, giving himself a crash course on the Unix operating system and eventually commercializing his technologies.

“You have to recognize opening doors, and if you’re prepared, you can jump through them,” Heflich says. “Throughout my life, I was constantly reading and trying to learn new things, and it gave me a lot of options for what I could do in my career.”

Heflich co-founded Genuity with a vision to develop corporate internet services, including data-center-quality web server facilities and a distributed web content access optimization platform called Hopscotch.

Met with rave reviews, Genuity was acquired by GTE, ultimately becoming Verizon. From there, Heflich was recruited to become the chief technology officer for AudioNet, an early pioneer in internet-hosted video streaming started by Mark Cuban, who today is known for being a serial entrepreneur, investor and ruthless “shark” on ABC’s “Shark Tank.” The company was later renamed Broadcast.com and was purchased by Yahoo in the late ’90s for more than \$5 billion.

“What motivated me was that competitive spirit of knowing that each venture challenged the thinking of present technology,” Heflich says. “I didn’t actually realize at the time that I was so competitive—I was too focused on just having my nose to the grindstone, so to speak.”

His enterprise and ambition didn’t cease with his retirement in 2000, as evidenced by his contributions to the Florida Tech community alone. Heflich served on the board of trustees for nine years. In 2009, his generous donation provided for extensive renovation to Florida Tech’s All Faiths Center, including the bell music system that can be heard throughout campus before religious services and many sporting events.

“It is quite rewarding to see the progress the school has made over the years and the prestigious notoriety it has obtained,” Heflich says. “For me, to be part of that is an extraordinary honor.”

Florida Tech is not the only benefactor of his generosity. In 2002, Heflich joined the board of Reflect Systems, serving as chairperson from 2006 to 2013. He is a founding member of the Museum of the Bible in Washington, D.C., and he continually contributes to charitable organizations like PIKE University, Dallas LIFE homeless shelter, Prestonwood Pregnancy Center, The Warren Center for children with developmental differences and the Michael J. Fox Foundation for Parkinson’s Research, an organization of particular significance to Heflich, who lost his wife, JoAnn, to the disease in April.

“I think it’s just important to give back to our fellow human beings,” Heflich says. “I was blessed with all those opportunities and adventures, and somehow, I’d like to share that with other people.”

28° 3' 50" N, 80° 37' 30" W

# BRINGIN' IT HOME

## DESTINATION FLORIDA TECH HOMECOMING 2019



### Thursday, Oct. 24

#### 5K RUN/WALK

6 p.m., Downtown Melbourne  
Race shirts, goody bags and post-race party with food, drinks and live music at Meg O'Malley's Restaurant & Irish Pub

### Friday, Oct. 25

#### HOMECOMING FEST

6 p.m., Downtown Melbourne  
FREE concert featuring HIRIE, RDGLDGRN, Kash'd Out and headliner Matisyahu

### Saturday, Oct. 26

#### COOKOUT & TAILGATE PARTY

10 a.m., Florida Tech campus  
Set up a tent and grill out with fellow Panthers in the parking lot behind the Harris Center for Science and Engineering.

#### HOMECOMING FOOTBALL GAME

1 p.m. kickoff, Panther Stadium  
Shuttles provided from campus to the stadium. Purchase tickets for the biggest game of the season: [FLORIDATECH.EDU/HOMECOMING](http://FLORIDATECH.EDU/HOMECOMING)

#### AWARDS GALA

6:30 p.m., Clemente Center  
Dinner, cocktails, live music, dancing and presentation of outstanding alumni awards  
Reserve a table for your group online: [FLORIDATECH.EDU/HOMECOMING](http://FLORIDATECH.EDU/HOMECOMING)

### All Weekend

#### PANTHER PUB PROWL

Not your average bar crawl! Between Homecoming events throughout the weekend, stop in at your favorite alumni-owned establishments to take advantage of homecoming drink specials and snap a photo with Pete. Post your photos with Pete at the most locations, tagging [@FLTECHALUMNI](https://www.instagram.com/FLTECHALUMNI) on Instagram, for the chance to win a Florida Tech swag bag! For more info: [FLORIDATECH.EDU/HOMECOMING](http://FLORIDATECH.EDU/HOMECOMING)

#### ROOTED, REVIVED, REINVENTED: BASKETRY IN AMERICA

On view at the Ruth Funk Center for Textile Arts, this exhibition chronicles the history of American basketry from its origins in Native American, European and African traditions to its contemporary presence in the fine art and craft worlds. Open 10 a.m. to 4 p.m. Tuesday through Friday and noon to 4 p.m. Saturday.



# MATISYAHU

**Grammy-nominated record**

**Performance at Bonnaroo Music Festival**

**No. 1 single on alternative rock radio charts**

With influences like Bob Marley, Sizzla, Capleton and Nas, Matisyahu blends roots reggae, alternative rock, rap and beatboxing to put on an improvisational jam show unlike any that you—or any fans—have seen before.

## **Top 5 Songs on Apple Music**

“One Day”

“King Without a Crown”

“Sunshine”

“Dance All Night”  
*(with Dirty Heads)*

“Live Like a Warrior”

## **Band Members**

Matisyahu, Vocals/Beatbox

Big Yuki, Keyboard

Stu Brooks, Bass

Aaron Dugan, Guitar

Joe Tomino, Drums



News from the desk of  
**Kim Bozik '87**  
 Florida Tech  
 Alumni Association President

Welcome back, Florida Tech Alumni! Yes, “Florida Tech”—the naming convention for the university has been resolved. Better to be known by one nickname, this shortened moniker is distinct to our alma mater and won’t be confused with other schools. Consistent use of the new look and feel will boost awareness for our great university. I already have some new gear; do you?

Fifty years ago, Neil Armstrong and Buzz Aldrin landed the Apollo 11 lunar module on the moon. I was fortunate to be part of the space program during my time on campus, thanks to a co-op opportunity I had as a sophomore, and I’m sure many of you have similar stories. Similarly, planned, manned space missions to Mars will eventually touch every aspect of Florida Tech programming, not just engineering and physics. It takes special psychological, biological, logistical and human factors for missions of that magnitude. Florida Tech is well-positioned to be a special contributor in all those areas, and I hope you enjoy reading “Space 3.0” on page 24 about the new era of space exploration.

The homecoming festivities this year are going to be special. Expect all the usual excitement—5K, Homecoming Fest concert, football, tailgating and the Homecoming Awards Gala—plus an exciting new element: the first of what I hope are many Panther Pub Prowls. Check out “What’ll It Be?” on page 18 to learn about the local alumni-owned hot spots, and join us to celebrate the success of our local alumni business owners, meet up with old friends and make some new.

If you’ve been keeping up with our Alumni House news, you know that the demolition and new build started this summer. There has been great coverage on social media, including time-lapse camera footage, and soon, a brand-new, energy-efficient building will stand at our north entrance to welcome all who enter campus.

Finally, don’t forget Day of Giving is Nov. 19. I hope that you will mark your calendar, participate to the degree you can, watch the progress toward goal activations and have some fun supporting and promoting our great university. Go Panthers!

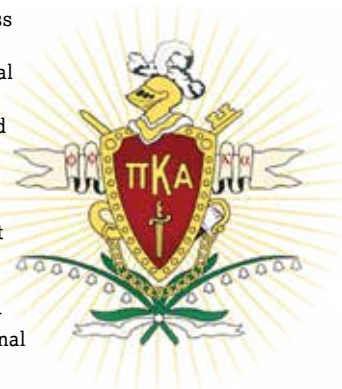
**YOUR ALUMNI ASSOCIATION OFFICERS**

- Kim Bozik '87 | President | Chandler, AZ | kim.b.bozik@intel.com
- Mike Kalajian '95 | Vice President | Indialantic, FL | mike@mkstructural.com
- Warren Pittorie '15 | Secretary | Melbourne, FL | wpittorie2012@fit.edu
- Brian Stahl '86, '88 M.S. | Treasurer | Satellite Beach, FL | brianmstahl@gmail.com
- Al Hagopian '89, '94 MBA | Member-at-Large | Indialantic, FL | al.hagopian@hds.com
- Jody Palmer '07 | Member-at-Large | Melbourne, FL | jpalmer@brevardzoo.org



**LIFELONG BROTHERHOOD**

In recognition of its members’ ceaseless dedication to upholding the values of the Pi Kappa Alpha (PIKE) International Fraternity, the Zeta Sigma Alumni Association at Florida Tech was named the international fraternity’s 2019 Alumni Association of the Year. About 700 PIKE alumni recently demonstrated this lifelong commitment to the fraternity by joining together to build a new house for current chapter members on the same multi-acre, river-front property in Palm Bay as the original PIKE house—the first at Florida Tech.





Boston



Philadelphia



Orlando



More reception photos: [floridatech.edu/alumni](http://floridatech.edu/alumni)



## 1970s

**1** **JOE CARUSO** '73, '76 MBA, co-founder and owner of the Trenton Thunder, an American minor league baseball team, celebrated the team's 2019 Eastern League championship victory in September.

**1** **GREG HUNTER** '74, '76, **PETER MCCARTHY** '81 and **JIM CASE** '95 were judges at the 18th Annual MATE New England Regional ROV Competition, which tests STEM students' underwater, remotely operated vehicles for complex mission tasks and the accompanying entry materials.

**2** **DAREL GUSTAFSON** '77 and his wife, Marybeth, became grandparents for the first time in June.

## 1980s

**BERNARD BAILEY** '80, '93 M.S., '02 Ph.D., and Professor Emeritus James Patterson, Ph.D., published *Solid-State Physics: Introduction to the Theory*, a comprehensive, third-edition textbook that covers all areas of solid-state physics.

**3** **DEBORAH DEWEY** '80, president of Missouri American Water, was recently elected to the Missouri Chamber of Commerce and Industry's board of directors.

**5** **RONALD MATHIEU** '84, '85, was named CEO at Birmingham-Shuttlesworth International Airport in Alabama. Mathieu has previously served as the executive director of the Bill and Hillary Clinton National Airport in Arkansas and in various positions at Fort Lauderdale-Hollywood International Airport, LaGuardia Airport, John F. Kennedy International Airport, Teterboro Airport, Newark Liberty International Airport, the World Trade Center and the Downtown Manhattan Heliport.

**4** **DAVID JEROME** '85 MBA, a retired U.S. Army major and current assistant professor of humanities and social sciences at Northwest Missouri State University, edited the book *Examining War and Conflict around the World*. He credits his degree from Florida Tech for opening a lot of doors during his 23-year military career.

**6** Retired Lt. Col. **ORLANDO J. ILLI JR.** '86 M.S. was selected for the 2019 U.S. Army Officer Candidate School (OCS) Hall of Fame. His 35-year military career was with the Acquisition Corps, which he describes as "more engineer, more manager [than] a warrior," making the recognition even more special to him.

Retired Gen. **ANN DUNWOODY** '87 M.S., a fourth-generation Army soldier and America's first female four-star general, was selected to receive the West Point Association of Graduates 2019 Sylvanus Thayer Award for her exemplary leadership during her 37-year military career.

**NEIL HOUBLER** '87 MBA, president of Supreme Manufacturing Inc. in Stoneboro, Pennsylvania, was featured in *Aggregates Manager* magazine, referencing his firm's clamshell dredging ability that allows deeper mining operations.

**7** **JOSEPH TAYLOR** '87 MBA, general manager of Armstrong's Zelienople, Pennsylvania, system, received the Broadband Cable Association of Pennsylvania's (BCAP) 2019 President's Award during the association's 31st Annual Cable Academy conference in May. In his 23rd year with Armstrong, Taylor served as BCAP chairman from 2014 to 2018 and is a cable TV pioneer.

**VIKRAM VERMA** '87, CEO of Silicon Valley-based 8x8 Inc., was featured in a *Forbes* series of interviews with "innovators operating at the intersection of consumer behavior and business transformation."

**CHARLENE CHESLOCK** '88 and **STAN CHESLOCK** '89, after receiving their bachelor's degrees in photographic technology from Florida Tech, opened S & S Custom Photo in 1990, married in 1992 and were honored in May as Best Orlando Wedding Photographers by Peerspace. Charlene was the official Florida Tech photographer in 1987 and 1988, covering the purchase of Piper Aircraft.

**8** **TODD INSLER** '88, '90, a 24-year United Airlines veteran, is serving his second term as master chairman of the Air Line Pilots Association's United Airlines

SUBMIT YOUR NEWS TO [alumni@fit.edu](mailto:alumni@fit.edu)

branch. Insler is a B-767 captain and a member of the United Airlines Inc. board of directors.

**9** Retired Col. **MICHAEL PERRY** '88, Florida Tech director of undergraduate admission, retired from the Florida National Guard June 1 after 31 years of military service. In this time, Perry was deployed multiple times during state and national emergencies, including a deployment to Afghanistan.

**10** **JEFF BARON** '89 MBA, '90 M.S., was welcomed as finance manager at the Space Coast Office of Tourism. A Space Coast resident since 1984, he has more than 20 years of financial experience with private and public organizations.

**DANA SCHULZE** '89 was named the director of the National Transportation Safety Board's office of aviation safety. She has served as the deputy director of

the office since 2012 and as acting director since November 2018.

**11** **AL STEINGINGA** '89 and **JOHN "L.J." BURR**, owners of the Long Doggers franchise, are partnering with Florida Tech to sell Local Lagoon apparel, with proceeds benefiting the Living Docks program, which involves community outreach to create and install oyster mats on dock pilings throughout the lagoon to improve water quality.

## 1990s

**12** **BRYAN MALINOWSKI** '90, '92, was named interim executive director of the Bill and Hillary Clinton National Airport in Little Rock, Arkansas. Malinowski, who has 27 years of airport leadership experience, joined Clinton National Airport in 2008 as deputy executive director and has held

leadership roles at Fort Lauderdale-Hollywood International Airport, El Paso International Airport and Lehigh Valley International Airport. Malinowski is a certified American Association of Airport Executives member and a certified flight instructor with instrument and multiengine ratings.

**13** **JOHN GARNCARZ** '93 MBA is Northeastern Supply's new director of supply chain, responsible for overall supply chain operations, including purchasing and inventory of materials, selection of vendors and distribution of goods. He brings more than 20 years of procurement and supply chain leadership experience, including a decade as a U.S. Navy Supply Corps officer.

**14** **SCOTT MCKAY** '95 Ph.D. was appointed dean of the College of Arts and Sciences at the University of Texas Permian Basin in July. McKay has served as the provost and vice president of academic affairs at Dakota State University since 2017. Previously, he has served as the dean of

science and engineering and professor of chemistry at Southern Arkansas University, the chairperson and professor of chemistry at the University of Central Missouri and the director/founder of the Center for Alternative Fuels and Environmental Science.

**TAMMY SUMMERS** '95 was hired by the U.S. Fish and Wildlife Service as the new refuge manager for the Guam National Wildlife Refuge and superintendent for the Marianas Trench Marine National Monument.

**IAN PRATT** '97 was named the acting chief operating officer of Bahamas Power and Light Company Ltd. Pratt has served BPL in the technical planning division, field operations division and, most recently, the Family Island division for more than 20 years.

**15** Maj. Gen. **THOMAS TODD III** '97 MSM, program executive officer for Army aviation, received his second star June 5 during a ceremony at Redstone Arsenal, Alabama. Todd has served in this

*continued on page 36*



9



10



11



12



13



14



15



**DANIELA IACOBELLI** '09 won her third professional golf title June 23 on the Symetra Tour in Harris, Michigan. Shooting rounds of 69, 71 and 65 for an 11-under 205, Iacobelli earned an exemption into The Evian Championship, the fourth major on the LPGA Tour schedule this year in France. Iacobelli, who earned a full athletic scholarship to Florida Tech and went on to become the 2007 NCAA Division II national collegiate champion, has spent three years on the LPGA Tour.

"It can be exhausting. You get kicked down a lot. And you question if this is what you really want to do. And then, out of nowhere, God reminds me," Iacobelli says. "I wasn't even thinking about winning on Sunday. And it was my lowest final round with a win. But in the same sense, it felt the same as the others: inexplicable."

- OCCUPATION:** Professional golfer
- PREOCCUPATION:** Netflix marathon
- YOUR LAST RANDOM THOUGHT:** Nap time
- GO-TO KARAOKE SONG:** "Don't Stop Believin'" by Journey
- ADVICE FOR ASPIRING PRO GOLFERS:** Putt. Never stop putting. And when you're done putting ... putt!
- NEVER:** Change who you are to fit someone else's standard
- ALWAYS:** Be the person your 6-year-old self wanted to be

SUBMIT YOUR NEWS TO  
**alumni@fit.edu**



**CHRIS TANNER** '06, Ph.D., joined Harvard University as a lecturer this fall. He is teaching graduate and undergraduate data science and machine learning courses as well as advising master's students on their capstone projects.

After earning his undergraduate degree in computer science and applied mathematics at Florida Tech, Tanner completed his master's degree at UCLA before joining the Massachusetts Institute of Technology Lincoln Lab for three years as an associate staff researcher. Most recently, Tanner completed his Ph.D. in computer science at Brown University, where after being a student for so long, he enjoyed being on the other side of the classroom with the freedom to design and teach his class however he wanted.

"Unlike being a student, where there's often a direct, clear path to well-accepted answers, teaching and research are riddled with uncertainty, exploration and pushing the boundaries on our current world knowledge," Tanner says. "Success predicates upon collaborating with others, discussing ideas, reading a lot, experimenting, being completely unafraid of failing, having patience and just doing the best that you can."

**OCCUPATION:** Lecturer

**PREOCCUPATION:** Photography

**LAST ADVENTURE:** Hiking/camping solo in Norway for 10 days last month

**ALTERNATE CAREER:** Designing and sewing outdoor gear (bags and tents)

**EMBARRASSING INJURY:** Crashing my moped in Laos on loose gravel at a blazing 5 mph

**GO-TO KARAOKE SONG:** "Ms. Jackson" by OutKast

**SOMETHING SURPRISING ABOUT YOU:** I've never had a cup of coffee.

continued from page 35

role since January 2017 and is the Army's top aviation acquisition officer, responsible for purchasing and managing the life cycle of the Army's aviation weapon systems and equipment.

**HUGH THOMPSON** '98, '99 M.S., '02 Ph.D., was named one of the top 10 endpoint security chief technology officers (CTO) by Solutions Review. After more than a decade of experience, Thompson became CTO of Symantec in August 2016. Among his achievements, Thompson guides Symantec's technology innovations, has co-authored three books and serves as an adjunct professor at Columbia University in New York.

Col. **JOHN MCDONALD** '07 M.S. took command of the Tobyhanna Army Depot in Pennsylvania in June. McDonald joined the Army in 1991 as a parachute rigger with the 82nd Airborne Division, worked in the Pentagon as a deputy in the Office of the Deputy Chief of Staff, G-4, and was deployed multiple times in Operation Enduring Freedom in Afghanistan and in Operation Iraqi Freedom.

**CHRIS BONANNO** '08, '13 M.S., joined *Space Coast Daily* as senior editor and reporter. Bonanno has worked as a teacher and baseball coach in Cocoa and as a teacher at Johnson Middle School in Melbourne. He plans to draw on his experience in journalism and education to deliver the best coverage of what matters along the Space Coast.

## 2000s

**16 MARK WIESE** '00, **J. TRAVIS HUNSUCKER** '11 M.S., '16 Ph.D., **ROB SALONEN** '19 MPA and Aerospace, Physics and Space Sciences Department Head

**DANIEL BATCHELDOR** attended the 46th Space Congress in June. Discussions included return to flight, commercial programs, moon-to-Mars exploration, STEM and innovation.

**RENEE KNOLL** '05, '16 MBA, and her husband welcomed their son on March 14.

**17 MATTHEW RUSSO** '05 rejoined RMC Group, an international provider of insurance, risk management, retirement and actuarial consulting services based in Bonita Springs, Florida, as vice president of operations.

## 2010s

**18 SCOTT LEIERER** '10 and his wife, Jackie, announce the birth of their first child, Violet Sofia, who arrived June 10.

**SAMUEL MCWILLIAMS** '10, '13 M.S., a scientist at Integral Consulting, presented a poster on the comprehensive modeling approach developed for the Matilija Dam ecosystem restoration at the inaugural Tri-County Regional Water Summit in California in April.

**19 GAËL LE BRIS** '11 MSA, senior aviation planner and technical principal at WSP USA, was a



16



17



18



19



20



21



22



23



24



25

speaker at the Transportation Research Board's annual meeting in January in Washington, D.C., the ACC/AAAE Airport Planning, Design & Construction Symposium in February in Denver and the Passenger Terminal Expo in March in London. Le Bris was also appointed communications coordinator of TRB's Aircraft/Airport Compatibility Committee and chairperson of the Airport Think Tank of ENAC Alumni.

**ELIZABETH ROSE BENDER** '12 and **ROBERT BENDER** '15, '17 M.S., welcomed their firstborn son, William, to the Panther family.

**NIKKI MOSBLECH** '12 Ph.D., an Advanced Placement and honors environmental science and honors chemistry teacher at Vero Beach High School, was a finalist for the 2020 Florida Department of Education Teacher of the Year award. Humbled by the recognition, Mosblech says, "It's a lot to be recognized for something that

you would come in and do on a regular basis."

**20 ZAC MORRIS** '14, **COLLIN O'NEAL** '15, **SEAN ASHLEY** '16, **MO MOHAMED** '16, **STEPHEN CASTIN** (current senior) and **DANIEL MASTELLAR** (current senior), all current or former Florida Tech football players, reconnected in Chicago over Fourth of July week.

**21 HANNAH BECKER** '15 MBA, creative director at Becker Digital, has joined the advisory board of the Military Family Advisory Network, a national nonprofit that partners with government agencies and private industry to support military families, increase community awareness and bridge the civilian-military divide.

**22 KELLY REARDON** '16 fell in love with weather and forecasting after interning with the National Weather Service for two years while at Florida Tech. Now, she has achieved her dream of

becoming a TV meteorologist, landing an on-air meteorologist and weather reporter role at 22News in Springfield, Massachusetts.

**DILLON JACKSON** '17 completed his pilot certifications and is now flying Embraer 170, 175 and 190 jets as a first officer for Republic Airways.

**23 KINEO WALLACE** '17, a propulsion engineer and inventor, is responsible for designing rocket engines at Rocket Crafters, a rocket engine manufacturing facility on the Space Coast. Wallace is working on hybrid rocket engines that are mechanically simpler and far cheaper.

**LOUP-GIANG NGUYEN** '19 MSA, aviation planner at WSP USA based in Raleigh, North Carolina, was involved in the development of the ARFF Response Time Assessment Tool recently released by the Infrastructure Workgroup of The French-Speaking Airports.

The tool is the first of its kind available online to the aviation community and will help airports evaluate the time required for the airport rescue and firefighting services to reach out to the location of an emergency at the airport from their stations.

**24 AUSTIN ALLEN**, No. 62 catcher for the San Diego Padres, made his MLB debut May 11.

**25 J. T. HASSELL**, No. 49, signed with the NFL's Cleveland Browns as a safety.



**Welcomed a Panther Cub?**

Contact us for a free infant T-shirt, bib or onesie. Then send a photo of your cub in his/her Panther swag with an AlumNote about yourself to share in the magazine.

For details: [alumni@fit.edu](mailto:alumni@fit.edu)



**LAUREN TOTH** '13 Ph.D., a coral-reef geologist at the U.S. Geological Survey (USGS) with more than a decade of experience, was recently featured in *Science* magazine for her project aimed at increasing the minimal existing data on modern and historical coral reef growth and erosion.

To measure erosion at 46 sites along the Florida Keys, where scientists implanted a series of metal rods for an annual photographic survey 25 years ago, Toth has developed a portable tool that measures the distance from the coral to the cement that holds the rods in place, which were once flush.

"It's an incredible honor to have my work featured in *Science*, and I'm grateful that I was given that opportunity to share my research," Toth says. "It breaks my heart to see how degraded those reefs are today, but I do still have hope that we can restore the health of reefs for future generations.

**OCCUPATION:**

Research oceanographer

**PREOCCUPATION:**

Scuba diving, photography, softball, my dogs

**PROUDEST ACCOMPLISHMENT:**

Finishing my Ph.D.

**RECENT ACCOMPLISHMENT:**

Received the 2019 Young Scientist Award from the International Coral Reef Society

**LAST ADVENTURE:**

Traveling around Iceland

## IN MEMORIAM

**REAGAN LAYNE DUBOSE JR.** '61, '63, the first graduate of Florida Tech, then Brevard Engineering College, passed away June 22. While working for RCA's Missile Test Project, DuBose was one of 75 RCA workers recruited by Jerry Keuper himself. To honor him, DuBose was named grand marshal of the 2008 homecoming parade. He was 86 years old when he passed away in Millbrae, California.

Retired Brig. Gen. **JOSEPH ELLIS** '78 M.S., whose illustrious military career included two tours of duty in Vietnam, passed away June 26.

**WILLIAM ROSE**, who served as Florida Tech student activities director beginning in 1968 and dean of students from 1971 to 1975, passed away May 2 at age 96.

**JACK SCHWALBE**, professor emeritus who helped to form the university's civil engineering program, served on the faculty senate and volunteered as an intercollegiate tennis coach, passed away June 6 at age 89.

**YAHYA SHARAF-ELDEEN**, Ph.D., a Florida Tech mechanical and aerospace engineering professor for the past 30 years, passed away Aug. 6. Sharaf-Eldeen helped develop and teach

several senior design courses and supervised many projects. A valued member of the campus community, he earned several accolades from his students and peers, including Student Government Association's Students' Choice Teacher of the Year Award, the College of Engineering and Science's Outstanding Teaching Award and the Faculty Senate's Faculty Excellence Award.



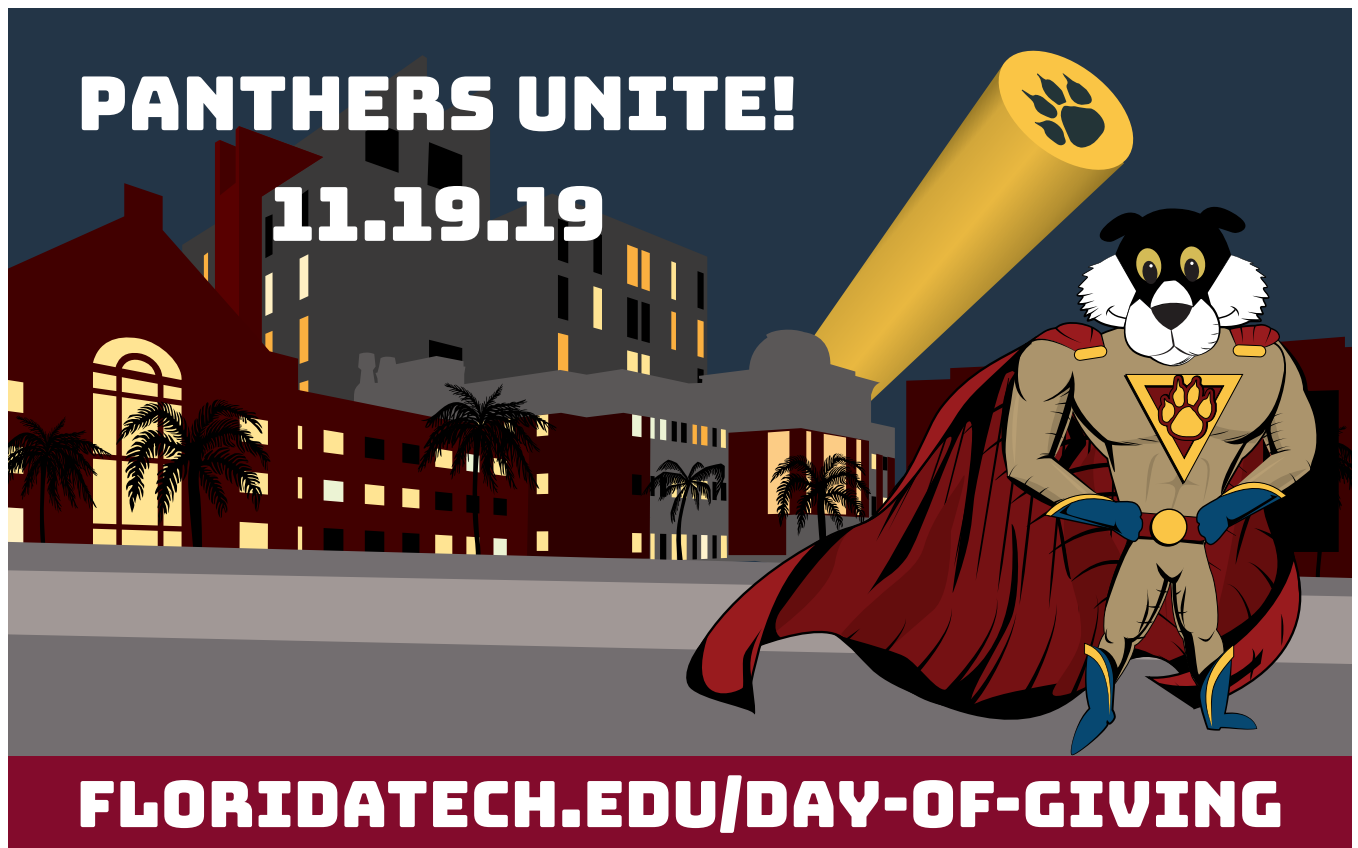
**FLORIDA TECH**

**BE PART OF THE TRADITION**

**The Official Ring of Florida Institute of Technology**

See Florida Tech's ring collection at [BALFOUR.COM/FIT](http://BALFOUR.COM/FIT)

**balfour**



**PANTHERS UNITE!**

**11.19.19**

**FLORIDATECH.EDU/DAY-OF-GIVING**



# Bringing the Moon to the Masses

MIKE MOSES '91 M.S.

When Mike Moses earned his master's degree in space sciences from Florida Tech in 1991, it was just the beginning of his exploration of the farthest reaches of our universe.

Moses' career began at the Johnson Space Center, working as a flight controller in the mission operations directorate as a contractor in 1995 and converting to a full-time NASA employee in 1998. He was a member of the space shuttle propulsion systems group, becoming the lead of that group in 2001. He also served as the lead for the shuttle electrical systems group.

In 2005, Moses was selected to become a flight director, overseeing

mission planning and operations for space shuttle missions. He was the lead flight director for the STS-123/ 1JA mission in February 2008.

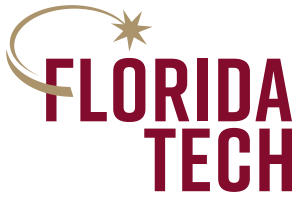
At the end of 2008, he took over the role of launch integration manager at Kennedy Space Center, where he served as the space shuttle deputy program manager, supervising vehicle processing, launch and landing operations. In this role, Moses oversaw the last 12 space shuttle missions and the end of the shuttle program. He received the NASA Exceptional Leadership Medal, Johnson Space Center's director's commendation and multiple NASA group achievement awards.

Moses left NASA in 2011, following the conclusion of the space shuttle program, and joined Virgin Galactic. As president of Virgin Galactic, he oversees the commercial human spaceflight program, including WhiteKnightTwo and SpaceShipTwo vehicle processing, flight planning, astronaut training, flight crew operations—including flight test operations in Mojave, California—and Virgin Galactic's commercial operations at Spaceport America in New Mexico.

"Sending a mission to space shows us clearly that nothing is impossible," Moses says. "My dream is to make space available to everyone. That will truly change life here on Earth."

---

Excerpt from **60 for 60: Celebrating Sixty Years of Alumni at Florida Institute of Technology**. To purchase a copy, visit [alumni.fit.edu/60for60](http://alumni.fit.edu/60for60) or contact the Office of Alumni Affairs at [alumni@fit.edu](mailto:alumni@fit.edu) or 321-674-7190.



**Office of Marketing and  
Communications**

Florida Institute of Technology  
150 W. University Blvd.  
Melbourne, FL 32901-6975

# Architectural Facelift

A few coats of paint and a striking accent hue has the Frederick C. Crawford Building—home to the School of Arts and Communication and the university's first million-dollar building—looking, once again, like a million bucks.

