

FLORIDA TECH

M A G A Z I N E

SPRING 2023

Great by Design

The creation and rapid success of FITSEC, Florida Tech's cybersecurity competition team and two-time National Cyber League (NCL) champions, is all according to plan.



In This Issue

Spring 2023 • Volume 32, Issue 1

Hammock Kits

Courtesy of Florida Tech's Student Government Association, Evans Library now offers hammocks on loan. Available to check out for up to 72 hours, the hammock kits come with instructions and everything necessary to set up the relaxing cocoons. The only things missing are two sturdy trees for hanging, which aren't hard to find in the neighboring Patterson Botanical Garden's 15 acres. While they're hanging out, Panthers can also identify a number of animals using our Florida Tech field guide (page 18).



CAMPUS NEWS

- A Message from the Interim President3
- The Pursuit4
- Panther Athletics10
- The Relentless12
- Research13
- Prime Examples: Momentum16

ALUMNI NEWS

- From the FTAA President32
- Alumni News32
- AlumNotes34
- In Memoriam38
- Faces of Greatness: Jeremy Casperson39

FEATURES

18 **A Brief Field Guide to Campus**

Florida Tech's campus is teeming with wildlife both big and small. We've compiled a Florida Tech field guide showcasing just a few of the creatures on campus.

22 **Great By Design**

With frequent news headlines about data leaks and government security hacks, there's no disputing the need for skilled cybersecurity professionals in virtually every industry. The challenge is simultaneously cultivating that level of technical skill, social understanding and mental agility. If the question is, how? The answer is, FITSEC.

28 **Rescue to the Research**

With the help of Mateo, the orphaned monkey Florida Tech helped to re-home in 2020, university researchers are learning about the complex social relationships of primates and how those dynamics may illuminate human behavior.



WELCOMING PRESIDENT NICKLOW

The next edition of *Florida Tech Magazine* will include a feature on Dr. John Nicklow, who has been named the university's sixth president. Until then, you can learn more about President Nicklow at floridatech.edu/our-next-president.



A MESSAGE FROM THE INTERIM PRESIDENT

It's been an honor to serve as this university's interim president over this past year. Please accept my gratitude for your welcoming attitude, collaborative spirit and the privilege to work with such talented faculty and students.

As I told our newly minted alumni at commencement, a Florida Tech education is about so much more than equations and experiments. It's about perseverance, critical thinking, creative problem-solving—and it's about expanding your world, learning and working with others from different backgrounds.

Our professors, our students and our alumni are continually seeking new discoveries and constantly pursuing new innovations to make this world a better place. They've done it for decades and will continue to do so.

We credit great American entrepreneur Henry Ford with saying, "If everyone is moving forward together, then success takes care of itself."

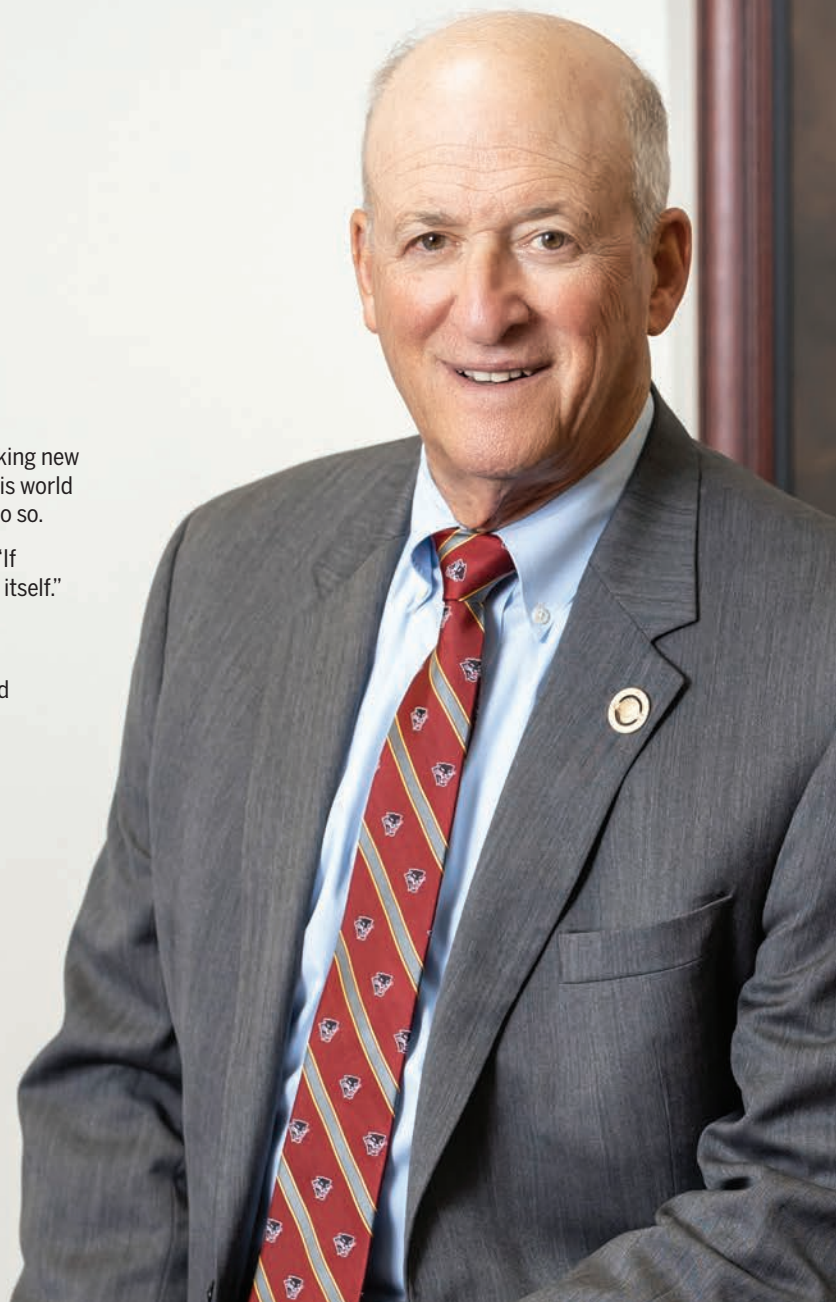
When your next president, John Nicklow, arrives on campus in July, he will need your teamwork and your partnership to make sure this wonderful institution continues meeting its mission and expanding its impact. I'm convinced there is nothing the people of Florida Tech cannot achieve when they work together.

So, keep working hard; keep teaching; keep learning. Perhaps most importantly, keep contributing to the world around you. I'm confident that the people of Florida Tech will continue addressing many of humankind's most daunting challenges.

Our nation and our world are so much better thanks to this special place and its people. Until we meet again!

Sincerely,

Robert L. King, J.D.
Interim President



FLORIDA TECH MAGAZINE

Florida Tech Magazine is published three times a year by Florida Tech's Office of Marketing and Communications and is distributed to over 60,000 readers.

EDITORIAL DIRECTOR Andy McIlwraith

ART DIRECTOR Christena Callahan '07 M.S.

MANAGING EDITOR Karly Horn

ASSOCIATE EDITORS Adam Lowenstein, Ryan Randall, Mary-Lou Watkinson

ADDITIONAL CONTRIBUTORS Erin Alvarado '16, Kevin Boodoosingh '20, '21 M.S., Jerry Durney, Jillian Leclerc, Jignya Patel

PRODUCTION Kristie Kwong

WEB LAYOUT David Smith

CIRCULATION Alaena Wade-Meadows

PHOTOGRAPHY Dominic Agostini, Harry P. Weber University Archives, Jason Hook Photography, Adam Palumbo, Kathryn Ramos Photography

ILLUSTRATION Yumiko Kitazono

Have a Story Idea?
magazine@fit.edu

Update your Preferences:
Update your mailing address, opt for a digital-only edition or remove your name from the mailing list at:
floridatech.edu/magazine/subscribe

Alumni Office
DIRECTOR OF ALUMNI AFFAIRS
Jillian Cole, 321-674-6826, jleclerc@fit.edu
DIRECTOR OF CONSTITUENT RELATIONS
Gina Yates '19, 321-674-8428, gyates@fit.edu
ALUMNI COMMUNICATIONS & CONTENT MANAGER
Erin Alvarado '16, 321-674-6141, ealvarado@fit.edu


FLORIDA TECH
FLORIDA'S STEM UNIVERSITY[®]

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

© Copyright 2023 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

20230232

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 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. In accordance with Title IX of the Education Amendments of 1972, Florida Tech does not discriminate on the basis of sex.

Astronaut Chris Cassidy Shares NASA and Navy Stories with Students

By the time Chris Cassidy found himself in a window seat on space shuttle Endeavor as it soared into the inky depths above NASA-Kennedy Space Center, he had already lived a life worthy of a Hollywood movie.

U.S. Naval Academy graduate. MIT alumnus with a master's degree in ocean engineering. Navy SEAL for 11 years, starting with a deployment to Afghanistan two weeks after the 9/11 attacks. Recipient of two Bronze Stars. Finisher in the Ironman World Championship triathlon (that's where you swim 2.4 miles, bicycle 112 miles and conclude with a 26.2-mile run).

All of that behind him in the early 2000s, Cassidy found himself anxiously awaiting a phone call. He was home from his second six-month deployment to Afghanistan. The phone rang.

"Hey Chris, this is Kent Rominger," said NASA's chief astronaut at the time. "Would you like to come to work for us at the Johnson Space Center and fly in space?"

Cassidy, already a Navy captain, had a new title: astronaut.

"This was in 2004, and I remained in Houston for the next 17, almost 18, years," Cassidy told students and faculty during a special appearance on campus Feb. 27. He added, "And a couple spaceflights."

Three spaceflights, to be exact, for a combined 378 days in space, including nearly 55 hours of spacewalk time.

Cassidy's illustrious career was fueled by what his friend Jim Shafer said could—should—be within all of us: passion and heart.



Shafer, a successful Vero Beach neurologist and Einstein Bros. Bagels franchisee who owns the location in Panther Food Court in the Denius Student Center, made Cassidy's visit possible. In introducing the astronaut, Shafer offered some advice to students.

"Be passionate about everything you do. I mean, that's really the heart of it," Shafer told the crowd. "And the other thing is heart. You've got to be all in, all the time. So, if you are both of those things, you're going to accomplish a lot of great things. Chris has done it."

In his remarks, Cassidy explained how he ended up at the Naval Academy, some of his experiences becoming a Navy SEAL and the experience of his first shuttle mission, 2009's STS-127 on Endeavor.

Regarding the notoriously difficult BUD/S training, which includes a grueling stretch of physical conditioning known as Hell Week, Cassidy talked about one of the key messages he learned: You can't do it all by yourself.

"The moral of the whole story is, you don't get through Hell Week by yourself. And just like life or school or exam week, you get through it together with the people that you care for and your classmates and your teammates and your family—people that you love. That's how you get through life."

A FEW HIGHLIGHTS OF HIS SHUTTLE EXPERIENCE:

On lifting off and blasting into space:



"The [shuttle ride] was super bumpy, like a heavy dump truck on a bumpy dirt road, for the first two minutes, and then, the solids [rocket boosters] fell away, and it became really silky smooth, almost like you couldn't even perceive motion for the last 6 ½ minutes. The total flight is 8 ½ minutes long. The engines cut off, and you're in zero gravity."

On first seeing Earth from space:



"The whole experience made me much more Earth aware, much more Earth conscious, realizing that the spaceship we're in is a mechanical thing that's keeping everybody alive, but Earth is not so much different. It's a thing that's keeping all 8 billion people alive as we all zip around through the galaxy, through the universe, and it just made me really appreciate what Earth does for all of us. And you see this little bitty skinny thing that's the atmosphere, which is like the skin of the ship, and I think the world would be better off if everybody had five minutes to look out the window."

Electric Motor

This Mach E Eluminator electric motor, the same type found in the newest electric Ford Mustang, is a key component of one of this year's electrical engineering student design projects. With the challenge to design a traction inverter to convert energy from the vehicle's battery to drive the motors in the drivetrain, the team's goal is to get the AC motor to spin efficiently. Subsequent research will test the limits of the engine. Read more about this and other design projects at floridatech.edu/student-design-showcase.

FAMILIAR FACES:

Chef Jon Skoviera

A SERIES CATCHING UP WITH THE CAMPUS FIGURES WHO MADE YOUR TIME AT FLORIDA TECH MEMORABLE

Jon Skoviera, executive chef at Panther Dining Hall, has been part of the Florida Tech community for 16 years, crafting a premier dining experience for the students, faculty and staff at the university. We spoke with Skoviera about his time at Florida Tech, his role and more.



How long have you worked at Florida Tech?

I started in October 2006, so 16 years so far.

What's the secret to that kind of longevity?

Enjoying what I do. I really love food and the creative aspect of the job. We also have a really great team here!

What is your role here, and how has it evolved over the years?

I am in charge of all culinary for the campus to include recipe research, development, testing, implementation and documentation; menu cycle creation for PDH; and campus catering. I started in the SUB Café

[now Panther Food Court] running an a la carte operation and catering. I became the executive chef in 2011, when Panther Dining Hall opened.

What are some of the initiatives you've been a part of during your time at Florida Tech?

The opening of Panther Dining Hall, creation of the International Dining and Global Kitchen series and the expansion of the catering department.

How have you seen the university evolve over your time here?

The addition of multiple buildings and overall growth of the university. The university has wider national recognition and has become a leader in STEM research.

What are some of the memories at Florida Tech that stand out to you?

Winning the People's Choice Award for the first annual Downtown Melbourne Food and Wine Festival. Being a part of our student employees' lives and watching them graduate and move on into successful careers.

What inspires you now at the university?

A love of food from all over the world, to continue to improve the variety, creativity, quality and offerings for everyone at Florida Tech.

Diamond-Level Landscaping

The Folliard Alumni Center, already honored for its zero-energy design inside, has been recognized for its outside—where native landscaping and a host of eco-friendly practices are creating a sustainable and lagoon-friendly Florida oasis.

Upon the Alumni Center, the City of Melbourne and its Beautification and Energy Efficiency Board (BEEB) bestowed the city's Diamond Gems Award, which recognizes nine criteria across the three categories, including the use of Florida native plants, having gutters drain onto pervious surfaces (the gutter drains underground) and using organic mulch.

"The landscape now features 20 species of native Florida trees, shrubs and ground cover, all installed by the grounds crew and sustainability program students during the pandemic," said Ken Lindeman, professor and director of Florida Tech's sustainability program. The native species, which include Jamaican caper, live oak, gumbo-limbo, swamp dogwood and sunshine mimosa, were purchased with a Collins Aerospace community grant. There is no sprinkler system outdoors and no pesticides are used. Two pollinator gardens were created. When needed, only slow-release fertilizer is used during allowed months.

Five Programs Recognized in Intelligent.com Rankings

The higher education resource and planning site Intelligent.com recognized the excellence of five Florida Tech programs in its 2023 rankings, which are based on comparisons of tuition costs, admission, retention and graduation rates, faculty, reputation and student resources provided for online students.

- » Best Online BCBA Master's Degree: 2nd
- » Best Software Engineering Degree: 13th
- » Best Online Small Business Management Degree: 14th
- » Best Online Master's Degree in Management: 15th
- » Best Online Master's Degree in Human Resources: 20th

ONE TO WATCH

Aviation Doctoral Student Wins Top Industry Recognition

Doctoral candidate **KODEY BOGART** '22 MSA received the prestigious Dr. Tony Kern Professionalism in Aviation Award from the National Business Aviation Association (NBAA).



Bogart is CEO of KB Solutions Safety Management, an aviation consulting firm focusing on safety management system (SMS) development, implementation, regulatory guidance and training. A former U.S. Army aviator and decorated Operation Iraqi Freedom

Created in 2015, the peer-nominated award recognizes aviation professionals who excel in leadership in professional ethics, vocational excellence, continuous improvement, professional engagement, professional image and selflessness.

combat veteran, she has more than 2,500 hours of accident-free flight time in a variety of helicopters and has flown law enforcement and air ambulance missions, according to the NBAA.

WOMEN WHO ROCK

AWARDS LUNCHEON IN HONOR OF WOMEN'S HISTORY MONTH

weVENTURE Announces Women Who Rock

Recognizing and celebrating accomplished women across the business community, weVENTURE Women's Business Center unveiled the winners of its 2023 Women Who Rock awards at a sold-out luncheon March 22 at the Hilton Rialto in Melbourne. The winners were:

FEMALE SMALL BUSINESS OWNER OF THE YEAR: Darlyne McGee, owner, Silhouette Hair Design Studio

EXECUTIVE OF THE YEAR: JANICE ZILCH '93 M.S., vice president and integrated product team lead of multi domain command and control in the global surveillance division and Melbourne site leader, Northrop Grumman Aeronautics Systems

EXCELLENCE IN MENTORSHIP: PAULETTE KING-MORIN '94, coach, author, writer, poet, blogger, social media influencer and filmmaker

WOMEN TRENDING IN TECH: Sarah Farris, director of engineering, Guardian Manufacturing

EXCELLENCE IN CAREGIVING: Teri Jones, founder, Elderly Compassionate Care and Macedonia Education Technology and Career Academy

ZONTA YELLOW ROSE AWARD FOR EXCELLENCE IN COMMUNITY SERVICE: Diana Adams, executive director, Brevard Heart Foundation; member, West Melbourne City Council



The funds raised by our generous community will go directly to providing free, life-changing, comprehensive diagnostic evaluations to scholarship recipients.

—Kimberly Sloman, associate professor, School of Behavior Analysis; director, The Scott Center for Autism Treatment



The 15th annual Evening of Hope raised \$221,900 for The Scott Center March 4 at Sprengergarten. Themed "WISH You Could See the World Through Their Eyes," after the center's WISH scholarship that supports families who could not otherwise afford services, the event spotlighted the center's community impact and the generous donors who have supported it. Among the event highlights was the auctioning of "Dandelions and Daydreams," a collage work (pictured here) by Derek Gores (left) created in collaboration with Scott Center children and supporters. Winning bidders Rita (middle) and Ruben (right) Moreno donated the piece back to The Scott Center.



Celebrating MLK Jr., Community Leaders

At its annual event honoring the life and achievements of the Rev. Martin Luther King Jr. Jan. 19 at Gleason Performing Arts Center, Florida Tech recognized two community members who are making a difference.

DR. JULIUS MONTGOMERY PIONEER AWARD: ALBERTA WILSON

For the 45 years Wilson has called Brevard County home, she has been dedicated to uplifting the community. She led the Cocoa Rockledge Civic League and later served as president of the Central Brevard County Branch of the NAACP. She helped start College for Kids, an afterschool mentoring program, and served on the state Board of Community Colleges after being nominated by then Brevard Community College president Maxwell King.

REV. HARVEY L. RILEY BRIDGE BUILDER AWARD: JENNIFER EAST

A true polymath, East is comfortable with graphic design, illustration, photography, videography, social media promotions and more. She is co-founder of bUneke, a global educational nonprofit that allows her to direct and edit film and documentary work and produce live events. Among her recent projects is "Moving History," a documentary that offers an account of Black history in Melbourne through the restoration of and tradition behind the first Black church in Crane Creek.

The keynote address was by Gaye Montgomery, an attorney, mentor, business leader and generous Florida Tech benefactor whose father, Julius Montgomery, was the first African American student to enroll at Florida Tech.

Faculty Present Workshop at 2023 KEEN National Conference

A team of six faculty members in the College of Engineering and Science presented a workshop at the 2023 KEEN National Conference in late January on the benefits of integrated "making" activities in engineering curricula.

The team was composed of Robert Weaver, ocean engineering and marine sciences associate professor; Chiradeep Sen, mechanical and civil engineering associate professor; Jim Brenner, biomedical and chemical engineering and sciences associate professor; Rodrigo Mesa-Arango, mechanical and civil engineering assistant professor; Kastro Hamed, mathematical sciences professor; and Khaled Silhoub, computer engineering and sciences assistant professor.

The Florida Tech workshop, titled "Fostering the Entrepreneurial Mindset Through Making Experiences in the Classroom," introduced six tools for integrating making activities in engineering curricula that were co-developed by Florida Tech and its KEEN partners George Fox University, the University of Denver and Lawrence Technological University.



International Education Week

Florida Tech's first International Education Week celebration kicked off Feb. 6 with an International Fair and FIT Aviation flight line flyover. The week's events included workshops, speakers, cultural food trucks and a "world cup" soccer tournament, and ended with Florida Tech's eighth Annual African American Read-In, "We Shall Not Be Moved: Exploring Black Resistance in American Arts and Literature," pictured here.

2023 WISE Awards

In recognition of Women’s History Month, the Florida Tech Alumni Association hosted the 2023 Women Inspiring Success and Excellence (WISE) Awards luncheon.

Inspired by **JOAN BIXBY** ’75 M.S., former university administrator, the awards celebrate four individuals who embody the spirit of advancing, mentoring and leading the development of women within the Florida Tech community. Each year, a student, an alumna, a staff member and a faculty member are selected.

ALUMNA LEGACY AWARD

Sheila Jordan ’89 MBA

Senior Vice President and Chief Digital Technology Officer at Honeywell

WHAT INSPIRES YOU? “I’m truly inspired by the art of the possible, and watching my team turn ideas into impactful solutions and services that drive value for our company and our customers.”

WHAT SUPERPOWER WOULD YOU CHOOSE AND WHY?

“The ability to clone myself, so I can be in multiple places at once.”



STUDENT CATALYST AWARD

Nashaita Patrawalla ’19, ’21 M.S.

Biomedical Engineering Ph.D. Candidate, Biomedical Engineering Research and Teaching Assistant, First Year Experience Instructor for Women in STEM Section

WHAT INSPIRES YOU? “I strive to live by the quote, ‘It is not about what you get to achieve; it is about who you get to be.’ The people in my life and wanting to make an impact with my work is what inspires me.”

WHAT SUPERPOWER WOULD YOU CHOOSE AND WHY?

“I would love to have the superpower to function without any caffeine intake.”

Read about Patrawalla’s research on page 15.



FACULTY EXCELLENCE AWARD

Debbie Carstens ’96 MBA

Aviation Human Factors Professor, College of Aeronautics Graduate Program Chair, Director of the Human Factors (HF) ASSIST Lab

WHAT INSPIRES YOU? “I get excited about seeing people reach their goals and helping others, from my own two children to my students, in this journey.”

WHAT SUPERPOWER WOULD YOU CHOOSE AND WHY?

“I would enjoy the superpower of time travel. I could learn from phenomenal humans from the past and future to improve the present in terms of health and peace.”



JOAN BIXBY STAFF IMPACT AWARD

Kathryn Rudloff

weVENTURE Executive Director

WHAT INSPIRES YOU? “Our weVENTURE clients inspire me every day! Hearing stories of women who refuse to give up or be deterred by obstacles. ... They inspire me to get up every day and advocate for equitable opportunities for all women!”

WHAT SUPERPOWER WOULD YOU CHOOSE AND WHY?

“Teleportation. I am an efficiency snob and love to squeeze every moment of productivity out of every day. I feel like teleportation would allow me to be WAY more efficient. No more car loop, no more work commute or travel.”



Kimberly Sloman Awarded Heart of a Hero Award

Kimberly Sloman, associate professor in the School of Behavior Analysis and director of The Scott Center for Autism Treatment, was selected as an awardee for the Brevard Heart Foundation’s Heart of a Hero Award.

Members from the foundation surprised Sloman at The Scott Center Feb. 7 to inform her of her nomination and selection.

Award nominations are open to the public to recognize people in any realm of health care who go above and beyond to make a difference in the community.

Sloman has provided care to patients at The Scott Center since 2018. She has worked with individuals with developmental disabilities and autism spectrum disorder (ASD) since 2000. She has authored several research articles and presented at state and national conferences.

Along with the other awardees from around Brevard County, Sloman was honored at the Heart of a Hero Awards Gala March 24.

Back to the Future

Panther Legacies Carry On Tradition Set By Parents In '90s

By Jerry Durney

It's a dream many athletes have: being able to one day watch their children put on the uniform they once wore and thrive like they did, watching a new era of fans adore the name that invoked the same cheers years before.

Florida Tech Athletics has three such scenarios playing out right now through baseball player Jason Blackstone, son of former baseball player **JEFF BLACKSTONE** '96; volleyball player Josie Keenan, daughter of former basketball players **CHRISTINE (FERRON) KEENAN** '93 and **BRIAN KEENAN** '93; and volleyball player Kelly Merz, daughter of former baseball player **MARK MERZ** '97, '00 M.S.

Each current athlete's story has taken a different route: Josie transferred to Florida Tech after a year at Penn State. Jason transferred after a year at Eastern Florida State. Kelly recently concluded her freshman year.

But everyone agrees, they've found their ultimate destination.

From left: Jeff Blackstone (newspaper clip), Mark Merz (baseball, top), Christine Keenan (basketball, bottom) and Brian Keenan represented the Panthers back in the day.



10
BLACKSTONE of Florida Tech gets upended by St. Leo's Don Whitehead on Friday afternoon. but still completes the double play in the Panthers' 3-2 victory against the 10th-ranked Monarchs.
Florida Tech stuns St. Leo

A path defined, but not dictated.

None of the current scholar-athletes felt they were pushed toward Florida Tech, but they did appreciate the insight their parents could provide about being a Panther.

JASON BLACKSTONE: "I talked to [my dad] a lot to get his ideas on what his experience was like here, and he had nothing but good things to say. So, that kind of made the decision a lot easier. There's a lot more of a college feel here."

KELLY MERZ: "My dad talked a lot about how he liked to have small classes, where you can pay closer attention and develop a relationship with professors. I definitely feel like that is true, and I really enjoyed that about this school because it is so small, you kind of know everybody. In that way, I can see exactly what my dad was talking about."

JOSIE KEENAN: "It's fun whenever my dad comes to campus, and he'll walk through the quad and say, 'Oh, this is the same, but it's so different,' and I think that's how I feel with this. I'm the same type of driven but doing different things, like volleyball, athletic communications, orchestra and even a different major. It's cool comparing our experiences but also creating a new one for myself."

Where everybody knows your name.

Because of the close-knit nature of Panther athletics—then and now—at times, being a legacy athlete comes with recognition.

JASON BLACKSTONE: "[Professor Paul] Cosentino has guest speakers come in, and last semester, there were two guest speakers who had played with my dad. I had no idea who they were, but they looked at me and recognized my face just because of my dad. I thought that was pretty cool."

JOSIE KEENAN: "My first week here, Paulette King [Florida Tech Sports Hall of Fame inductee and teammate of Christine Keenan's] happened to be in the gym, and she came over and hugged me. She was like, 'My second daughter!' and I think it's cool being able to meet the people who were a part of that."

BRIAN KEENAN: "The athletic department was a very tight social unit. We didn't have fraternities, we had each other. Living over in Southgate, that was our spot, and we blended well—all the programs did. I still sense that when I'm there now, when I go back to visit Josie."

Offering timeless lessons.

While life has brought them to different places and situations, the lessons the student-athletes of the '90s learned at Florida Tech remain with them today.

JEFF BLACKSTONE: "From a baseball standpoint, it's a game that demands resilience. So, there's resilience you take with you from that. From a classroom standpoint, I feel like my education here was top notch. At graduate school, I felt I was extremely well prepared relative to a lot of the other students in the same program."

MARK MERZ: "I think one of the special parts of being a scholar-athlete, particularly in college, and why I choose to recruit a lot of former college athletes into our company, is the fact that you have to learn to juggle so many different things in your personal life to be able to accomplish your goals."



Jason Blackstone

Sport: Baseball
Major: Construction management
Panther Parent: Jeff Blackstone '96, baseball



Josie Keenan

Sport: Volleyball
Major: Multiplatform journalism
Panther Parents: Christine (Ferron) Keenan '93 and Brian Keenan '93, basketball



Kelly Merz

Sport: Volleyball
Major: Business administration
Panther Parent: Mark Merz '97, '00 M.S., baseball

And unbeatable support.

Christine and Brian Keenan had an extra "ball" to juggle: raising their oldest daughter, Nadia, who was born during their junior year. Adding that top priority to an already enormous list of responsibilities as scholar-athletes was, at times, overwhelming. But both credit the support system around campus for helping them meet their academic and athletic demands.

BRIAN KEENAN: "We were able to finish our education on scholarship. We really had a lot of support from teammates and classmates that helped us be able to accomplish our goals."

CHRISTINE KEENAN: "If I had a conflict with classes, sometimes, Candee [Zepka] Terry '93 would be there to babysit. During practice, I would bring Nadia to the trainer's room, and [former athletic trainer] Ray Rodriguez would watch her, or she would sit on the sideline, and sometimes, Coach [John] Reynolds would carry her around the court."

Panther pride is magnified.

Current crimson-and-gray athletes consider their parents' athletic and career résumés as points of pride and aspiration.

KELLY MERZ: "It just motivates me even more because in athletics, it was impressive what he did. But honestly, I'm more impressed with his work ethic. Outside of sports, he worked extremely hard in every aspect of life, and it paid off so well for him. I'm following the exact same path that he did."

JASON BLACKSTONE: "I was wanting to kind of follow in his footsteps but still do my own thing at the same time. Having a dad like that showed me a lot of things about baseball and life that really shaped me into who I am."

JOSIE KEENAN: "Once I figured out how awesome my mom was, I could not stop bragging about her. I talk about her all the time. Everything she had to balance—being an engineering major, a baby, a relationship, being a star player on the team. How could you not brag about her?"

And the legacy continues.

The Panthers of the '90s agree nothing could quite prepare them for what it's like to watch their children live out their experience in a Panther uniform.

JEFF BLACKSTONE: "Their first game was at Rollins, and I went over to that one. Seeing them announce the lineups and him taking that spot [at second base], wearing the same number [No. 7] that I wore for four years—not gonna lie, I had to choke back some emotions. That was pretty cool."

MARK MERZ: "I remember touring the locker room, and they had all of their brand-new jerseys and training gear in the lockers. You could see the Merz name above her locker, and she had always worn No. 2 throughout her club and high school career, but she switched her jersey number to four, which was the number I wore in college. So, to see that No. 4 and Merz up there above the locker look like what it was when I was there was really cool."

CHRISTINE KEENAN: "When I saw her play, I was so proud of her. Getting here was a journey, and we're so fortunate that Florida Tech was there for her through it all."

THE RELENTLESS

featuring faculty voices guiding Panthers forward

JIGNYA PATEL

Adopt, Resist or Adapt Artificial Intelligence?

Artificial intelligence (AI), constructed on a vast variety and volume of personal and public data, is increasingly pervading all aspects of human life. From health care, communication and finance to art, music and sports, there is hardly an aspect of life untouched by AI.

In the initial years of growth, people were enchanted with the conveniences and pleasures afforded by AI technologies, such as voice-based assistants like Alexa, leading to the widespread adoption of AI. These AI technologies possessed limited decision-making latitude and autonomy.

Today, the sentiments related to AI are different. The public's emotions toward AI range from "very excited" to "highly concerned."

Technological advancements have made it possible for innovative forms of AI, such as ChatGPT, to appear in the market at little or no cost to the consumer. These radical AI technologies possess expansive decision-making latitude and have the ability to self-learn and make complex autonomous decisions without much human intervention.

In addition to convenience and pleasure, some people now associate AI with negative concepts, such as loss of privacy, unfairness, inequity and potential human harm, causing them to resist further AI adoption. People are left with the question, "Should I adopt or resist AI?"

The answer lies in understanding that convenience and pleasure provided by AI technologies are directly at odds with privacy and identity, the two most valued assets of human life.

For example, TikTok's ability to precisely predict the next video is made possible because a user, knowingly or unknowingly, has traded the confidentiality of personal data for the convenience of personalized information. In the quest for personalized convenience, users are eventually cocooned in self-reinforcing ideas, as personalization does not allow for competitive ideas.

Similarly, ChatGPT offers writing convenience but simultaneously takes away users' opportunity to think and express their own ideas.

A chance to develop one's personal identity is lost in both examples as the desire for convenience and pleasure increases.

While abstinence from AI is unrealistic in today's era, high dependence on AI can be dehumanizing. Could the path forward be to adapt to AI by learning to regulate our need for AI-generated convenience and pleasure? How can we teach today's youth to regulate this need? These are some of the questions my research aims to address.

My current work examines the psychosocial mechanisms through which humans develop an intimate relationship with AI, a concept known as "AI identity." Insights from this research can help us understand when and under what conditions humans trade their personal identity for AI identity when seeking convenience and pleasure.

Mankind's relentless pursuit of convenience and pleasure must be tempered by an equally relentless pursuit of ethical responsibility within the fast-growing realm of AI.



STTR Grant Explores 3D Models for Space Junk Removal

Over 35,000 pieces of orbital debris—what some call “space junk”—are floating around Earth. But a new Small Business Technology Transfer (STTR) grant involving a Florida Tech researcher may help to declutter space a bit.

Madhur Tiwari, assistant professor of aerospace engineering and director of The Autonomy Lab, along with Creare, a New Hampshire-based innovator in the design and development of cryogenic components and systems, were awarded the \$150,000 STTR grant from the Small Business Association

debris includes nonfunctional spacecraft, abandoned launch vehicle stages, mission-related debris and fragmentation debris. In 2022, a study in *Nature Astronomy* showed that in the past three decades, more than 1,500 rocket bodies have reentered the atmosphere, with more than 70% of them being uncontrolled reentries.

Though some of the objects are only the size of a softball, they travel at speeds up to 17,500 mph, fast enough for even a small piece to damage a satellite or spacecraft. Space shuttle windows were replaced

“By relying less on communication between the spacecraft and earth ground control, we are trying to make the process more autonomous for future missions to support the growth of the space sector.”

—Madhur Tiwari, assistant professor of aerospace engineering

“Abstinence from AI is unrealistic in today’s era, while high dependence on AI can be dehumanizing. Could the path forward be to adapt to AI by learning to regulate our need for AI-generated convenience and pleasure?”

Jignya Patel is an assistant professor in the Bisk College of Business, director of the Business Applied program and chairperson of Florida Tech’s institutional review board. Her research focuses on the unintended or negative effects of information technology use on individuals.

in February. With the grant, they will reconstruct 3D models of space debris using machine learning as a part of Space Domain Awareness (SDA) initiatives. SDA means the capability to detect, track, identify and characterize objects in space.

The research will also look at ways to model the information on the debris more efficiently.

“Currently, 3D modeling of space debris requires ground-in-loop operations, which increases the dependency of the spacecraft on the ground support, thus making the process cumbersome, unreliable and slow,” Tiwari said. “We are building algorithms using machine learning methods so that the spacecraft, enabled with cameras, can basically build 3D models by themselves without any ground support, thus enabling space autonomy.”

The debris problem is a growing issue. According to NASA, orbital

because of damage caused by paint flecks, and according to NASA, millimeter-sized orbital debris represents the highest mission-ending risk to most robotic spacecraft operating in low Earth orbit.

This grant is a continuation of Tiwari’s overall space debris removal research. Last year, Florida Tech and Tiwari won a \$250,000 U.S. Space Force contract to support the debris-cleanup project known as Orbital Prime. While research is in the preliminary stages, the immediate goal is to create algorithms that allow the spacecraft to create 3D models of space debris using onboard cameras by leveraging machine learning.

“By relying less on communication between the spacecraft and Earth ground control, we are trying to make the process more autonomous for future missions to support the growth of the space sector,” Tiwari said.



Associate professor Kenia Pedrosa Nunes, right, with research assistants Swasti Rastogi, Ph.D. student in cell and molecular biology, and Conner Butcher '22, '23 M.S.

Mechanisms Behind Diabetes Subject of University NIH Grant

Associate professor Kenia Pedrosa Nunes, a researcher at Florida Tech's vascular biology lab, received a \$474,177 grant from the National Institutes of Health (NIH) to further study the vascular complications of diabetes.

Continuing previous research on diabetes and other diseases and how the arteries are affected, Nunes and her team will research new mechanisms that lead to vascular problems associated with diabetes and identify targets to mitigate the disease.

This specific research started two years ago, when Nunes published a paper showing a new role for the heat shock protein 70 (HSP70). The manuscript reported that this protein has a very important role in blood vessels, a discovery for researchers. While it was known the protein is in many organs, including the pancreas, where it plays a role in glucose metabolism, HSP70 had not yet been studied in the vessel's contraction.

The discovery was made by accident. In addition to HSP70, Nunes was studying a receptor named toll-like receptor 4 that can be activated by HSP70. When discussing the research data with **AMANDA ALMEIDA DE OLIVEIRA** '21 Ph.D., her student at the time, they realized HSP70 could affect the vessels independent of the toll-like receptor.

"So, this receptor is there on the membrane, and it needed to be activated by something," Nunes said. "Then, the activation triggers pathways inside the cell. I started to research HSP70 because Amanda asked me, 'What's going to be the molecule touching this receptor in my project?' I remembered that I had attended a seminar talking about diabetes, and I saw this protein during the presentation. I did some research and saw that this protein could link to the receptor I was investigating. But the goal was to study the receptor. And as we go through the experiments, we realized that the protein was not just linking to the receptor, it was doing much more than that."

This protein can be found inside of cells, in the bloodstream or inside the smooth muscle of the arteries.

"If you are healthy, low levels of this protein are in your bloodstream. But diabetic patients have high levels in the bloodstream and low levels inside the cells in the arteries," Nunes said. "Then, when you get sick, modification of this protein's levels intensifies an inflammatory process, and a big activation of the immune system, contributing to vascular problems. My research is focused on the contribution of this protein inside the vessels in this context."

Florida Tech Hosts USRA Regional Meeting

Florida Tech hosted the Universities Space Research Association (USRA) Region IV meeting Oct. 27.

John Harris, dean of the College of Engineering and Science, offered an overview of Florida Tech, the college and some of its departments, faculty and research topics. He said building awareness of Florida Tech's capabilities and accomplishments and growing the university's externally funded research are two areas of focus.

Suksawang Named Fellow of the American Concrete Institute

Civil engineering professor Nakin Suksawang has been named a Fellow of the American Concrete Institute (ACI), an honor bestowed on just a fraction of the group's vast membership and a testament to the important research and advancements he has produced.

The designation is a bookend 13 years in the making: In 2010, Suksawang, who has been at Florida Tech since 2013, received the ACI Young Member Award for Professional Achievement. Including the new honorees, 611 ACI members are current fellows of the institute from a membership of more than 30,000.

Suksawang's research interests involve advancements in infrastructure materials, including high-performance concrete, fiber-reinforced concrete and composites that emphasize long-term durability, structural safety and reliability.

New Research May Lead to ACL Reconstruction Improvements

Approximately 175,000 reconstructions of torn anterior cruciate ligaments (ACLs) are performed each year in the United States. Even with this high frequency, 10% of the surgeries result in the failure of a key component of the procedure: a skin graft to replace the torn ligament. A Florida Tech doctoral student is researching ways to improve these ACL reconstruction outcomes.

NASHAITA PATRAWALLA '19, '21 M.S., a Ph.D. candidate in biomedical engineering, is working on ACL reconstruction applications in the Kishore Lab, led by Vipul Kishore, associate professor in the department of biomedical and chemical engineering and sciences.

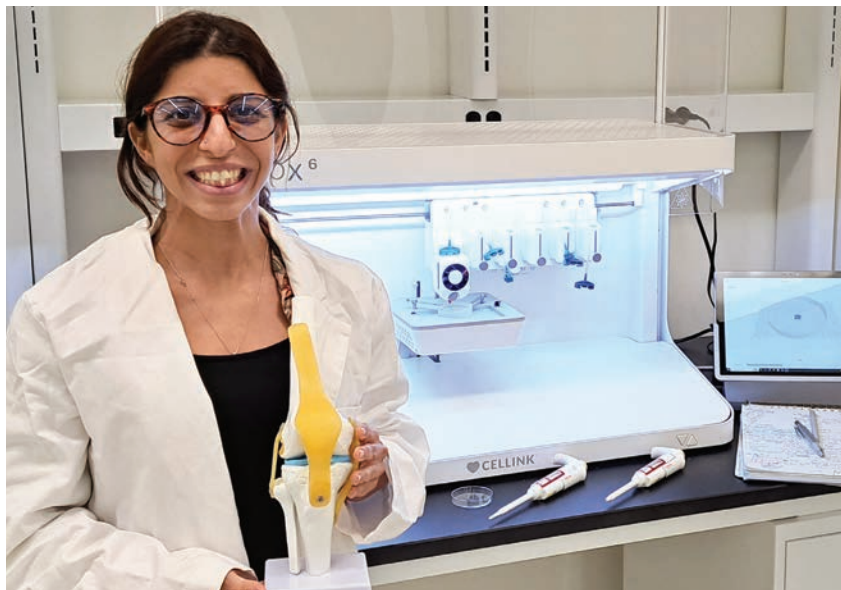
In an ACL reconstruction procedure, a graft is used to replace the torn ligament. The graft can be obtained from the patient, such as from his or her hamstring, can be synthetic or can come from a cadaver.

Patrawalla is focused on reconstructing the ACL “enthesis,” which is the transition region from the ligament to the bone. The native ACL ends are a complex region made up of different cell types, having different mechanical properties along the enthesis, and a gradient of mineral composition, which ensures the smooth transition of load from the ACL to bone.

However, in reconstructed ACLs, the enthesis region is absent due to the injury, which increases the chances of re-tears. Patrawalla uses 4D-printing techniques to produce a functional ACL enthesis to be attached at the ends of grafts to allow for better integration at the ligament-to-bone transition region. This greatly reduces the risk of re-tears and additional injuries.

“A successful ACL reconstruction demands reproducing a functional ACL enthesis, which is the focus of my work,” she said.

Identifying properties of native tissues, such as alignment of the collagen fibers, is a crucial factor that impacts aspects like cellular response, which is important for tissue regeneration. Researchers in



Nashaita Patrawalla '19, '21 M.S., a Ph.D. candidate in biomedical engineering, is working on ACL reconstruction applications in the Kishore Lab.

“The work that we’re doing is very much something that is going to be impactful and has a need. It’s going to help a lot of people.”

—Nashaita Patrawalla

the Kishore lab are looking at different alignment techniques for collagen fibers.

Patrawalla’s work focuses on developing a method that combines magnetic field application with 3D-printing techniques to provide a 4D-printing platform. The hypothesis is that by adjusting the magnetic field and how it’s applied to these scaffolds of manufactured tissue, highly aligned collagen matrices will be obtained.

This differs from regular fabrication techniques where the alignment wouldn’t be possible, which is an important cue for cell differentiation and is currently lacking for proper tissue regeneration.

Using collagen for the grafts, Patrawalla is also looking at how the fibers are oriented and the best procedures to ensure the grafts don’t fail.

“With regular 3D printing of collagen, the fibers would orient randomly, which would impact the mechanics and cell response,” she said. “When you achieve alignment of the fibers within the graft, it has the potential to improve some of the properties by resembling the native tissue closely and by providing cues for expedited tissue regeneration.”

Prime is a quantity.

Unique, a product unachievable by any two other numbers. 2, 3, 5 ...

Prime is a quality.

Excellent, of the highest caliber.
Outstanding, Choice, Top-Notch...

In both quantity and quality, this column features Prime Examples of what makes us Florida Tech.

PRIME EXAMPLES *of* MOMENTUM

Momentum is the quantity of motion. Fast or slow. Forward or back. For purpose. For fun.

Momentum is about movement, progress and the impetus that sparks it. It is the strength gained by motion.

Literally, a ball picking up speed as it rolls down a hill; figuratively, a project taking shape, a dream becoming reality, an idea snowballing, taking off.

Momentum stimulates growth, power, evolution. Once it builds, there's no telling how far it may go.

Here are a few prime examples.

5 STUDENT ORGS WITH ENERGY



1. Panther Spirit Squad
2. Society of Physics Students
3. Rocketry Club
4. Flight Team
5. FITSEC (see story on page 22)

2

RESEARCH AREAS UNDERWAY

Behaviorial Momentum

In behavior analysis, “behavioral momentum” describes the relation between persistence of behavior and rate of reward, most often in the context of increasing cooperation or compliance among young children. Essentially, first assigning a task the child is more likely to complete—high-probability instruction, e.g., “Give me a high-five!”—and rewarding compliance builds momentum toward obedience that can be applied to a task the child doesn’t want to complete—low-probability instruction, e.g., “Pick up your toys.”



“Florida Tech researchers have examined some of the features of this sequence, including the optimal number of high-probability instructions and the amount of time between the delivery of each instruction.”

—David Wilder, head, School of Behavior Analysis

Orbital Angular Momentum

Optical fiber communication is everywhere. Even in the case of most cellphone communications, photons, or “laser light,” are launched into a fiber located at the base of Cell Tower A. It then travels through the length of the fiber to reach the base of Cell Tower B with negligible transmission losses, making the optical fiber an ideal data transmission medium. However, with rapidly increasing demand—likely 10,000 times more data being transmitted over the next 20 years—we must either lay down new fibers—no easy feat—or increase the data capacity of existing fibers. So, throughout his years of research, professor Syed Murshid has found a way to take better advantage of existing space in the fibers by launching photons not in the traditional zigzag path, but on a helical path that then creates momentum—more specifically, orbital angular momentum—inside and around the entire length of the fiber. Combined with spatial multiplexing, this could lead to new means of communication, including quantum communication.”

“It can increase the data capacity at least by twofold, and then, combined with spatial multiplexing, it can increase the data capacity by 10, 15, 20 times.”



—Syed Murshid, professor, computer engineering and sciences

3

ALUMNI PICKING UP SPEED

(in more ways than one)

ZACH COSTELLO '16 started as a racing spectator, and he’s been gaining momentum ever since. In 2015, he became a member of the first cohort of student interns at Larsen Motorsports and then spent two years as crew chief of the Florida Tech team. Six years after joining LMS, Costello found himself behind the wheel, ready to zoom down the course at 200-plus mph as the team’s backup driver. He now has seven races under his belt and a new, prestigious role: primary driver, driving the Gen 6 Florida Tech dragster that he had helped assemble.



After a series of personal struggles that culminated in her motorcycle catching fire, **EVIE MINET '22** decided to rebuild it from the wreckage, and further, convert it to electric. Countless hours of research, tinkering, trial and error, extra classes and consulting with faculty, peers and L3Harris Student Design Center staff later, Minet completed her fully functioning electric motorcycle. Today, she is in the early stages of launching Phoenix Motors, an electric vehicle conversion business offering do-it-yourself conversion kits and drop-off or hands-on conversion services.

JEREMY CASPERSON '10 is director of civil engineering for one of the organizations most well-known for speed in America: NASCAR. Read about his experience retrofitting a Los Angeles football stadium for the Busch Light Clash at the Coliseum in February on page 39.

A Brief Field Guide to Campus

BY MARY-LOU WATKINSON

ILLUSTRATIONS BY
YUMIKO KITAZONO



Florida Tech's campus is teeming with wildlife both big and small.

FROM THE COUNTLESS REPTILES AND INSECTS CRAWLING, WALKING AND SLITHERING ALONGSIDE YOU WHEN WALKING TO CLASS, TO THE BIRDS SOARING OVERHEAD, THERE IS ALWAYS SOMETHING NEW TO SEE.

One great place to view campus wildlife is the Joy and Gordon Patterson Botanical Garden. This public, 15-acre garden winds through the heart of Florida Tech and has become one of the most unique campus botanical gardens of its kind in the continental U.S. With palm trees and various tropical growth, visitors can observe a variety of creatures that call the habitat home.

Florida Tech is listed as a Green Campus by *The Princeton Review* because of its emphasis on sustainability. Part of that greenness is the quality of wildlife habitats on campus. With ponds, woodlands, wetlands and stream banks, it is an important haven for both resident and migrating species.

Since its inception, the university has had a joint mission to provide a great education, to be a hub of innovation and research and to provide beautiful grounds that are accessible to the local community. The geographic location was ideal not only for the rocket scientists who started the school, but also for biological diversity.

The campus woodlands, locally termed "hammocks" because of the dense tree coverings, are a form of wetland. The branches of the trees are laden with Spanish moss, other bromeliads, ferns and even orchids. In the garden, there is a blend of native and exotic tree species, including a collection of palms from around the world.

Butterfly gardens in the woodlands add to the color and biological activity, as the flowering plants attract a huge variety of insects, not just butterflies. In spring and autumn, migratory birds fill the trees as they pass through. The native wildlife also features a variety of birds, butterflies, dragonflies and insects that have yet to be cataloged.

The campus ponds and wetlands are not only full of life, but they also provide a natural classroom. As part of their studies, students use nets to sample the inhabitants and cameras to photograph specimens. Migratory ducks spend winter on the ponds, and one of the seven species of herons and egrets is usually visible.

HERE, WE'VE COMPILED A FLORIDA TECH FIELD GUIDE SHOWCASING JUST A FEW OF THE CREATURES ON CAMPUS.

THE INFORMATION IN THIS FIELD GUIDE WAS SOURCED FROM FLORIDA TECH CAMPUS WILDLIFE, A DIGITAL CATALOG PUT TOGETHER BY THE OCEAN ENGINEERING AND MARINE SCIENCES DEPARTMENT, WITH SPECIAL THANKS TO STUDENTS EMILY POLAK AND ANDREW BOODOOSINGH. SCAN TO VIEW THE FULL CATALOG. ▶



continued on page 20



Create Your Own Field Guide

- ▶ OBSERVE THE WILDLIFE AROUND YOU. IDENTIFY THE DIFFERENT SPECIES YOU WANT TO INCLUDE IN YOUR FIELD GUIDE, AND RECORD SOME BASIC INFORMATION (FOOD SOURCES, APPEARANCE, HABITAT, ETC.).
- ▶ GATHER MORE INFORMATION ABOUT THE SPECIFIC SPECIES YOU WANT TO INCLUDE.
- ▶ DECIDE IF YOU WANT YOUR FIELD GUIDE TO BE HANDMADE OR TYPED.
- ▶ LABEL YOUR GUIDE BASED ON CONTENT GROUPINGS, SUCH AS WHERE THE SPECIES LIVE OR THEIR TYPE.
- ▶ MAKE A DRAWING FOR EACH ENTRY, AND WRITE THE NAME OF EACH SPECIES UNDERNEATH THE DRAWING, INCLUDING THE SCIENTIFIC NAME IF DESIRED.
- ▶ ADD INFORMATION OR FACTS, INCLUDING WHERE IT'S FOUND AND WHAT IT LOOKS LIKE.
- ▶ SHARE YOUR FIELD GUIDE, SO OTHERS MAY USE IT TO IDENTIFY THE WILDLIFE IN YOUR AREA!



CREEKS/WETLANDS

LIFE ABOUNDS WITHIN OUR CAMPUS PONDS AND HERBACEOUS WETLANDS. THESE WORKING WETLANDS STORE WATER AND PREVENT FLOODING DURING TIMES OF HEAVY RAIN.

continued from page 19

Eastern Amberwing Dragonfly

(*PERITHEMIS TENERATHE*)



MALE COLORING

EASTERN AMBERWINGS ARE TINY, 21- TO 24-MILLIMETER DRAGONFLIES FOUND THROUGHOUT MOST OF THE EASTERN U.S. THEY HAVE A BROWN ABDOMEN WITH YELLOW RINGS. THE MALES DISPLAY BEAUTIFUL ORANGE OR AMBER WINGS WITH RED STIGMAS, AND THE FEMALES DISPLAY BROWN WINGS WITH RED STIGMAS. THEY CAN BE FOUND IN STILL BODIES OF WATER, SUCH AS LAKES AND PONDS.

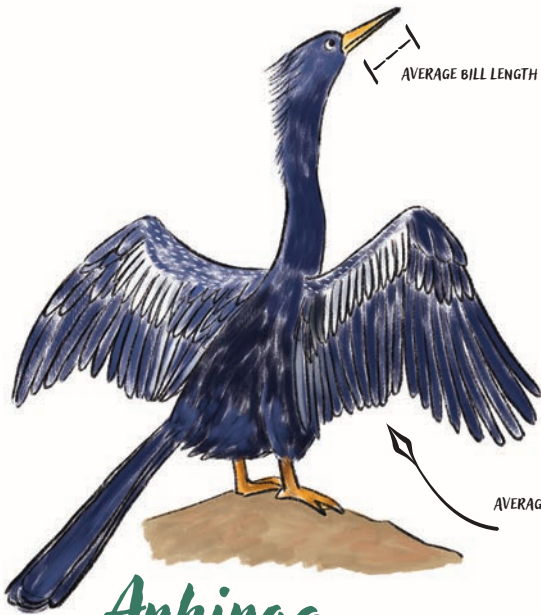


Cuban Tree Frog

(*OSTEOPILUS SEPTENTRIONALIS*)

THE LARGEST TREEFROGS IN NORTH AMERICA, CUBAN TREEFROGS ARE NATIVE TO CUBA, THE CAYMAN ISLANDS AND THE BAHAMAS. THEY WERE INTRODUCED TO SOUTHERN FLORIDA FROM THE CARIBBEAN AND HAVE CONTINUED TO SPREAD. INSATIABLE EATERS, THEY TARGET NATIVE FROGS, TOADS AND LIZARDS. THEY ARE CONSIDERED AN INVASIVE EXOTIC SPECIES AND A THREAT TO THE BIODIVERSITY OF FLORIDA'S ECOSYSTEMS AND WILDLIFE. RANGING FROM GREEN AND BROWN TO GRAY AND WHITISH WITH GOLDEN EYES, THEY CAN BE FOUND IN GARDENS, HARDWOOD HAMMOCKS, WETLANDS AND FORESTS.

BAD NEWS FOR BIODIVERSITY



AVERAGE BILL LENGTH = 81 MM

AVERAGE WINGSPAN = 117 CM

Anhinga (*ANHINGA ANHINGA*)

ANHINGAS ARE WATERBIRDS WITH AN OIL-SLICKED APPEARANCE AND SNAKELIKE HEAD. THEY GET THEIR NAME FROM THE TUPI INDIANS IN BRAZIL. THE MEANING OF THE NAME IS "DEVIL BIRD" OR "EVIL SPIRIT OF THE WOODS." HOWEVER, THEIR DISTINCTIVE SHAPE HAS EARNED THEM THE NICKNAMES "WATER TURKEY" FOR THEIR TAIL AND "SNAKE BIRD" FOR THEIR LONG, SNAKELIKE NECK. THESE BIRDS CAN BE FOUND IN LOCAL PONDS, SPEARING FISH OR SUNBATHING ON THE SHORES WITH THEIR SILVERY WINGS OUTSTRETCHED.

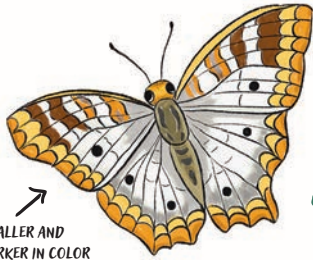


Red-Eared Slider

(*TRACHEMYS SCRIPTA ELEGANS*)

RED-EARED SLIDERS ARE MIDSIZED FRESHWATER TURTLES GENERALLY 5 TO 11 INCHES LONG. THEIR SHELLS ARE OLIVE GREEN WITH YELLOW ON THE BOTTOM AND DARK SPOTS IN THE CENTER OF EACH SHELL PLATE, AND THEY ARE TYPICALLY DISTINGUISHED BY THICK RED STRIPES BEHIND THEIR EYES. FOUND THROUGHOUT THE U.S., THEY ARE AMONG THE WORLD'S TOP 100 WORST INVASIVE SPECIES, ACCORDING TO THE GLOBAL INVASIVE SPECIES DATABASE. THEY CAN BE FOUND IN ALMOST ANY AQUATIC HABITAT WITH AN AMPLE SUPPLY OF VEGETATION.





SMALLER AND DARKER IN COLOR DURING WET SUMMER MONTHS

White Peacock Butterfly

(ANARTIA JATROPHAE)

TYPICALLY SEEN FLYING LOW TO THE GROUND IN FLORIDA, WHITE PEACOCK BUTTERFLIES ARE 3 TO 6 CENTIMETERS LONG. WHITE WITH BROWN MARKINGS, THEY HAVE A SMALL BLACK SPOT IN THE CENTER OF EACH FOREWING AND HINDWING. THESE RESEMBLE A PEACOCK'S EYESPOT AND ARE THE REASON FOR THE BUTTERFLY'S NAME. THEIR LARVAE FEED ON FROGBIT, A MARSH PLANT, SO THEY ARE ESPECIALLY COMMON IN OPEN AND SUNNY HABITATS AT THE EDGE OF PONDS AND STREAMS.



FIVE SLENDER TOES PROVIDE EXCELLENT DEXTERITY

Raccoon

(PROCYON LOTOR)

RACCOONS ARE LARGE MAMMALS FOUND THROUGHOUT THE U.S. IN A VARIETY OF ENVIRONMENTS, FROM WOODLANDS TO URBAN AREAS. ADULTS TYPICALLY WEIGH BETWEEN 10 AND 20 POUNDS. COVERED IN GRAYISH-BROWN FUR, THEY HAVE A DISTINCT FACE, WITH TWO BLACK MARKINGS AROUND AND BETWEEN THEIR EYES, SOMETIMES CALLED A "MASK." THEY ALSO HAVE A BUSHY TAIL COVERED WITH FOUR TO SIX BLACK RINGS. EXPERT TREE CLIMBERS, THESE OMNIVORES CAN BE IMPORTANT NEST PREDATORS.



IN 2012, A PAIR OF THESE HAWKS CAUSED HAVOC PROTECTING THEIR NEST IN A PALM TREE NEXT TO THE OLIN LIFE SCIENCES BUILDING.

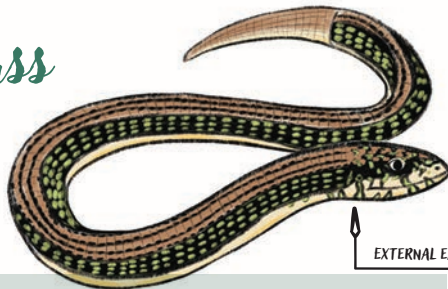
Red-Shouldered Hawk

(BUTEO LINEATUS)

RED-SHOULDERED HAWKS ARE THE MOST COMMON HAWKS ON FLORIDA TECH'S CAMPUS. FREQUENTLY PERCHED ON LIGHT POLES, THEY SCAN THE GROUND FOR LARGE INSECTS, LIZARDS AND SNAKES. THESE HAWKS ARE MARKED WITH A REDDISH-PEACH COLOR UNDERNEATH THEIR BODIES AND A STRONGLY BANDED TAIL. THEIR WINGTIPS ALSO FEATURE TRANSLUCENT CRESCENTS THAT APPEAR IN FLIGHT. LEARN THEIR DISTINCTIVE WHISTLE TO EASILY SPOT THEM AROUND CAMPUS.

Eastern Glass Lizard

(OPHISAURUS VENTRALIS)



EXTERNAL EAR OPENINGS

TYPICALLY BETWEEN 18 AND 43 INCHES, EASTERN GLASS LIZARDS ARE EASILY MISTAKEN FOR SNAKES DUE TO THEIR LONG, SLENDER, LEGLESS BODIES. HOWEVER, UNLIKE SNAKES, GLASS LIZARDS HAVE MOVEABLE EYELIDS AND EXTERNAL EAR OPENINGS. THEY ARE GENERALLY LIGHT BROWN, GREEN OR YELLOW AND HAVE DARK STRIPES ON THEIR BODIES. FOUND IN A VARIETY OF HABITATS, THEY MOST COMMONLY RESIDE IN FLATWOODS AND AROUND WETLANDS IN SANDY HABITATS.







GREAT BY DESIGN

By Karly Horn

Some things just happen by chance. The creation and rapid success of FITSEC, Florida Tech's cybersecurity competition team and two-time National Cyber League (NCL) champions, is not one of them.

In fact, the team is one of several tactical components of a broader university "cyber sphere" development strategy that has been in the works since around 2013, when professor Marco Carvalho signed on as co-director of the L3Harris Institute for Assured Information (L3HIAI) alongside professor Richard Ford, who has since retired.

Some other components: stellar, hands-on research and coursework; dedicated, outstanding faculty with diverse expertise; keen leadership; student involvement; and passion enough to fuel it all.

It is, perhaps, best defined as a "sphere," for "program" or "curriculum" fall short of describing the kind of sweeping, world-class commitment to cybersecurity universitywide strived for by Carvalho and the team of industry experts he has assembled at the L3HIAI.

"In cyber, you have to have a broad understanding of very deep technical parameters and concepts, but also understand how those elements interact with people, humans," says Carvalho, who will step down as university provost and chief operating officer in July to focus on his research and his role as L3HIAI executive director. "It is this composition that makes this field so complex and so unique."

With frequent news headlines about data leaks and government security hacks, there's no disputing the need for skilled cybersecurity professionals in virtually every industry. The challenge is simultaneously cultivating that level of technical skill, social understanding and mental agility.

**IF the question is, how?
The answer is FITSEC.**

continued on page 24

Just as athletes become champions of fitness and impact people's perceptions of health, so can an enthusiastic, inclusive cybersecurity community build much-needed awareness of cyber safety and wellness on campus that then bleeds into society, accumulating international notoriety in the process.

"We are helping build and promote awareness of this important discipline, and probably in the best possible way, because we are engaging talented and passionate students who will themselves become ambassadors," Carvalho says. "They are the best people to convey to their colleagues what it means to be involved, to understand that area of research, what kind of ethical responsibilities you have, what kind of impact you can have in society and what options this opens for their careers."

Options for their careers and options for their university.

"I think one of the things that FITSEC does is allow us to raise the aperture of the university," says assistant professor TJ O'Connor, primary FITSEC faculty advisor and director of Florida Tech's cybersecurity program. "It has helped elevate our standing and our understanding of why this place is so special and the talent that exists here."

Does achieving so rapid a rise to the top of the collegiate competitive cybersecurity realm take luck? Maybe a little.

But to be sure, it takes vision. It takes commitment. It takes teamwork.

Most importantly, it takes a plan.

◀ First, hire the right people. ▶

The L3HIAI is one of fewer than 80 designated Department of Homeland Security (DHS)/National Security Agency (NSA) Centers of Academic Excellence in Cyber Defense Research, meaning that since its inception in 2009, a primary focus of the institute has been research productivity and scholarly impact.

As it continued to increase its presence in this area, quickly becoming the university's top institute for funded research, Carvalho recognized the need to broaden this mission, boosting emphasis on education and training, as well.

To do so, Cavalho sought to hire new faculty with the expansive capability to both build new master's and certificate programs, and to engage with students and the community through internal and external outreach and promotion.

"That helps build a broader cycle for the mission of the institute," Carvalho says. "You're engaging with students; you are training them; you're building pathways for some of these people to either go into industry or transition into research and into other activities that, ultimately, help build the state of the art in this field."

Enter O'Connor.

After 20 years of U.S. Army service, including four assignments supporting the Army Special Forces and a stint at the U.S. Military Academy, West Point, where he oversaw the competitive cybersecurity team and set up some of the academy's first cyber curriculum, O'Connor's last military

assignment brought him to Florida Tech as director of the ROTC program.

"I had a lot of fun assignments in the Army, but West Point was the one that meant the most because I got to build people and make them stronger versions of themselves," O'Connor says. "I really enjoyed it, and I was looking for that opportunity after I retired."

He soon realized, he wouldn't have to look very far.

The day after he took off his military uniform for the last time, he walked across the parking lot and into his new office in the L3HIAI. The transition, he says, was so seamless, that his biggest challenge was getting the keys to his new office.

"The key ingredient is to have the right leadership, and I would say that Dr. O'Connor—with a couple of people in the group that initiated those efforts—has been instrumental," Carvalho says. "They provide the basis for people to organize themselves around."

Immediately, O'Connor began working with his L3HIAI colleagues and local industry leaders to develop a new cybersecurity curriculum, an endeavor that he and **JOSH CONNOLLY** '21, FITSEC student founder, quickly realized would complement the competitive cybersecurity team and propel it to new heights.

"Here, if you have a really great idea and you can see it through, and you can invest time into it, you can build it into something amazing," O'Connor says. "And Dr. Carvalho gave us the go-ahead to do that."

◀ Then, develop a program unlike any other. ▶

The day after news broke that Russia had cyberattacked the top 500 U.S. companies in December 2020, O'Connor and his students took down the malware, analyzed it, evaluated the indicators and worked through the obfuscation of it live in class.

The midterm exam for another of his classes has each student use code to write a program, swap for another student's and break it.

Another has to build the challenges for the university's Space Heroes international capture the flag competition.

"A lot of other universities talk about theories. They talk about methods. Here, we talk about the theories and the methods, and then we apply them to something," says **KOURTNEE FERNALD** '21, a computer science graduate student who will soon start her Ph.D. in computer science. "Actually getting to do it yourself and experiencing it is, I think, the best part."

That's the idea, O'Connor says.

Launched in 2019, the cyber operations concentration for undergraduate computer science students is composed of six hands-on courses that are very focused on workforce

skills that also complement the competition aspect.

O'Connor loosely modeled the curriculum after the NSA cyber operations program, infusing it with feedback he collected from local companies about what they are looking for in new employees.

"The curriculum has allowed us to tear everything apart at the byte level and understand the deep and technical underpinnings of what's required to both attack and defend in cyberspace and build very talented individuals to help the U.S. cybersecurity mission," O'Connor says. "Having that hands-on approach, it's intensive, but why do anything unless you're going to do it 100%?"

His students agree.

"I think we take for granted how unbelievably amazing the cyber concentration is here," says Robert Heine, a computer science senior and FITSEC member. "The material that's taught is very, very unique. The faculty involved, I think they do an incredible job conveying it. I think that plays a massive role in FITSEC's competitiveness—just the quality of cyber education that we get here."

In addition to building, breaking and defending code, it is clear that O'Connor has also taught his students how to teach.

The practical lessons veteran FITSEC members teach during the team's weekly meetings—while admittedly, and purposefully, not as in-depth—are structured similarly to those they experience in the classroom.

Aside from teaching each other—a valuable learning and competition preparation tool in itself, O'Connor says—FITSEC also invites faculty members, FITSEC alumni now working in the industry and local cyber professionals to lead lessons on more complex or specialized topics.

"I'm biased, but I think we do it better than anyone else," O'Connor says.

◀ Break code. ▶ ◀ Build community. ▶

The initial pitch is simple: "We hack things."

Upon hearing that, some are hooked. Some are intimidated. FITSEC wants them all.

When FITSEC started, it was a fairly disjointed group of about 10 computer science and engineering students who wanted to see how well they could do in a cybersecurity competition.

Turns out, not so well.

"The first competitions were horrific," O'Connor says. "We got slaughtered. It was terrible. But we started learning a lot of lessons from this, feeding them back into the equation, growing as a team, competing and bringing in more students."

Today, FITSEC is up to about 80 active members, with 40 registered with the NCL. Getting there took work.

As the team grew, members honed their competition prep and recruitment process.

First, practice. Each week, members participate in a deliberate strike force meeting focused on working through specific, intimidating problems for an hour or two, depending on the difficulty of the problem(s).

Then, compete every weekend—sometimes just a challenge or two for fun, sometimes travel, sometimes a full-fledged team effort requiring members hole up together in the FITSEC House for 48 hours straight.

Finally, welcome newbies. FITSEC hosts a weekly welcome and onboarding meeting for new and prospective members—something that veteran members like Fernald, Heine and Alex Schmith, a computer science senior and FITSEC competition captain who is ranked 39th in the nation, agree they wish they had when they first considered joining the team.

"It was really intimidating at first," Schmith says of his perception of FITSEC when he got to Florida Tech.

"It was mostly a knowledge thing," Heine agrees. "In my head, at least, it was, 'How can I break code if I don't even know how to write it?' It was a totally foreign concept."

With no real understanding about what "hacking" meant besides what they'd gleaned from movies like, "Hackers"—which they now recognize as "fun, cheesy and completely and utterly inaccurate"—they

continued on page 26

A Byte of FITSEC

A byte is a unit of digital information that most commonly consists of eight bits. Here are eight more (tid)bits you may not know about FITSEC:

1 "FITSEC" stands for "FITSEC Information Technology Security."

It is a recursive acronym, meaning that the first letter stands for the acronym itself—a common phenomenon in computer programming. Other examples: GNU: GNU's Not Unix; WINE: WINE Is Not an Emulator; RPM: RPM Package Manager



2

TJ O'Connor served as head coach of the first-ever U.S. Cyber Team that placed third at the International Cybersecurity Challenge in Athens, Greece, in June 2022.

3

In January 2022, U.S. Sen. Marco Rubio sent a letter to then FITSEC president Blake Janes congratulating the team on its NCL Championship victory.

👏 Your victory in this competition is a testament to your years of hard work and signifies not only your commitment to learning, but to using your talents to combat the threats that could affect the lives of Americans.👏

— U.S. Sen. Marco Rubio



4

Sneha Sudhakaran, a computer engineering and sciences assistant professor and mobile forensics expert, joined the team as FITSEC co-advisor in August 2022.

5

Countless FITSEC alumni work in cybersecurity roles at major organizations across the country, including:

[International Systems Management Corp.]

[Pidoxa]

[Boeing Co.]

[Raytheon CODEX]

[Cromulence]

[REDlattice]

[U.S. Central Intelligence Agency]

[Research Innovations Inc.]

[ICR Inc.]

[STR Global]

[Mayo Clinic]

continued from page 25

felt that joining a cybersecurity competition team would be too far out of their elements.

“Since then, we’ve worked on simplifying it and making FITSEC more approachable,” Fernalld says. “Now, we kind of ease people into it—starting with the basics, mentoring.”

And pizza. Lots of pizza.

Students aren’t the only newbies FITSEC welcomes into the fold. In August 2022, assistant professor Sneha Sudhakaran joined the team as co-advisor. A renowned authority in mobile and memory forensics, Sudhakaran is a technical expert and champion of FITSEC’s mentorship efforts.

Outside of “hacking,” FITSEC is actively seeking opportunities for members to get involved in the university and greater community through things like beach cleanups, participating in the ocean engineering and marine science department’s Living Docks program, developing a Florida Tech chapter of Women in Cybersecurity and more.

“FITSEC feels more like a fun little community than it does a strict club or a competitive team,” Heine says. “We’re

always training. We’re always practicing. But it’s just friends hanging out, having a time, learning about cyber stuff. I don’t ever see it as work—it’s fun.”

Fun is a big part of it. The FITSEC approach: breaking code or eating pizza—when done as a team, it builds the community, familiarity and camaraderie necessary to grow and, ultimately, succeed.

“For a lot of these students, FITSEC is the first place that they’ve been accepted for being just a little bit different. There is finally a place where people are like them—passionate and excited about tearing things apart and understanding them,” O’Connor says. “I think our people are our greatest asset. We’re different, but it doesn’t matter because we’re accepted here.”



“FITSEC feels more like a fun little community than it does a strict club or a competitive team. We’re always training. We’re always practicing. But it’s just friends hanging out, having a time, learning about cyber stuff.”

— Robert Heine, *above, right*

Support that community.

Success requires support. From a university standpoint, Carvalho says, that support is threefold: space, sponsorship and engagement.

To adequately train requires a secure space to practice without risk of exposure. Dedicated infrastructure, network support, network isolations and technical access allow FITSEC to work as a team, free to safely explore different initiatives.

Financially, the L3HIAI has provided funding not just for expenses such as travel and operating costs for the FITSEC House, but also scholarships. Each year, FITSEC offers funded positions to four students who compete with the team.

“That allows us to really offer those positions to individuals who bring a lot of notoriety, just like a sports team would, here on campus,” O’Connor says. “By competing—and competing well—they bring the Florida Tech brand to great spaces. That’s really awesome.”

Fernalld, who started at Florida Tech earning her bachelor’s degree, received one

of FITSEC’s funded positions, allowing her to enroll for her master’s and, now, doctoral degree in computer science at the university while continuing to compete with and build up the team.

“Basically, if we need something, Dr. O’Connor finds a way to get it,” she says. “Whether we need travel expenses, pizza for a meeting or training on some very specific topic that none of us are particularly good at.”

Finally, engagement. Excitement builds opportunity, Carvalho says. Both abound for FITSEC thanks to internal and external promotion, dedication of time and resources, and steadfast, vocal belief in their abilities.

“I think Dr. Carvalho did a phenomenal job investing not just financially in the team and supporting them, but just letting them know that he believed in them, and he believed in them at a high level: that they were the best in the nation,” O’Connor says. “And then, they showcased that—multiple times.”

Win. A lot.

“I don’t like losing,” says O’Connor. He came to the right place.

Since those first “horrific” competitions, where the team’s goal was simply, “don’t come in last,” FITSEC has had a rapid, steady climb to the top of the nation’s competitive cybersecurity arena.

In spring 2020, FITSEC came in at No. 12 in the NCL tournament. By spring 2021,

the team had jumped to fourth place. In fall 2021, FITSEC won its first NCL championship and picked up a second the following fall. Most recently, the team placed sixth in the spring 2023 NCL tournament.

These national victories were punctuated by several smaller-scale wins, as well: third place in the 2021 U.S. Cyber Challenge regional qualifier; second place in the U.S.



We are helping build and promote awareness of this important discipline, and probably in the best possible way, because we are engaging talented and passionate students who will themselves become ambassadors.

— Marco Carvalho

Cyber Challenge Cyber Bowl; second place in the JumpWire CTF at ShmooCon; and first place at Saint Leo University's Cybersecurity Capture the Flag Invitational; to name a few.

"There were some really talented people on that early team, they just didn't know they were talented yet," O'Connor says. "Once we just got them going in the right direction, all of the wins started happening very fast."

What does competing in a cybersecurity challenge feel like?

"Anxiety." "Stress." "Dread." "Then, euphoria."

"When you figure it out, it's just the most beautiful feeling in the world," Heine says.

"It's a rollercoaster of emotions, but it always feels so good when you finally get something," Schmith says.

"I guess that's what keeps us coming back," Fernald adds. "We pretty much live with an addiction."

FITSEC has won everything from sizeable trophies and huge cash prizes to a Zimbabwe bill equivalent to about \$2 in the U.S. and a display trophy with a "winner" sticker stuck to the placard.

The point, Fernald says, "You don't actually need a prize."

"Competitions are great, but they're short-lived," O'Connor says. "Our students are graduating and going into industry and doing great things. I've got companies really excited about the students we're producing and asking for them by name. That's because of FITSEC."

Schmith, for example, is fielding internship offers from three companies—and he hasn't even graduated yet.

"FITSEC has made college better, but it's also done really well for my career," he says. "I've gotten a lot of internship opportunities. I'm getting jobs that I actually enjoy and where I enjoy the people around, as well, and I'm doing stuff that I'm really interested in—that's really great."

<Finally, keep it going.>

The work, O'Connor says, is never done: Learn. Grow. Win. Repeat.

"They have the respect of their adversaries for sure, and they should be very proud of that," Carvalho says. "I think what the team needs to do now is gain in numbers, gain in breadth, gain in presence, involve more students and really grow in terms of infrastructure and support."

As they continue refining the team, O'Connor seeks to lighten the load placed on individuals' shoulders, building an organization that's bigger than any one—or five or 10—person(s).

"I think we're a niche to the field of computer science, but I don't think we have to be—there are a lot of opportunities for people outside of our discipline to participate," O'Connor says. "We're just looking to be the best."

When FITSEC had won its first national championship, Carvalho congratulated O'Connor and his team.

When FITSEC won its second national championship the following year, he asked O'Connor what was next.

To O'Connor, there was only one answer.

"I guess, win it again, sir."

6

Curtice Gough is FITSEC's third and current president. Gough is ranked 17th nationally and was named a National Cyber Scholar in summer 2022. Outside of FITSEC, he is working with O'Connor under an Office of Naval Research grant to design and build "hackable toys" to teach cybersecurity to high school students.



"I've had a ton of fun getting down and dirty with the inner workings of FITSEC and helping to make it an even more supportive place for absolute beginners. Being president of FITSEC means a responsibility to nurture the growth of the other members."

7

FITSEC hosted its second annual Space Heroes Cybersecurity Competition in April. Students developed, organized and carried out the two-day, international capture the flag competition that drew more than 2,000 competitors from around the world. Its name and space-themed challenges pay homage to Florida Tech's space heritage, and the prize for winning teams included certificates from astronauts Winston Scott and Drew Morgan.

8

TEAM TALES

NCL Victory With about five minutes left on the clock and just a few points behind the leader during the 2022 NCL Championship, FITSEC was stuck on a steganography challenge where the flag was somehow hidden within an image of Taylor Swift. After exhausting every method they could think of to extract the flag, members agreed to sacrifice some points to receive a hint. The hint revealed the tool needed, and the team submitted the flag with just seconds to spare—putting them ahead by five points and securing the championship!



Dragon The team once purchased a toy dragon to practice hacking wireless devices. For hours, members tried everything they could think of, only to find the toy wasn't wireless after all—it was infrared, meaning there were no radio signals to hack. To this day, the dragon can be found around the FITSEC House as an unofficial mascot of sorts.

Pink Unicorn FITSEC hosts a "Big Brother CTF" during which senior FITSEC members (Big Brothers) team up with two junior members (Little Brothers) each to complete a series of challenges. With a goal of easing newer members into the competition environment, the CTF requires only Little Brothers control the keyboard while Big Brothers act as coaches. At the end of the competition, Little Brothers who perform "too well" are awarded the pink unicorn and are promoted to Big Brothers for the next time.



Rescue to the Research

With the help of Mateo, the orphaned monkey Florida Tech helped to re-home in 2020, university researchers are learning about the complex social relationships of primates and how those dynamics may illuminate human behavior.

By Mary-Lou Watkinson

“We know primates have robust long-term memories. Does he remember [being integrated into a social group that he was not born into]? Is that why he was so open to helping this little monkey without a mom?”

—Darby Proctor

Mateo the monkey is living the good life. But it didn't start that way.

Likely bound for the illegal wildlife trade until he was found in the center console of a truck attempting to cross the Texas-Mexico border in June 2020, he was rescued through the combined efforts of Florida Tech and Brevard Zoo.

After confiscating him, the officers who found Mateo contacted the U.S. Fish and Wildlife Service, who brought him to be quarantined at Dallas Zoo for a couple of months. In the meantime, the Association of Zoos and Aquariums Species Survival Plan set to work finding Mateo a new home, where he could—hopefully—integrate with a new monkey troop.

The organization quickly found one at Brevard Zoo, where associate professor Darby Proctor had recently developed a spider monkey cognitive testing complex, home to Shelley, the troop's alpha female who already had an infant about the same age as Mateo and who, they'd hoped, would essentially adopt him. The only problem was getting him there.

At the time, commercial airlines, the usual transportation in these types of situations, were not flying nonhuman primates due to COVID-19 restrictions. But Proctor had a solution: FIT Aviation.

After much coordination, on Sept. 17, 2020, two FIT Aviation pilots and Brevard Zoo's curator of animals took off in one of Florida Tech's Piper Seminoles bound for Dallas, returning the next day with a safe, albeit exhausted, fourth passenger: Mateo.

He was introduced to the troop at the zoo, and this is where we left Mateo: without a primate caretaker when Shelley refused to let Mateo near her offspring. Researchers had thought Shelley would be a good mother for him, but she was, in fact, too good of a mom—determined to protect her babies from the new stranger.

“I think we did most of the interview about Mateo not very long after he had come here, and wow, did I get nervous at that point,” Proctor says. “He was not doing well at all.”

She says Mateo had been alone for a minimum of half his life, causing him to develop abnormally. Since he was not clinging onto his mom, his body shape was different, and the musculature of his legs did not develop the way it normally would.

“He also had this huge potbelly, which is indicative of not having a very good diet,” Proctor says. “He was in a bad nutritional state. He was terrified of other monkeys. Now, I don't think even

continued on page 30

continued from page 29

another expert could pick out which of our monkeys was that monkey, because he is doing so, so well.”

Mateo has completely integrated into the spider monkey troop at the zoo. He now spends his days looking after and playing with the other young monkeys and has shown healthy signs of development.

So, how did Mateo go from a scared, isolated infant to the healthy youngster seen today? For that answer, we have to turn to troop alpha male, Shooter.

An Unexpected Bond

After settling in at the zoo, Mateo was slowly introduced to the group of spider monkeys, meeting the other juvenile monkeys and the females first. He met the other males of the troop last, as researchers thought they would pose the biggest threat.

They couldn't have been more wrong.

Upon meeting Shooter, Mateo was terrified. Shooter hung out near Mateo but did not approach him. After Shooter outstretched his arm, which is a reassurance gesture, Mateo curled into Shooter's belly area, and Shooter protected him—like a mother would.

“It was one of the most beautiful interactions I've ever seen in my life, and I've worked with around 13 different primate species, including chimpanzees,” says assistant professor Catherine Talbot, who works with the spider monkeys at the zoo with Proctor. “The alpha male wound up adopting Mateo. Mateo sleeps with Shooter and follows him all around.”

While it is typical of the species for young males to want to spend time around adult males, it is rare for an alpha male to adopt an orphaned monkey. So rare, in fact, that it has never been documented, to Talbot's knowledge, with wild spider monkeys before.

“There's only very few cases in which we've seen any sort of adoption in captive environments,” Talbot says. “Shooter regulates the group when anyone's getting rough. With infant spider monkeys, sometimes, their play gets a little rough, and then often, the mothers will come and intervene on behalf of their offspring. In this case, Shooter will do the same for Mateo.”

While the bond between Shooter and Mateo was unexpected, Proctor says Shooter may have seen a bit of himself in Mateo.

After Shooter adopted Mateo, Proctor obtained Shooter's zoo records, which



Student researcher Chloe Irelan collects observational data during a recent visit to Brevard Zoo.

showed that at 9 months, he was integrated into a social group that he was not born into, giving him a similar background to Mateo's.

“We cannot say this with any sort of scientific certainty, but I really wonder if Shooter remembers that,” Proctor says. “We know primates have robust long-term memories. Does he remember that? Is that why he was so open to helping this little monkey without a mom?”

Regardless of the reason, thanks to his new caretaker, Mateo is now growing and thriving, going as far as to show higher prosocial behavior than the other monkeys in his troop. Prosocial behavior is behavior that's affiliated in nature, such as sharing of resources or initiating play.

Researchers noticed Mateo carrying other infants—something documented in only a few cases in the wild and usually performed by juvenile females—and protecting other young monkeys during rough play.

One monkey Mateo looks out for is his best friend, J, who was rescued in a similar way.

Rescuing J

In fall 2021, a patrol officer found another young spider monkey at the Texas-Mexico border in a suitcase on the side of the road.

Named J after the first initial of the officer, Brevard Zoo went through a similar process to integrate him into its spider monkey troop.

J was younger than Mateo, but it was clear he had spent more time with his original spider monkey family, as he was good at communicating with the others.

“J was integrated into the troop, and Shooter essentially adopted J, as well,” Talbot says. “I would say that the bond between Shooter and Mateo seems to be a little bit stronger, but Shooter also looks out for J, and Mateo and J have become best friends.”

Mateo has also taken on the role of looking out for J and keeping him out of trouble.

“When some of the other juveniles are playing a little too rough with J, Mateo will come and almost drag the other individuals away to not bother J,” Talbot says. “It's adorable.”



Mateo

rescued in 2020 through the combined efforts of Florida Tech and Brevard Zoo

WAS ADOPTED BY

Shooter

alpha male of the Brevard Zoo troop

WHO LATER ALSO ADOPTED

J

Another orphaned monkey rescued from international trafficking

The dynamic between these three spider monkeys offers an opportunity to

EXPAND EXISTING FLORIDA TECH RESEARCH

into social structures and animal cognition.

“There’s only very few cases in which we’ve seen any sort of adoption in captive environments.”

—Catherine Talbot



Progressing Research

While everyone is glad Mateo is happy, healthy and adjusted, his arrival and interactions with the other spider monkeys has also helped to progress research.

Proctor says there isn’t a lot of research on spider monkeys in captivity, as most primate research centers choose capuchin monkeys because they have the biggest brain-to-body size ratio of new world monkeys—a rough proxy for intelligence across animals.

Through the Dr. Mary Helen McCay Research Shed and the Animal Cognitive Research Center, Proctor and Talbot perform research and gain new findings about the species. While there is a lot of evidence on spider monkey behavior in the wild, there is limited research on how they act in captivity.

“The advantage of doing research in a place like a zoo is that we can not only

is a social organization in which the troop breaks off into smaller subgroups throughout the day and then comes together into larger parties when resources are abundant or toward the end of the day. Humans also utilize this social structure.

Having an animal-managed habitat allows the spider monkeys to break up as they choose into the smaller subgroups and come back together when they feel it’s time.

Talbot says they are taking a closer look at the strength of these social bonds, and they are currently looking at social learning. The monkeys are being trained to exchange tokens as part of a project on inequity, where they are performing the same task but getting paid less than a partner.

The relationship between Shooter and Mateo also leaves room for a deeper

“The advantage of doing research in a place like a zoo is that we can not only ask, ‘What do they do?’ But we can ask, ‘What can they do?’”

—Darby Proctor

ask, ‘What do they do?’ But we can ask, ‘What can they do?’” Proctor says. “We have the research space out at the zoo, and I don’t know of any other place in the world that has a research space for spider monkeys.”

The Spider Monkey Complex at the zoo, where all of this is housed, is one of the only animal-managed fission-fusion habitats in the U.S. Fission-fusion

exploration into spider monkey cognitive capabilities.

“We have a theory that the complexity of your social world helps to drive the evolution of cognitive abilities,” Proctor says. “That we’re seeing such complicated social behaviors, like an adult adopting a stranger infant, to me, suggests they have quite a bit going on up there that we haven’t been able to tap into yet.”

Mateo may have had a rough start, but he is on his way to becoming a well-rounded spider monkey and potential next alpha of the troop at the zoo.

“Mateo obviously had a really tragic start, but to me, I think he has had the best possible outcome,” Proctor says. “He’s in a complex social group with plenty of space and tons of enrichment. He has lots of other monkeys to play with. He is starting to show interest in sexual behaviors and approaching that context correctly. So, for a monkey with this tragic background, I don’t know what’s a better outcome for him than that.”

A MESSAGE FROM THE FLORIDA TECH ALUMNI ASSOCIATION

Greetings, fellow alumni!

I hope you all enjoyed an incredible Homecoming Week if you were able to join us. Coming back “home” lets us experience a little of that original magical feeling we felt when we attended Florida Tech. Being back on campus and reconnecting with fellow alumni reminds us what makes Florida Tech so special and makes me reminisce about some of my favorite things from back in those days:

FIN’S FAVS

- » **FAVORITE FOOD:** There used to be a wonderful Costa Rican chef who worked at Evans Dining Hall in the early '90s (Unfortunately, I do not recall his name—do you?). He used to make burgers with his homemade guacamole, and they were incredible!
- » **FAVORITE CAMPUS EVENT:** I always loved Homecoming, especially at the College of Aeronautics when we used to have amazing hangar parties, where we could network with alumni for jobs.
- » **FAVORITE STUDY SPOT:** Top floor of our library—great “Jungle” views with a side of peace and quiet.
- » **FAVORITE PROFESSOR/CLASS:** I always had an affinity for professor William “Russ” Graves. He used

to teach airport design and aviation computer applications, and he was a mentor for me during school and my career. He always went above and beyond to help students and get them excited about a career in airport development. He was also a highly respected Air Force veteran who helped develop the KC-10 refueler aircraft and often shared his lessons-learned stories from his incredible career. An amazing man!

- » **FAVORITE PLACE TO HANG OUT WITH FRIENDS:** The Rathskeller! From watching “Star Trek: The Next Generation” when it was new on TV to playing video games and attending pool tournaments, I love that place.
- » **FAVORITE PLACE IN MELBOURNE TO VISIT:** The beach! As I am an avid surfer, the combination of a great university and some famous surf breaks, warm waters and a thriving surf culture—what else could you ask for?

Ring any bells? What are some of your favs? If you’re willing to share, we’d love to hear them: magazine@fit.edu.

Until next time, go Panthers!



YOUR ALUMNI ASSOCIATION OFFICERS

- Fin Bonset** '96, '99 MSA
President | Indialantic, FL | fbonset@vhb.com
- Sherry Acanfora-Ruohomaki** '93, '00, '05 M.S.
Vice President | Melbourne, FL | sherry@k9kampus.com
- Chad Shoultz** '96
Treasurer | Indialantic, FL | ccshoultz@icloud.com
- Warren Pittorie** '15, '18 M.S.
Secretary | Melbourne, FL | wpittorie2012@fit.edu
- Chris Fernando** '02
Member-at-Large | Raleigh, NC | cfernando@gmail.com
- Kim Bozik** '87
Past President | Chandler, AZ | kim.bozik@regan.com



Sun 'n Fun

Alumni Affairs hosted a one-of-a-kind alumni meetup April 1 at the SUN 'n FUN Aerospace Expo, one of the world’s largest annual aviation events, at Lakeland Linder International Airport.

Alumni, students, future Panthers and friends mingled and networked while enjoying complimentary food and drinks, playing lawn games, getting up close to the Florida Tech jet dragster, checking out FIT Aviation’s aircraft and more.

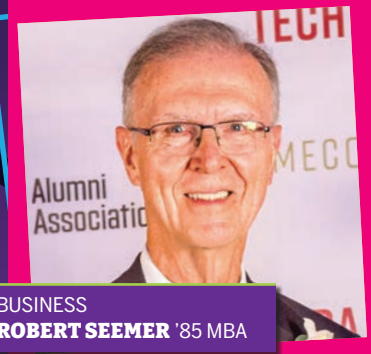


FLORIDA TECH HOMECOMING NEON JUNGLE 2023

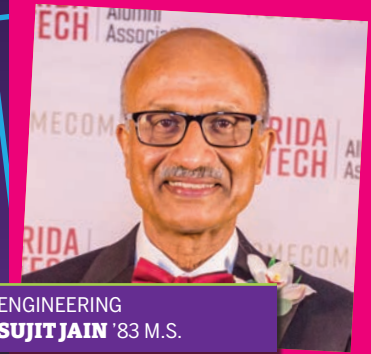
Congratulations to our alumni award recipients:



AERONAUTICS
JILL EANES '89, '91, '93 MBA



BUSINESS
ROBERT SEEMER '85 MBA



ENGINEERING
SUJIT JAIN '83 M.S.



SCIENCE
DAVID B. WISINGER '82, M.D.



PSYCHOLOGY & LIBERAL ARTS
CAROLYN BANEY '92*
**Accepted on her behalf by Richard Baney*



GOLD AD ASTRA AWARD
ANGIE LASSMAN '12, '14 M.S.



JEROME P. KEUPER AWARD
SVAFA GRÖNFELDT '95 M.S.



PRESIDENT'S AWARD FOR SERVICE AND LEADERSHIP
GLAD KURIAN '90 MBA

Scan to view photo galleries of all the Homecoming events at floridatech.edu/alumni-photos »



ANGIE LASSMAN '12, '14 M.S., was honored with the first GOLD Ad Astra Alumni Award at the 2023 Florida Tech Alumni Awards Gala in March. This new honor recognizes graduates of the last decade who represent the future leaders of tomorrow.

In November 2022, Lassman accepted a meteorologist position with NBC News Climate Unit in New York City, appearing on the “Today” show weekend broadcast and weekday mornings on NBC, MSNBC and NBC News NOW.

Originally from Michigan, Lassman grew up dreaming about being a cast member on “Saturday Night Live.” Her mother, who knew of Lassman’s aptitude for math and science, encouraged her to pursue a dream where she could use her academic skills to become a star of a different kind.

“It was thanks to my mom, who knew her kid really well and helped put those puzzle pieces together, that landed me on the right track.”

When Lassman started her college search, she was drawn to Florida Tech’s athletics program. Having grown up playing volleyball, she wanted to continue playing in college but also wanted to have the time to focus on her studies.

“There aren’t that many schools that have really good athletic programs and really good meteorology programs, but Florida Tech checked both of those boxes,” she says.

After graduating from Florida Tech, Lassman first worked as a weekend meteorologist at a news station in St. Joseph, Missouri. This was where she gained her first on-air experience and quickly rose in the ranks. After two years, not only was Lassman forecasting the weather on television, but she also produced, reported and anchored broadcasts. It was in St. Joseph that her passion for climate change storytelling sparked.

Lassman went on to accept a meteorologist role in Miami, where she focused on both broadcast meteorology and climate and environmental stories.

“I am so passionate about the environment,” she says. “I love talking about it and love meeting with different types of people to tell their stories.”

While working in Miami, Lassman pitched a five-part series documenting the historic bushfires in Australia, their impacts and how climate change-fueled events like these could eventually threaten Florida. Much to her surprise, her producers approved it.

With a turnaround time of only five days, Lassman worked 18- to 20-hour days interviewing families who had lost their homes, visiting rescued koalas from the Blue Mountains and meeting with climate scientists and coral researchers.

“It was really great to be able to go and tell those stories and show the rest of the world, specifically Florida, what was happening there and why we should pay attention when it comes to climate change.”

Lassman’s climate coverage earned her Emmy and Telly awards, as well as the Award for Excellence in Science Reporting by a Broadcast Meteorologist from the American Meteorological Society.

—Erin Alvarado



SPOTLIGHT ON

Angie Lassman

FLORIDA TECH CONNECTION: '12 B.S., '14 M.S. meteorology

DAY JOB: Meteorologist with NBC News Climate Unit in New York City

ADVICE FOR FEMALE STEM STUDENTS: Whatever room you enter, you should believe that you belong there, because you do.

FAVORITE HOBBY: Exploring new coffee shops in NYC

DREAM VACATION: Safari in Africa

FAVORITE FLORIDA TECH MEMORY: The bus rides to and from the volleyball games with my teammates

1970s

1 PHIL HENDERSON

'74 welcomed his newest grandchild, Josephine Joy DiPietro, in November 2022.

CAPT. PARIS MICHAELS

'74 A.S., '76, '83 MBA, won a Distinguished Alumni Award from the Altoona Area High School Alumni Association.

2 DALE PIERCE '76 M.S.

recently accepted a position as a custodial manager for a church in Melbourne.

3 WAYNE “LARRY”

DANDRIDGE '77 M.S. was awarded South Carolina’s highest civilian honor, the Order of the Palmetto award, for his selfless service to veterans. The award is in recognition of a lifetime of extraordinary achievement, service and contributions on a national and statewide scale.

4 ERIC SIMON '79 A.S. was

featured in “Sewer Divers,” a new reality show on Discovery Channel. The episode follows his son’s company, Shoreline Diving Services, where he is also employed.

1980s

GLEN GATES '81 was appointed vice president of A321 freighter programs with Global Crossing Airlines.

CRAIG S. FABRIKANT

'83 Psy.D. was elected president of the Florida Psychological Association.

5 DAVID JEROME '85

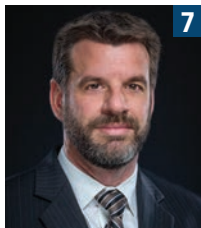
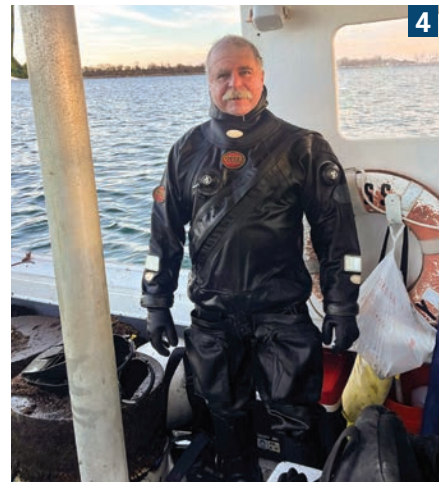
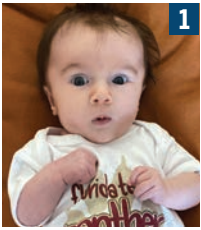
MBA wrote *Bill Virdon: A Life in Baseball*, a biography published by McFarland and Co. Inc. in February.

BORA ERBILEN '89, '91

MBA, was elected a Fellow of the American Society of Civil Engineers.

RUSS A. RASMUSSEN

'89 M.S., '90 Psy.D., in partnership with Jeff Sievertson, released a book titled *Becoming One as Husband and Wife: A Self-help Novel*.



HERB RAYBOURN '89, '91 M.S., was elected a Fellow of the American Society of Civil Engineers.

EDWARD THOMAS JR. '89 has been appointed dean of Auburn University's College of Sciences and Mathematics.

1990s

JOHN AITKEN '90 was honored by *Silicon Valley Business Journal* as one of "Silicon Valley's Power 100" movers and shakers.

ROBERT HANSEN '91 accepted a new position as Norfolk Naval Shipyard's lifting and handling director and was featured in *Service to the Fleet* magazine.

LAINY B. RICHARDSON '91 Psy.D. retired in June 2022 after 23 years with the Georgia Department of Juvenile Justice. Richardson was the clinical director at Metro Regional Youth Detention Center.

JEFF SHAW '92 was promoted to director of sales and marketing with ProStar Aviation.

6 SIDNEY W. THURSTON III '92 M.S., '99 Ph.D., was appointed vice president of global science & technology at EarthX.

JOHN DEAN '93 works as the vice president of strategic accounts in the western region for ABM Industries.

COREY CRISWELL '94 M.S. joined Adeption as the chief leadership officer, Americas, after 25-plus years in leadership development roles at the Center for Creative Leadership and as director of executive development at Target.

7 MATTHEW B. SCHABATH '98 has been named co-leader of the Cancer Epidemiology Program at Moffitt Cancer Center in Tampa, Florida.

2000s

LAURA GATZ '00 works as a specialist for the Congressional Research Service and recently testified at a hearing before the House Committee on Transportation and Infrastructure,

SUBMIT YOUR NEWS TO
alumnotes@fit.edu

Subcommittee on Water Resources and Environment.

ANUK WEERASINGHE '02 was featured in *CEO Magazine Sri Lanka*, discussing his life and career as co-founder and managing director of Kasper Global (Pvt) Ltd.

8 MARTHA K. WILLIAMS '03 Ph.D. was named chemical professional of the year by the American Chemical Society Orlando chapter.

AARON BELDNER '04 M.S. was appointed CEO of Truity Credit Union in Bartlesville, Oklahoma.

9 TIM LINGO '06 M.S. was appointed the human resources senior director for Aerojet Rocketdyne's Defense Business Unit headquartered in Huntsville, Alabama.

10 KELBY MORGAN '06 is employed with MWI Pumps as a regional sales manager,

working with representatives in various markets across the United States to help design and sell engineered industrial water pumps.

11 AMANDA MINKS '08 recently accepted a project manager position with Burns and McDonnell, producing renewable fuels to enhance utility services for profitable and lasting portfolios.

APRYL ALEXANDER '09 M.S., '12 Psy.D., was presented with an American Psychological Association Presidential Citation for her substantial contributions as an early-career psychologist.

JACOB ALLENBAUGH '09 started his own business in 2008 while attending Florida Tech. Pusher Intakes, located in Vero Beach, Florida, has now expanded to a 10,000-square-foot manufacturing facility.

continued on page 36

In September 2022, **DENNIS BOURNE** '79 A.S., '81, and **BRANDON BOURNE** '13 made history as the first Black father-son duo to fly together with American Airlines.

It was an unlikely pairing. They live in different parts of the country—Brandon is based in North Carolina, Dennis in Philadelphia—and while they originally flew the same aircraft, Airbus 321, Brandon had received a captain's bid and would soon change to a Boeing 737.

But having served over 30 years with the company, Dennis was able to pull some strings to place the two on the same aircraft before Brandon made the switch.

"I called up Brandon a few days later and asked, 'You want to fly with your old man?' We had so much fun up there. We kept looking at each other during the flight and laughing."

Along with them on the historic flight was Dennis' wife and Brandon's mother, Crystal; Brandon's wife, **YASMINE YOUSEF** '13; and Brandon and Yasmine's daughter, Mina.

"Somehow, even though I still have 34 years left to go, I already know that I've had the pinnacle moment of my career," Brandon says.

Originally from Barbados, Dennis knew at an early age that he wanted to fly. Growing up, he was inspired by stories from a family friend who had moved to the United States to become a pilot.

"Flying is just something that's a part of me," Dennis says.

Inspired by his father's legacy at Florida Tech, Brandon followed in his footsteps. He remembers reading his dad's old training books and being inspired by what he saw on the pages.

"I never wavered after that," Brandon says. "I just knew I wanted to do it."

Dennis may be close to retirement, but it has not slowed him down.

"Every day, I pinch myself because I'm getting paid to do what I love: travel the world," he says.

When he isn't flying his normal routes to Aruba, Dennis is teaching professionalism and leadership classes for American Airlines.

Meanwhile, Brandon's career is just getting started.

"As I'm walking through the terminals, I see excited families together about to go on vacations, homesick people crying on the phone, passengers running by trying to catch their flight, and girls' trips in their matching outfits," Brandon says. "I know that my job is helping them do something that they need to do or want to do. I'm getting them somewhere that they want to be, and that gives me a lot of satisfaction in my position."

—Erin Alvarado



SPOTLIGHT ON

The Bourne Family

FLORIDA TECH CONNECTION:

Dennis '79 A.S., '81 B.S., air commerce/flight technology; Brandon '13 B.S., aviation management, flight

FAVORITE AIRPORT: Dennis: Grantley Adams International Airport (Barbados, hometown); Brandon: Miami International Airport (loves the water)

FAVORITE FLORIDA TECH MEMORY: Dennis: All four years were the best of my life, so it's hard to choose, but I did love studying and spending time with friends in "The Jungle" (Patterson Botanical Garden); Brandon: Flying to Turks and Caicos in a Seminole with my professor and my roommate. We had dinner on the beach and were able to see wild horses running past.

continued from page 35

2010s

HAYLEY (DONNER) THOMAS '11 and **BENJAMIN THOMAS** '13 B.S. welcomed their newest Panther cub, Vivian, to the family along with big brother Whitman and older sister Adelaide.

12 KIMBERLY TOWNSEND '11 and her husband welcomed their second child in February.

ZACHARY MILLER '12 created a startup company, Triton Anchor, focused on floating offshore wind anchoring systems to reduce the cost of energy and support the goals of a more sustainable future.

13 ADAM PAULAUSKAS '12 recently returned from Europe, where he served as the logistics officer for the Joint Multinational Training Group-Ukraine mission. He now works as the 254th Transportation Battalion's personnel officer with the Florida Army National Guard.

14 LT. COL. DREWRY L. BROWN '13 M.S. recently retired from the U.S. Army after 26 years of service. He previously served as senior logistics officer for the U.S. military's premier all hazards command.

TOM SEPANIK '14 M.S. started a new position as enterprise IT program manager within the chief information office at Northrop Grumman Corp.

AMAR BAYASGALAN '16 has been appointed vice president of the Mongolian Association of State Alumni, the largest alumni association in Mongolia, from 2022 to 2024.

ARIANA TATE '16 recently joined a new project supporting the National Cancer Institute within the National Institutes of Health at Booz Allen Hamilton. She is responsible for documenting and assessing software requirements for the engineering team.



12



13



15



16



20



21



14



17



19



18



22

JOEMARIE REID '17 has joined Kemp, Ruge and Green Law Group as a litigation associate in Tampa, Florida.

SAM BOYD '18, '20 M.S., is a relator with Dale Sorensen Real Estate and loves to help Florida Tech students, alumni and people from all over the world experience Melbourne.

JOHN BREEN '18 works for Jacobs, supporting NASA's Artemis 1 mission, a flight test for the Orion capsule to eventually return humans to the moon.

15 PAIGE CARLTON '18 was promoted to senior systems engineer at Medtronic. She was also awarded the Medtronic Medallion to celebrate her second anniversary with the company and her work on the Hugo™ robotic-assisted surgery System.

COLT CUSSON '18 recently became a senior operations manager at Goodbay Technologies, where he is managing clients and operations in Bangalore, India.

SERGIO RAMIREZ '18 MBA has accepted a promotion as business manager for lab service at University of Florida Health. He and his wife, Hillary, are expecting their first child this summer

16 JEAN RICHELIEU '18 M.S. will be serving as a senior logistician and analyst, providing advice and assistance to Air Force, Army, Navy, Marine Corps and non-Department of Defense representatives on their troop-support requirements.

17 DIANA NIGLIO '19 A.S., '20, recently joined the Law Offices of the Public Defender, 20th Judicial Circuit, as IT help desk technician tier 2.

2020s

18 JOSEPH MOORE '20 was promoted to captain on a Citation CJ3 with Silver Air Private Jets.

19 JESUS AVILES '21 started a new position with KPMG LLP as a supply chain and operations consultant.

20 ZACHARY BEHLOK '21 A.S., '22 A.A., took on the role of vice president at The Lawn Chair Philosophy Foundation, a 501(c)(3) nonprofit operating out of Philadelphia that aims to make academic philosophy more accessible.

ALYSSA HEADLEE '21 started a new position as a software developer at Captivea U.S.

ALEXANDRA YATES '21 was promoted to outside sales representative for H&E Equipment Services in Malabar, Florida.

21 VERONICA ALVARADO '22 MBA was promoted to senior integrated program planner at Lockheed Martin Corp.

CHERRISE FICKE '22 was awarded the prestigious RADM Fred Lewis I/ITSEC Postgraduate Scholarship. She is set to graduate with her master's degree in spring from Florida Tech.

22 SEGOVIA GOODIN '22 MBA was promoted to electro-mechanical engineer senior at Lockheed Martin Missiles and Fire Control, working on the next leading technology to defend our nation.

ARIANA LUTSIC '22 M.S. started working at NanoRacks as a mission manager at Kennedy Space Center.



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, and it may appear in the magazine.

For details: alumni@fit.edu

IN MEMORIAM

COL. MARVERN "MARV" MERCER '69 M.S. passed away Jan. 1. He served in the U.S. Air Force and received several decorations, including the Legion of Merit.

JOHN RICHARD THOMAS '74 M.S. passed away July 25, 2022, and was laid to rest in Fort Sam Houston National Cemetery, San Antonio.

LT. COL. JAMES C. PATRICK '78 M.S. passed away March 1 at age 76. He served in the U.S. Army and received several decorations, including four Bronze Stars.

CAPT. SCOTT CRITZER '90 A.S., '92, passed away Oct. 1, 2022, at age 52.

FRANCIS "FRANK" LAMAR DALY '91 M.S. passed away Dec. 12, 2022, at age 87. Daly retired from the U.S. Army as a civilian engineer in 1993.

HOYT CALVERT JOHNSON SR. '91 MBA passed away Jan. 27. Johnson was awarded the highest government civilian honor upon his retirement from the Department of Energy in 2016.

STUART "STU" WILLIAM BALDWIN '07 M.S. passed away Feb. 22 at age 62. Baldwin had a 40-year career as a software engineer and was most recently employed at Platform Aerospace.

CARL BOTTCHE, a great friend of the university who, along with his wife, JoAnn, established the Carl and JoAnn Bottcher Endowed Scholarship to support the achievement of exceptional students in the College of Engineering and Science, passed away Jan. 10 at age 88.

CHRISTIAN KOCH, who played on the men's lacrosse team at Florida Tech, passed away Dec. 4, 2022, at age 28.

JAMES RUSSELL CONSTANTINE, professor emeritus who taught at Florida Tech for close to 20 years, passed away Dec. 27, 2022, at age 99. Constantine taught aviation, navigation, airport planning and other flight-related courses in addition to creating the school's highly successful training with industry program.

John Hadjilogiou

Distinguished Professor Emeritus **JOHN HADJIOLOGIOU**, who spent 45 years at Florida Tech as a teacher, department head, mentor and classroom innovator in electrical and computer engineering, passed away March 11 at age 84.

Born in Egypt to Greek parents, Hadjilogiou came to the United States in the early 1960s on a student visa sponsored by his sister. After graduating from the RCA Institutes in New York, a well-known electronics school, he was promptly hired as a research assistant at the RCA Research Center in Princeton, New Jersey. He then earned his bachelor's, master's and Ph.D. in electrical engineering from Polytechnic Institute of Brooklyn (now Polytechnic Institute of New York).

He joined Florida Tech in 1970. In addition to his teaching and research, Hadjilogiou served as undergraduate electrical engineering program coordinator. In 1980, he was appointed acting head of the electrical and computer engineering department. He held this position for 12 years, during which he continued to push for additions and improvements.

Known as "Dr. Hadji" to his students, the dark-haired professor with the John Travolta-like cleft chin was a mentor to many.



TAKE A SEAT

Leave a permanent legacy within Gleason Performing Arts Center by sponsoring a seat.

FLORIDATECH.EDU/SEAT

Connected

FOR LIFE

FLORIDA TECH Alumni Association



Use promo code SHOP50

\$50 OFF
COLLEGIATE JEWELRY

Wear your Panther Pride every day!
Scan here to browse Florida Tech Rings

YOUR OFFICIAL RING PROVIDER
JOSTENS.COM/COLLEGERINGS



70693-7678A
© 2023 Jostens, Inc. All Rights Reserved.



FACES OF GREATNESS

Race Cars and Wild Ideas

With a little space, time and creativity, Jeremy Casperson transforms fields and streets into NASCAR racetracks.

By Erin Alvarado



JEREMY CASPERSON '10 has spent most of his life at the racetrack. Growing up with a race car driver as a mom, he spent many years following the sport and attending events but never thought he'd work in the industry.

Then, in February 2021, he stumbled upon a job opportunity with NASCAR, a rarity, as the company had not hired an external candidate in over 18 years. With his background in construction engineering and inspection, plus his love of the sport, he was selected as the director of civil engineering.

While attending Florida Tech, Casperson was an active member of the men's tennis team and admits he was not the "greatest student." Enjoying time at the beach and with his teammates often took priority over his studies. It was not until professor Paul Cosentino saw his potential that Casperson started to excel.

"I didn't apply myself as much as I should have. He saw straight through that and pushed me. He untapped that potential that I had," Casperson says.

"He is somebody that I greatly admire. I'm not sure that he ever really knew that he did that for me."

Since starting his career with NASCAR, Casperson's favorite part of his job has been organizing and managing pop-up events. For the past two years, he has also led the team that retrofits Los Angeles Memorial Coliseum for NASCAR's Cup Series Busch Light Clash. To make this event possible, Casperson and his team have six weeks to construct a quarter-mile racetrack inside the landmark stadium.

Casperson cites Los Angeles' unpredictable weather as the biggest challenge of the transformation process. Leading up to the 2022 event, California experienced record rainfall that caused him and his team to adapt and overcome. But, he says, it was all worth it.

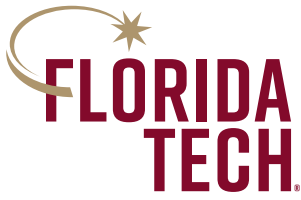
"The Saturday of race weekend, when you're sitting in the stands, and the cars come out of the tunnel usually used by the football players, and they start running 75 to 80 miles an hour

around the track that used to be an end zone, it's the most fulfilling feeling that I've had."

This year, as the winners were celebrating their victories, Casperson and his team were in the background, starting the two-week teardown process and heading to their next event, NASCAR's Chicago Street Race Weekend, a first-of-its-kind for the company that will take place the first weekend in July.

Managing the logistics of turning Grant Park into a race fan's dream is no easy task. Working closely with the city and state governments, Casperson and his team are building the racetrack, all the event facilities, the grandstands and the spectating suites.

"People come to you with a wild idea, like Chicago, and initially, you just shake your head. 'You can't be serious!' And then, you start to figure it out, and it's exciting to see it all come together for the fans."



**Office of Marketing
and Communications**

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

BACK IN THE DAY

- 1970s
- 1980s
- 1990s
- 2000s
- 2010s
- 2020s

In the late 1960s, local citrus grove owner John Evans—yes, of Evans Library fame—donated seven peacocks to Florida Tech. While they mostly lived in Patterson Botanical Garden, the peacocks frequently roamed about, adding a little color to both campus and the student experience.

Gradually, however, the birds went missing—whether by natural causes or more nefarious means, such as the peacocknapping incident of summer 1974, which peacefully resolved in the release of both the peacock and its chasers since, as a newspaper article at the time put it, “Police said there is no law against chasing a peacock on University Boulevard.” By 1980, only one peacock remained: a male blue peacock named “Papa Bird,” pictured here.

Do you remember Papa Bird and the peacocks? We'd love to hear your personal peacock memories! Share them with us at magazine@fit.edu.

Photo courtesy of the Harry P. Weber University Archives

