

FLORIDA TECH

M A G A Z I N E

SPRING 2022

Taking Airports to New Heights

Murphy Flynn '89 and other alumni at the FAA are improving, modernizing airports from runways to fire safety.





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GRAD BASH

The Florida Tech Alumni Association welcomed the class of 2022 to its illustrious ranks at its spring Grad Bash celebration May 6 with live music, food, drinks, a photo booth, giveaways and more. That Saturday, 540 undergraduate and about 400 graduate students packed the Clemente Center for the spring 2022 commencement ceremonies.

Photos: Schrack & Co. Photography

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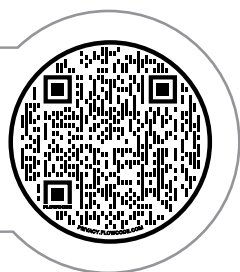
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King Appointed Interim President

National Higher Ed Leader, Former SUNY Chancellor Brings Diverse Experience to Role

The Florida Institute of Technology board of trustees announced that Robert L. King has been appointed interim president. King, a national leader in higher education and former chancellor of the State University of New York (SUNY), arrived on campus the week of July 11.

King most recently was assistant secretary for postsecondary education at the U.S. Department of Education, serving from 2019 until January 2021. Prior to his service with the federal government, he led the Kentucky Council on Postsecondary Education as president for 10 years, and before that led SUNY as system chancellor for 5 ½ years. He also served as interim president of the Potsdam campus. In addition, he served for three years as president and CEO of the Arizona Community Foundation, a statewide charitable foundation.

“I believe Mr. King is the right leader for this transitional period at Florida Tech,” said Travis Proctor, chair of the board of trustees. “He understands what is required to ensure we execute our primary mission to provide our students with an exceptional education while also bringing the kind of perspective and broad experience in higher education that will be invaluable as we evaluate our needs and expectations for the next permanent president. The board welcomes the opportunity to leverage his diverse experience and interactions with many different institutions and senior leaders in higher education across the nation as we chart our forward course.”

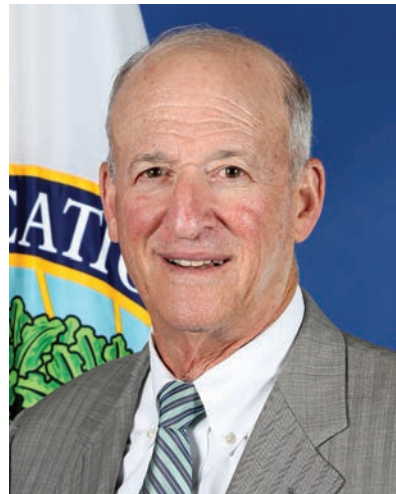
King is a member of the board of directors of the Association of Governing Boards of Universities and Colleges. He has also served on two higher education boards of trustees: Prescott College for three years and A.T. Still University, the nation’s oldest osteopathic medical school, for nine years.

“I am honored by the confidence the board has shown by selecting me to serve as Florida Tech’s interim president,” King said. “I am excited to help lead the transition to a new permanent chief executive. Everything I have learned about the university, its faculty and students, its board and the community of Melbourne all represent a long-standing commitment to excellence. It is a commitment I intend to preserve, and hopefully enhance, during my time at this superb university.”

Early in his career, King worked as a prosecutor in the district attorney’s office in San Luis Obispo, California, and the district attorney’s office in Rochester, New York, and later served three terms in the New York Legislature. He also worked in the New York governor’s office as budget director and director of the Office of Regulatory Reform. He was appointed by President George W. Bush to the White House Commission on Presidential Scholars. His awards include the Friend of the Faculty Senate Award, presented by the SUNY Faculty Senate in 2005.

King earned his B.A. from Trinity College and his J.D. from Vanderbilt University School of Law. He has four adult children and one grandchild.

Proctor said the board has hired AGB Search to facilitate the search for the next permanent president. The process will officially kick off in late August as faculty and students return to campus. As the search begins, the process will engage faculty, staff, students, parents, alumni and other community stakeholders, and a series of listening sessions is planned, Proctor said.





Gen. Stan McChrystal speaks during the F. Alan Smith Distinguished Lecture Series in April.

Gen. Stan McChrystal Talks Risk, Advises Cadets During Campus Visit

Stan McChrystal, the retired U.S. Army four-star general who led Joint Special Operations Command and later oversaw U.S. and international forces in Afghanistan, offered advice for students and insight into risk as he visited the Florida Tech campus and spoke at the F. Alan Smith Distinguished Lecture Series.

McChrystal is a senior fellow at Yale University's Jackson Institute for Global Affairs and co-founder and CEO of McChrystal Group, a leadership consulting firm where he advises senior executives at multinational corporations on navigating complex change and building stronger teams.

In a Q&A session in Skurla Hall with cadets from the ROTC program before he strode across Crawford Green to Gleason Performing Arts Center, McChrystal said that in his early post-college years, he was too focused on becoming "personally competent" as a young soldier. That meant he was not always listening and learning.

"If I could go back to myself then, I don't know if myself then would listen, but the reality was, what I should have done is listen more and worry less about becoming personally competent first," he told the cadets. "Long term, you will become personally competent; you will figure it out. But if you stop and listen, you will get so much more."

At a crowded Gleason, Marco Carvalho, executive vice president and provost, welcomed McChrystal. McChrystal spoke of his distinguished, three-decade military career and his success as an author and speaker. Carvalho then said the general's return to campus was a homecoming of sorts, as McChrystal's father, Gen. Herb McChrystal, founded Florida Tech's continuing education program in 1980 and served as director of professional development.

"So General, on behalf of your Florida Tech family, welcome home," Carvalho said, before addressing the audience: "It is a true honor to have a leader of Gen. McChrystal's experience join us this evening and share his insights."

And that he did. His presentation was "Understanding Risk and Mastering the Unknown," and it tapped into his most recent best-seller, *Risk: A User's Guide*, published in October 2021.

The lecture series' founder and benefactor is F. Alan Smith, who brought innovation and passion to the business of automobiles. Smith spent more than three decades in leadership positions at General Motors Co. in the U.S. and Canada, including serving as executive vice president of finance of General Motors and president and general manager of General Motors of Canada, Ltd. Smith has served on Florida Tech's board of trustees since 1996.

McCay Retires; Search Underway for Next President

T. Dwayne McCay retired as Florida Tech's president March 25, concluding nearly two decades of service to the university.

In a letter announcing his retirement, McCay said he was proud of Florida Tech and how well the campus community weathered the pandemic.

"Everyone—students, staff and faculty—have been amazing. We are now poised to move forward to even greater accomplishments and adventures," he said.

Other accomplishments during his tenure include the introduction of tenure, new buildings, such as the Gordon L. Nelson Health Sciences facility, enrollment growth and graduation rate improvements.

"We thank President McCay and his wife, Mary Helen, for their many years of service to the university, and we wish them the best in their future endeavors," board of trustees chairman Travis Proctor said in a letter to campus. "We are especially grateful for President McCay's leadership during the pandemic, and in particular, his ability to keep our community informed, focused and united during uncertain times."

The board will lead the search process for a new permanent president utilizing a professional search firm, which may take a year. In the meantime, the board has appointed Robert L. King as interim president (see page 4).

"The board of trustees understands that it has no singular responsibility more important than the selection of the next leader for Florida Tech," Proctor said.



GORDON L. NELSON HEALTH SCIENCES

New Deans in Place for Fall Semester

The fall semester will start with several new deans across campus.

College of Engineering and Science: John G. Harris, Ph.D.



John G. Harris, a distinguished scholar and accomplished leader who oversaw dramatic increases in faculty and research funding as chair of the University of Florida's (UF) electrical and computer engineering department, started as dean of Florida Tech's largest college July 1. Harris spent 29 years at UF after earning his bachelor's and master's degrees in electrical engineering at Massachusetts Institute of Technology and his Ph.D. in computation and neural systems at California Institute of Technology.

Dean of Students: David McMahan, J.D.



David McMahan started May 15 as dean of students. With a distinguished, three-decade career in higher education, he arrives at Florida Tech from Wayne State College in Nebraska, where he served as assistant dean of students and interim vice president for student affairs before being appointed dean of students and Title IX coordinator in 2019. He holds a Juris Doctor with honors from the University of Tulsa College of Law and a bachelor's degree in sociology from the University of Houston—University Park.

College of Psychology and Liberal Arts: Robert Taylor, Ph.D.



Robert Taylor, a historian and teacher who has enlivened Florida Tech classrooms for 25 years, was selected as the next dean of the College of Psychology and Liberal Arts on April 5. Taylor had served as interim dean of the college since 2021 and as associate dean and head of the School of Arts and Communication since 2013. He earned his bachelor's and master's degrees from the University of South Florida, and he holds a Ph.D. in American history from Florida State University.

The search process is underway to fill positions for deans at the College of Aeronautics and Evans Library.

QUAD COMPLETE

With the end of construction on the Gordon L. Nelson Health Sciences building this summer, the Olin Quad is complete. Classes and labs in the building will begin in fall semester as students, faculty and staff continue the moving-in process.

Dr. Julius Montgomery Scholarship Honors University Pioneer

Gaye Montgomery, daughter of barrier-breaking Florida Tech alumnus Julius Montgomery, has established an endowed scholarship in her father's name at Florida Tech that will support students from historically marginalized groups.

Her \$100,000 gift will create the Dr. Julius Montgomery Scholarship Fund. Students who receive this support, which may be provided each year until their graduation, will be known as "Dr Julius Montgomery Scholars."

"I had two amazing parents, and after they each died, I wanted to do something that would not just memorialize them but would capture and pay forward some of the best of who they were," Gaye Montgomery said. "As a couple and individually, some of the best of who they were came in the area of education."

Gary Grant, senior vice president for development, said Florida Tech is honored to offer a scholarship fund named for such a pioneering spirit.

"The scholarships provided by this fund will stand as a testament to Dr. Montgomery's lifelong pursuit of educational opportunity for himself and his children and his legacy of service to the community," Grant said. "We thank Gaye Montgomery for her generosity and her belief in the transformative power of higher education."

Julius Montgomery, who passed away in 2020 at age 90, made history as the



Gaye Montgomery

first African American professional in America's nascent space program when he was hired as an electronics technician at Cape Canaveral. Two years later, in 1958, he became the first Black student to sign up for classes at Florida Tech, which at the time, was called Brevard Engineering College and used classrooms provided by Brevard Public Schools.

After her mother, Gertrude, died in 2003, Gaye Montgomery established a scholarship in her name in the Virginia Community College System.

Gaye Montgomery, a retired corporate executive who served with the Fortune 150 company Altria for 20 years, said she benefited from financial aid during her time in college and at law school but still required loans. Paying back those loans influenced her career choices.

She hopes the Dr. Julius Montgomery Scholarship can allow for a clearer path forward for recipients.

"You can really follow your heart—subject to being able to support yourself—if you don't have loans to pay back. So, this scholarship helps give people more choices regarding how they live their lives and the basis upon which they make decisions," Gaye Montgomery said. She added, "There is time enough for making decisions based on things other than what you think best serves your own personal development. So, if this scholarship forestalls that time for a few years, then it will be successful."



You can really follow your heart ... if you don't have loans to pay back. So, this scholarship helps give people more choices regarding how they live their lives and the basis upon which they make decisions.

—Gaye Montgomery



For more information on how to support future Dr. Julius Montgomery Scholars, visit:

**FLORIDATECH.EDU/
MONTGOMERY-SCHOLARSHIP**

ASCE Students Make Strong Showing at Regional Conference

A dozen students in the American Society of Civil Engineers Florida Tech chapter competed in 18 events at the 2022 ASCE Southeast Student Conference at the FAMU-FSU College of Engineering in Tallahassee in April, placing fifth overall among 19 competing universities.

Florida Tech students at the event were Anuar Akchurin, Vinai Balroop, Alex Bowers, Ian Garvey, Dylan Hall, Stephan Heinrichs, Alyssa McAdams, Gavin Olson, Paul Ryan '21, '22 M.S., Callie Siering, Cole Stubbe and Cole Yorio.

Among the individual achievements:

- » Ryan won first place in nationwide Daniel W. Mead Professional Paper competition.
- » Akchurin with Balroop took second place in the men's slalom.
- » Stubbe won third place in surveying.
- » Balroop, Hall, McAdams and Siering won fifth place overall in concrete canoe.



FAMILIAR FACES:

Jacqueline Saunders

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

“I remember all the faces I’ve seen throughout the years because of their uniqueness. —Jacqueline Saunders

Panthers can’t help but smile when they hear the instantly recognizable St. Thomas accent coming into range. Her cheery disposition can lift people’s spirits even on the lowest of days. Jacqueline Saunders, better known around campus as Miss Jackie, is a cheerleader for every student who has attended Florida Tech in the past two decades.

Those on campus when she started working at Florida Tech in 2003 will remember her as a cashier in the SUB Café. After five years, she transferred to the Copy Center, where she spent six years assisting students, faculty and staff with their print requests. In 2015, Miss Jackie transferred to the mailroom, where she now works as mailroom supervisor.

“I love giving students the mail that comes from home and seeing their faces light up, or an office waiting on that one piece of mail they need to do their end-of-month report. To put a smile on their faces makes me feel good.”

Miss Jackie not only has a knack for making every person she meets feel like he or she is the most special person in

the world, she has a way of remembering them as if no time has passed at all.

“I remember all the faces I’ve seen throughout the years because of their uniqueness. Our students come from around the world, and we need to make them feel welcome. We have to remember, they are young adults,” she said. As a mother of five and grandmother of seven, Miss Jackie takes students under her wing and treats them as she would hope others would treat her own family.

“It’s always a pleasure to get a visit at graduation time, a phone call or postcards from some of the parents of the kids thanking me for looking after their kids.”

Constantly impressed by all of Florida Tech’s students, Miss Jackie is proud of her school.

“I never attended college, but I always tell people that I go to the best college in Florida: Florida Institute of Technology. No degree but a lot of knowledge, friends and acquaintances. I love this campus and just want us to strive to do the best we can. ... Go Panthers!”

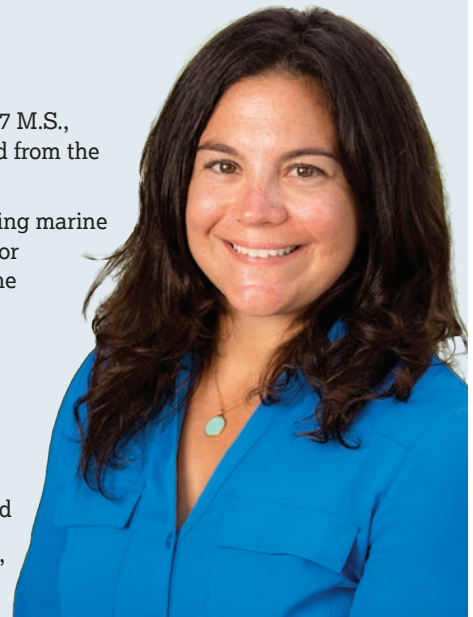
Marine Science Educator of the Year

Ocean engineering and marine sciences assistant professor **KELLI HUNSUCKER** '07 M.S., '13 Ph.D., received the John Beakley “Marine Science Educator of the Year” Award from the Florida Marine Science Educators Association.

Given to an educator who has demonstrated dedication to promoting and developing marine science in Florida, the award started in 1986 before being renamed in 1999 in honor of Beakley, a marine science resource teacher in Palm Beach County and one of the FMSEA’s founders.

Hunsucker said it was an honor to receive the award, which was made even more special because a former student nominated her.

“It just makes you feel really good. You don’t do what you do on a daily basis to receive recognition and awards, but you want to make a difference, and you’re hoping that what you’re doing is reaching people and making some kind of an impact,” she said. “I was very humbled when I found out that I was nominated and that I had received the award—that colleagues in the state thought highly enough of what I had done to recognize me and bestow this amazing achievement on me.”



University Members Honored at WISE Awards

In recognition of Women’s History Month in March, the Florida Tech Alumni Association celebrated four people—a student, an alumna, a staff member and a faculty member—who embody the spirit of promoting women’s participation and development within the Florida Tech community at the Women Inspiring Success & Excellence (WISE) Awards luncheon. The keynote speaker was Elaine Larsen, a two-time world champion jet dragster driver and co-founder of Florida Tech partner Larsen Motorsports.



The 2022 recipients were:



DEIRDRE GONSALVES-JACKSON '04 Ph.D.

ALUMNA LEGACY AWARD

Deirdre Gonsalves-Jackson is dean of the Virginia Wesleyan University global campus and associate professor of biology. She obtained her Ph.D. in marine biology from Florida Tech. Focusing her primary research on marine invertebrates, such as sea slugs, Gonsalves-Jackson’s other projects include STEM education and outreach. She is engaged in initiatives that recruit and retain underrepresented groups in STEM. Her initiatives have resulted in collaborative National Science Foundation awards totaling over \$1.4 million.



ALYSSA CARSON

STUDENT CATALYST AWARD

Alyssa Carson is an astrobiology student who aspires to become an astronaut selected for future human spaceflight to Mars. She was inspired at age 3 by a cartoon and went on to attend U.S. Space Camp in 2008, the first of several she would attend in the U.S. and abroad. Carson is a scuba diver, pilot, skydiver and aquanaut. She appeared in Olay’s 2021 Super Bowl commercial and was recently featured in campaigns for Frito-Lay’s Back to School Blast Off, Mattel’s Barbie Role Models #YouCanBeAnything series, *Elle Magazine*’s Modern Heroines and Gap Inc.’s “I’m Going to Mars” campaign.



TOBY DALY-ENGEL, Ph.D.

FACULTY EXCELLENCE AWARD

Toby Daly-Engel is director of the Shark Conservation Lab at Florida Tech, where she and her students work with collaborators from state and federal agencies, nongovernmental organizations and public groups to conduct biomonitoring of Atlantic sharks, understand the impacts of rising temperatures on shark movement patterns and identify novel species. Her expertise and research have generated several media appearances, including major roles in multiple Shark Week and SharkFest programs and appearances on Fox News and elsewhere.



CAT NANNEY

JOAN BIXBY STAFF IMPACT AWARD

Cat Nanney is director of student involvement at Florida Tech, where she oversees clubs and organizations, fraternity and sorority life, orientation, civic engagement, homecoming and most other student-related activities. Nanney has volunteered for her international sorority, Alpha Gamma Delta, for over 11 years and serves multiple additional fraternal organizations. She has been awarded Campus Administrator of the Year from the Chi Phi Fraternity and Campus Professional of the Year from the Pi Lambda Phi Fraternity.

Florida Tech Announces 2022 Farmer Scholar

William Connor Fitzpatrick, the top student among his 456 peers at Melbourne High School who hopes to “help humanity expand into the cosmos” as an aerospace engineer, is Florida Tech’s 2022 Farmer Scholar.

Named for Phillip W. Farmer, the former chairman, president and CEO of Harris Corp., today L3Harris Technologies Inc., and past chairman of the Florida Tech board of trustees, the 13-year-old Farmer Scholars program is the university’s most prestigious financial award.

The program provides a full, four-year scholarship annually to a Florida resident and high school graduate who is among the top 5% of his or her class and demonstrates exceptional academic achievement and outstanding personal character.





Inaugural Black in STEM Event Features Distinguished Panel

Florida Tech celebrated African Americans in STEM disciplines with the Black in STEM Celebration in April, featuring distinguished Black scientists and professionals, live music, food trucks and more.

The panel discussion included Capt. Winston Scott, retired NASA astronaut and Florida Tech professor emeritus; Ronald Gamble Jr., theoretical physicist at NASA Goddard Space Flight Center; Ashley Walker, astrochemist and Ph.D. student at Howard University and founder of Black in Astro; Tracy Drain, flight systems engineer at NASA Jet Propulsion Laboratory; and Michael King, computer engineer and associate professor at Florida Tech.

Jordan Forman, an astrophysics senior who helped organize Black in STEM with fellow STEM majors Anna Thomas, Ashauntie Reid, Amethyst Barnes and Davonya Cheek, said their vision for the event initially centered on the panel discussion.

“That’s what we started with: Give students the opportunity to hear their experiences, hear from professionals in the field who can give their takes on what they’ve experienced and their struggles being Black in STEM fields,” Forman said. “Then we thought, ‘How could we make it more fun for the student body?’”

Cue Melbourne-based alternative indie rock band The Spring performing at the Panthereum, as well as food trucks and local vendors.

Florida Tech at Sun 'n Fun

This spring, Florida Tech appeared at the Sun 'n Fun Aerospace Expo, in Lakeland, Florida. One of the world’s largest annual aviation events, the Sun 'n Fun Aerospace Expo has run since 1974 and has over 500 exhibitors, hands-on workshops on building and maintenance skills, and forums educating pilots and maintainers about safety and new products. Pilots **SHAYNE INNISS** '16, '19 MSA and **PAIGE RIEGER** '21 flew F.I.T. Aviation’s Piper Cherokee aircraft to open the show, while Chris Larsen of university affiliate Larsen Motorsports commentated in the announcer’s booth to thousands of attendees. The United States Air Force Thunderbirds demo team also put on an F-16 show, as well as the F-18 Super Hornet show.

Dylan Song Recorded at Florida Tech Gets International Mention

A version of Bob Dylan’s “Ballad in Plain D” recorded at the WFIT performance studio in 2015 received high praise in the *Financial Times*’ “Life of a Song” series. The article ran in April.

The monthly series, where the UK-based publication’s music critics and contributors discuss the story of a song, from its origins and early recordings through cover versions, focused on the Dylan song from his 1964 album, “Another Side of Bob Dylan.”

Journalist Phil Davison cites a version of the song recorded in 2015 by Paris Conservatory pianist Paul Anquez, who was at Florida Tech as artist-in-residence, and Swedish vocalist Isabel Sörling, whom he had asked to travel to the Melbourne campus to record an album and perform a concert.





From left: BorisVilla, Diego Garcia and Andres Tapia

Baseball Standout Uses Education to Create Opportunities for Others

By Jerry Durney

For Florida Tech pitcher **BORISVILLA** '21, baseball has been a part of life since the day he was born. Growing up in Barranquilla, Colombia, as the son of a former minor league player-turned-scout for the New York Mets and Texas Rangers, Villa saw firsthand many aspects of life inside professional baseball.

Name a major leaguer from Colombia and odds are that Villa not only knows the player, but he has some type of kinship with him. Among his closest acquaintances on the diamond are Tampa Bay Rays pitcher Luis Patiño and Pittsburgh Pirates pitcher José Quintana, a former All-Star whom Villa credits with helping him earn Second Team All-Sunshine State Conference and ABCA/Rawlings All-Region honors following the 2021 season.

Those up-close experiences allowed Villa to see the other side of the sport. About 10% of all minor league baseball players eventually make the major leagues. Even those with “generational talent” or “can’t-miss prospects” sometimes don’t make it to “The Show” for any number of reasons.

For young players who come from South America and the Caribbean, the goal is not only to make the majors but to earn the kind of money that can be impactful for their families and communities for generations. This can lead them to develop a singular focus on their sport, often foregoing an education. When those dreams don’t become reality, these young men are left at square one.

“I saw it a lot,” Villa says. “After two years, they got released, and then they didn’t even have a high school degree, so they didn’t have anything to lean back on.”

Seeing so many of these stories caused Villa, who graduated in 2021 with his bachelor’s in business administration and is scheduled to graduate with his MBA in summer 2022, to look inward and wonder what he could do to change it. While he chases his own dreams of one day reaching the big leagues, in 2017, Villa helped to create Fundación Inspira Colombia (Inspiration Foundation Colombia) and Top Prospects Colombia.

The goal of the two organizations is to help create exposure for athletes across all sports



Group photo at Top Prospects Colombia conference.

“

I want people to be able to help their hometowns also, because they're going to go back with a degree that they can use to better their family and neighbors as well.

—Boris Villa '21

in Colombia to enable them to eventually earn a scholarship to a school in the United States and receive an education that will help provide a second career after their playing days come to an end.

Villa, who has been named an Outstanding Student of the Year by the Nathan M. Bisk College of Business the past two years, sees the long-term benefits of a college education, like the careers they can pursue following graduation. This will allow scholar-athletes to eventually create change for good in their communities and inspire others to do the same.

“I want people to be able to help their hometowns also because they're going to go back with a degree that they can use to better their family and neighbors, as well,” he says. “So, they have another option that's going to allow them to make money.”

Part of what drove Villa to lead these two organizations was his first experiences in America while attending junior college. “I just wanted to give more young athletes the opportunity that I was experiencing here,” Villa says. “When I came here, to the United States, I was like, ‘Oh, this is awesome!’ So, I just wanted to pass it on.”

Florida Tech has already seen the results of Inspira firsthand with two of Villa's fellow Barranquilla natives, rising junior designated hitter Diego Garcia and rising sophomore pitcher Andres Tapia.

“Since I came to Florida Tech, it has been a great experience,” Tapia says. “Meeting new people, studying in a foreign country and playing baseball at a high level. It's one of my

biggest dreams, and I'm really enjoying my time here. Now, I'm supporting Boris with his program through Inspira and helping those guys that have the talent to come study and play baseball here, in the United States.”

“It has been a great experience, and I feel that all my expectations have been met,” says Garcia, who has been friends with Villa since childhood. “I couldn't ask for a better education than the one that I'm receiving from Florida Tech. Now, I'm also part of the project, and we will continue helping people, just as he helped me, to find a place in the United States to play baseball and get a higher education.”

Panther baseball head coach Jeff Tam has attended multiple showcases in Colombia in the past. What stood out the most to him was how much of a role model Villa has already become among his peers.

“It's the fact that these kids that are only two, three, four years younger than Boris and the way they look up to him and the way they treat him with the utmost respect,” says Tam, a former major league pitcher. “They realize what he's doing and what he has in place down in Colombia trying to find those guys homes for baseball and school. They look at him in a different light, and I think they appreciate what he's doing.”

While Villa's Panther career may have come to an end in May, he will continue to pursue his dream of reaching the major leagues and becoming colleagues with those who have helped mold him into the athlete he is today. Regardless, he has already made a difference, creating a brighter future for so many from his homeland.



Impact of Black Hole Winds, Radiation Examined in New Study

University research is examining the radiation and winds emanating from black hole activity and shows how they may exert effects on nearby planets.

“The impact of AGN outflows on the surface habitability of terrestrial planets in the Milky Way” is a research paper by astrophysicist Manasvi Lingam and astrophysicist Eric Perlman from Florida Tech’s department of aerospace, physics and space sciences, as well as researchers from the University of Rome, University of Maryland and Goddard Space Flight Center. Published in the *Monthly Notices of the Royal Astronomical Society*, the paper examines the effects of the supermassive black hole at our galaxy’s center on the atmosphere of planets in the Milky Way. The paper focuses on two key mechanisms: how black hole winds can heat atmospheres and drive atmospheric escape, as well as how they can stimulate the formation of nitrogen oxides and thus lead to ozone depletion.

To study how black holes can affect a planet’s atmosphere, the team developed mathematical models to estimate the maximal distance up to which these effects are rendered significant for Earth-like planets in the Milky Way. This demonstrated that this value may extend approximately over 3,000 lightyears. In the case of quasars hosting larger supermassive black holes, the research found such effects could influence the black hole’s host galaxy.

“It turns out that when you have a supermassive black hole that is active, it not only produces radiation, but it also produces a lot of high-energy particles that are powered by the black hole,” Lingam said. “It is easy to visualize it as a fast-moving wind, like an extremely amplified hurricane. You have this wind of high-energy particles that is emanating from the black hole’s vicinity at 10% the speed of light, more than a thousand times faster than our current spacecraft.”

EXTRATERRESTRIAL MINING WOULD EMULATE ‘TEARS OF WINE’ PHENOMENON

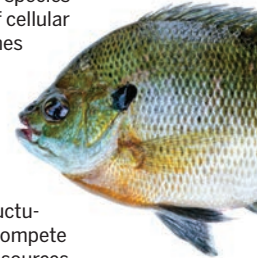
Tears of wine is a phenomenon frequently observed as a ring of wine formed near the top of the glass generates droplets that fall back into the wine. This phenomenon can be explained by the Marangoni effect driven by the surface tension created via gradients on concentration and temperature along the interface between two phases.

In a paper published in *Advances in Space Research*, Jonathan Whitlow, an associate professor in biomedical and chemical engineering and sciences, and co-authors propose an extraterrestrial, all-in-one mining process in which the Marangoni effect would allow nonmechanical transportation of the extraterrestrial mineral to feed an also in-situ pyrolysis-based refinery unit.

The researchers seek to establish that the Marangoni effect, which is crucial for welding metals, manufacturing integrated circuits and growing crystals, has the potential to be also crucial for supporting lunar habitats and other extraterrestrial endeavors. They contend that vacuum and reduced gravity are expected to augment the Marangoni effect on extraterrestrial molten soil, leading to sustainable extraterrestrial in-situ resources utilization.

RESEARCHERS FIND NEW GENETIC SIGNATURE FOR INVASIVE FISH SPECIES

The bluegill sunfish and a host of other fish considered invasive species have extra copies of cellular stress response genes in their genomes, new Florida Tech research has found, which may explain why they are more resilient to environmental fluctuations and can outcompete others for shared resources.



Invasive species are an urgent global environmental problem with an estimated worldwide economic impact in the hundreds of billions of dollars.

A team of Florida Tech scientists started with an investigation of two closely related sunfish, the bluegill sunfish and the redear sunfish. While both fish are native to the southeastern U.S., the bluegill has a much wider native range, spanning all the way to Canada. Both sunfish are prized for recreational fishing and have been widely introduced, but only the bluegill sunfish has been described as an invasive species. For example, a gift of bluegill from the mayor of Chicago (bluegill is the Illinois state fish) to the emperor of Japan in 1960 resulted in the species’ introduction to Japanese lakes, where they have caused decades of extensive environmental damage.

Florida Tech Researchers: With Some Help, Nature Can Drive Lagoon Restoration

As university researchers conclude the second phase of the state-funded Restore Lagoon Inflow (RLI) initiative for the Indian River Lagoon and process the resulting data, initial findings suggest the ailing estuary would benefit from a nudge of human intervention to help rejuvenate the natural processes that have historically aided the recycling and removal of excess nutrients.

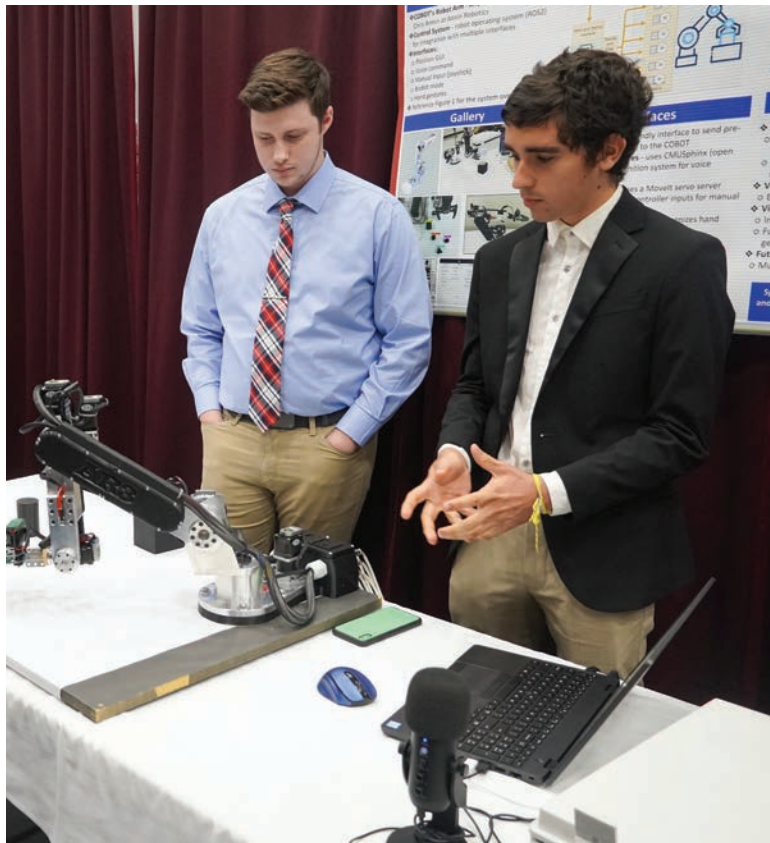
Over the last century, these natural ecosystem services have been overwhelmed by development and habitat loss, leading to a shift from a seagrass-dominated system to one that experiences frequent and prolonged harmful algal blooms (HABs).

As they looked toward the next phase, which would include a temporary demonstration project involving the

careful introduction of low-volume amounts of sea water into the lagoon, Florida Tech researchers are reviewing the results of RLI project planning water quality modeling and research.

With these efforts, the team was able to improve understanding of the lagoon system, including demonstrating that:

- » Lagoon sediments frequently experience low oxygen conditions that are unable to sustain life.
- » When oxygen levels are low, lagoon sediments release rather than absorb excess nutrients.
- » Stabilizing dissolved oxygen and reducing water temperature can improve natural nutrient removal.
- » Net nutrient decreases are predicted as a result of enhanced inflow.



BioBot Technology Examined in Assisting Humans

As an electrical engineering senior at Florida Tech, Wilner Gomes Viana is utilizing robotics to potentially assist humans with difficult or unsafe tasks.

Viana and his team, consisting of student researchers Jack Crawford and Andrew Neal, have developed the BioBot project, a robotics system where sensors are attached to the arm and hand of a human operator and used to control a robotic claw. The purpose of the BioBot project, which was part of Viana's senior design project, is to use muscle tissues to actuate a robotic hand. The BioBot would also allow for greater control when working on tasks involving robotics, and down the road, could be especially helpful in toxic or other unsafe environments.

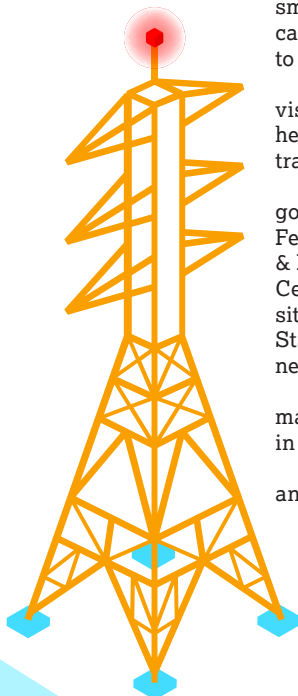
The team utilized digital signal processors, a robotic hand and an electromyography (EMG) sensor, which measures small electrical signals generated by muscle movement. The BioBot digital process is designed for optimal accessibility, with sensors placed in key points of movement on the arm and hand of the human to better simulate the movements of the activated muscle when opening and closing objects. Through studying voltage level signals of previous works, Viana was able to better understand how to simulate the mechanics between a human arm and a robotic one.



Panthers at the FAA Bring Innovation and Planning to an Airport Near You

Eight Florida Tech grads are clustered in two critical areas of the federal agency, where they use research and analysis to make the nation's airports better and safer.

By Adam Lowenstein



Those blinking red lights that you see on cell towers, building spires, smokestacks and other structures that reach for the heavens? They are called obstruction lights, and they are meant to alert low-flying aircraft to the looming obstruction so they can avoid it.

There is one problem: These lights used LED bulbs, which are not visible to military pilots wearing night vision goggles and pilots using heads-up displays because they don't produce the heat signature like traditional incandescent fixtures.

They were not visible, that is, until a pair of Florida Tech alumni got involved. **JIM PATTERSON** '93 and **MIKE DIPILATO** '05 work at the Federal Aviation Administration's (FAA) Airport Technology Research & Development (ATR) Branch at the William J. Hughes Technical Center in Atlantic City, New Jersey. It's an innovation hub and testing site dedicated to the safety, capacity and efficiency of U.S. airports. Staff there conduct research that helps FAA headquarters create new guidance.

Patterson was Airport Safety Research & Development Section manager when DiPilato came aboard as an airport research specialist in 2016. One of the new guy's first assignments was the light situation.

DiPilato and a team of FAA researchers designed a study, executed it, and developed the flight-testing program to ensure it worked.

continued on page 18





Above: Mike DiPilato, right, and colleague Garrison Canter direct unmanned aerial system (UAS) detection testing from the command center at the FAA's William J. Hughes Technical Center, Atlantic City, New Jersey.

Top Right: Mike DiPilato prepares to conduct a survey of a precision approach path indicator at Ronald Reagan Washington National Airport in Washington, D.C.

Bottom Right: Jim Patterson speaks to the media about a UAS detection demonstration at Denver International Airport.



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The solution? Add a tiny infrared emitter to the LED lights, which the thermal imaging in night vision equipment can capture. This approach is now part of an FAA Advisory Circular, the document that provides official guidance to industry, institutions and others.

"That was a great accomplishment for the FAA," DiPilato says.

Amazingly, Patterson and DiPilato are only half of the Florida Tech Panthers working in this ATR office. **MURPHY FLYNN '89** and **KEITH BAGOT '91**, are there, as well.

"Florida Tech is not a very large school, particularly back in my day. But there was always that home feel to it, that tight family atmosphere," Bagot says. "And that kind of carries over. When you see people from that same program, that same school, you have the same camaraderie."

"We kind of have a unique bond in a sense, somewhat of a family," DiPilato adds.

It's a family that is improving the world around us.

Take wind turbines. As tall as the Statue of Liberty, with rotor diameters that can be 500 feet or more, these increasingly ubiquitous clean-energy providers pose challenges to aviation and wildlife.

So Patterson, an expert in obstruction lighting, was asked to develop ways to increase their "conspicuity" so they can be seen, recognized, understood and avoided, all in moments. He evaluated 15 sites across the country from land and air, took feedback from pilots and determined that fewer lights, not more, is the way to go.

He tested his theory at a wind farm in Oklahoma that had 43 300-foot-tall turbines. By spacing the lights every half-mile, he was able to illuminate the farm with just 17 lights, half of what normally would have been considered. And he had them all flash in unison. This technique has been adopted into international standards now.

But he wasn't done with turbines. Hundreds of thousands of birds die each year from striking turbines. So, Patterson is exploring painting one of the blades black to prevent the "vision blur" that

causes birds to seemingly see through the blades. (Think of how you can see through a picket fence when you drive past it quickly.)

"If we do this treatment, it could make turbine blades more visible and reduce the impact to the aviation population," he says. "If it helps birds, and aviation safety is not compromised, that's a win for all."

Up next: Painting one blade on each of 30 turbines at a Wyoming wind farm to see if it works.

Overall, Patterson says, "it is so cool knowing I contributed to the safety of the system."

For the last few years, Patterson and DiPilato have been focused on another vexing challenge: drones, and how to ensure they are used effectively and safely at airports. There are five "buckets" for potential use of a drone, or unmanned aerial system (UAS), in an airport setting: obstruction analysis, wildlife hazard management, pavement inspections, aircraft rescue and firefighting, and perimeter monitoring.

DiPilato, who manages this UAS Airport Applications research program, worked with Patterson and another colleague to take it from an idea to a major research program.

"Now, we have five universities that work with us, five private companies, two government agencies and a host of different airports. So, it's really rewarding to see this program grow and mature," DiPilato says. "And my diverse Florida Tech background helps me every day."

Most of the things you see when you look outside an airport window—from the asphalt runways to the fire rescue vehicles to the visual guidance (signs, markings, lighting)—fall under ATR. So do some things you hope never to see, like the special foam used to extinguish fires.

That's Bagot's domain these days. As an aircraft rescue and firefighting specialist at ATR for the last 23 years (he's been at the FAA for 33 years total), he conducts critical research and testing to improve post-crash fire survivability.





Above: Murphy Flynn, left, and a colleague review test pavement construction plans at the National Airport Pavement Test Facility, where Flynn is project manager.

Right: Aircraft rescue and firefighting specialist Keith Bagot researches and tests ways to improve post-crash fire survivability with tools including a fleet of custom-built firetrucks.

For the last two years, that has meant taking a deep dive—not literally—into fluorinated aqueous film-forming foam (AFFF). More specifically, he's been trying to find an AFFF replacement because as currently designed, the fire-suppressing material contains per-and polyfluoroalkyl substances (PFAS), “forever chemicals” that can seep into soil and water tables.

The challenge, and it is substantial, is that those very same chemicals are the “magic” in how the foam works.

Bagot has reviewed literature, studied what foams are out there now, evaluated what levels of certification they have and is testing them at the center's \$5 million indoor fire test facility that opened in January 2020. This process will likely conclude with a new test standard because any foam lacking PFAS chemicals is not as effective as those with them.

“We don't take it from the dream and the idea,” Bagot says. “We work with manufacturers to get it right, then get it into our standards.”

In December 2021, Bagot was awarded the Engineer/Scientist of the Year Award from the Southern New Jersey Professional Societies, recognizing his decades of service and contributions to the Aircraft Rescue and Fire Fighting (ARFF) research program. It's an award he earned in ways large and small.

When he began working for ARFF, he opted to go through training as an airport firefighter so he could better understand what was going on and better communicate with other firefighters. That's why he can tell you that it takes 90 seconds for flames to burn through most common airframes and enter the airplane itself, which is why airport emergency response must be flawless in its operations.

Bagot's training also helped him lead an effort to modify a key component of an FAA fire truck: the high-reach extendable turret. Developed in the 1990s, this tool was refined, under Bagot's guidance and working with manufacturers, to ensure it can work with all types of aircraft, no matter their size.

“Now, most any airport that serves those type of aircraft will have those,” Bagot says.

The fourth Panther at ATR works in a division that literally represents the foundation of airports: pavement. Flynn is project manager there, and his domain is the 12,000-square-foot National Airport Pavement Test Facility, where he manages the construction, reconstruction and design of pavement test items.

Yes, that is as it sounds: They build 300-foot stretches of pavement in the facility and test them with a million-pound rig that simulates a full airplane.

“We build small sections of runway and test them to what we call ‘failure points’ to better understand construction requirements,” Flynn says. “Ultimately, the goal is to increase the life of the pavement and reduce overall initial costs.”

This isn't your average highway, which tends to be 18- to 24-inches thick and capable of supporting tractor trailers weighing as much as 80,000 pounds. Runways are generally 3- to 5-feet thick to support aircraft that weigh 800,000 pounds or more—with the biggest, such as the A380, hitting 1.2 million pounds.

Flynn was a field engineer for the Army Corps of Engineers when it was tasked with building the pavement test facility, so his knowledge of that domain is almost intrinsic. Within six months of the completed project, the FAA had offered him a job. That was in 2000.

One of the breakthroughs he helped bring about involved the intersection of his lab research and sensor installation at working airport runways.

In 2006, Flynn and his team instrumented a section of pavement at Hartsfield-Jackson Atlanta International Airport. In installing the sensors, they developed techniques—since repeated at other airports—for undertaking field installations that ensure sensors survive different types of construction.

Pavement or fire foam, obstruction lights or drones—no matter the material, area or use, the similarity is clear: innovation.

“It's really cool to be that pioneer,” DiPilato says.



Connecting FLIGHTS

Though they may seem like simply a mile or two of thick asphalt, runways at major airports are extremely complex endeavors. Factors include the proposed runway's proximity to existing runways (and the planes on them), where it would lie in relation to the terminal building, awareness of windspeed and direction, and the types of aircraft it will welcome—the bigger the plane, the longer the runway would need to be. There are simulation models and input from many voices, from the FAA to airlines to local airport authorities and the consultants they hire. It's no surprise that building a new runway can take nearly a decade, including several years for planning alone.

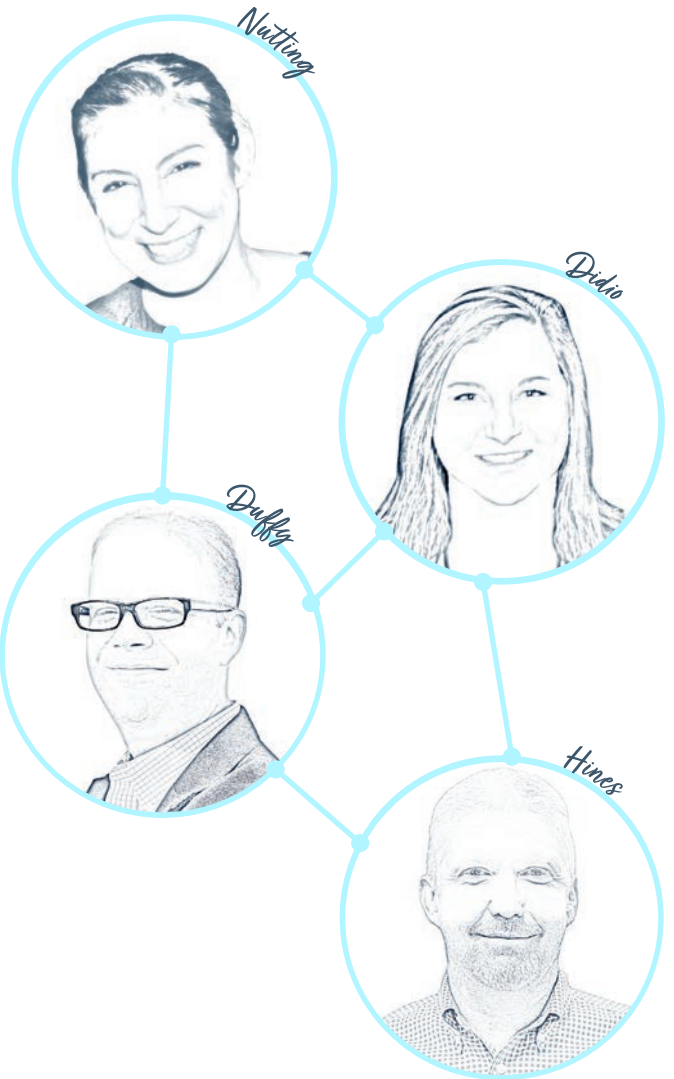
"If you put a billion and a half dollars in the ground, you need it to work the way it is expected to," says **KENT DUFFY '98**, operations research analyst at the FAA's Airports Planning Branch.

Duffy and three other Florida Tech alumni—**REBECCA DIDIO '07**, **CHRISTINA NUTTING '07** and **MIKE HINES '87**—all in the FAA's Airport Planning & Programming Office (APP), Planning and Environmental Division, are helping to plan for future needs like this and for the overall management and development of more than just runways. Based at FAA headquarters in Washington, D.C., division personnel provide guidance and assistance on airport master planning and infrastructure layout, capacity, airspace and system plans as well as aviation forecasts.

"With airports, there is always something that needs to be built or improved," Duffy says. "It's never boring."

Exactly how four Panthers came to work at the same office in the sprawling, 45,000-employee FAA provides insight into how to successfully build an aviation career that leads to employment at the largest transportation agency of the U.S. government.

HERE ARE THEIR STORIES.



Rebecca Didio '07, an airport planning specialist for the Planning and Environmental Division in APP, was interested in aviation early on. She took an aeronautics elective in high school that she enjoyed, and as she researched possible careers, Didio gravitated further toward aviation and the notion of becoming a commercial pilot.

At Florida Tech, she began majoring in aeronautical science with flight but switched to aviation management with flight in her second semester, a move that made more and more sense as it became clear that pilot demand would be waning as the early 2000s recession took

hold. Her new major allowed Didio to explore planning and design while still completing her flight training to become an instrument-rated commercial pilot for single and multiengine land aircraft.

"The aviation management degree offers a broad range of courses that cover a lot of aspects of the aviation industry," Didio says.

After graduation, she began what is a fairly common career trajectory: building experience through consulting. She went to work as an aviation planner for Leo A Daly, a design and consulting firm in Honolulu, where she worked on airports at island nations throughout the South Pacific. After two

years, she moved on to work for C&S Cos., also a consultancy. There, she focused mainly on smaller and general aviation airports in the Northeast and strengthened her skills as a planner while also taking on project management responsibilities. After about four years at C&S, Didio was hired at AECOM, a large multinational engineering firm that allowed her to work on projects at far larger airports than she did at C&S.

In 2016, Didio saw an FAA job listing that her fellow Panther and soon-to-be colleague Duffy posted on the Florida Tech College of Aeronautics Alumni Association Facebook group.

"I wasn't looking for a new job, but I saw the post and said, 'Oh, this is kind of right up my alley,' and I applied for it."

Didio reached out to another Panther at the FAA: Nutting, an airport planning specialist in the Planning and Environmental Division and Didio's longtime friend who had graduated from Florida Tech the same year she did. Nutting told her about the job, the various projects they were working on and what the hiring process was like.

"She was really helpful in preparing me for what to expect," Didio says.

Didio was hired that year and soon found herself a colleague to Duffy, Nutting and Hines, the manager.

Christina Nutting

'07 planned to become a commercial airline pilot after high school. She was accepted into several schools, including Florida Tech and a few in colder climates. Impressed by Florida Tech's flight program and drawn to the Sunshine State's warmer temperatures, she started at Florida Tech in 2004. She entered with some advice from her mom: Rather than going just to become a pilot, consider getting an aviation-related degree, as well, "to have a backup if you ever need one."

It was timely advice. After about a year of flying, Nutting shifted her focus fully to aviation management. As many did after graduation, she went into consulting. She started at URS Corp., working with

another College of Aeronautics grad, **DON SCATA** '03, and then returned to school to earn an MBA with an airport management specialization. A few years later, in 2012, Scata contacted Nutting and asked if she was interested in working at the consulting powerhouse Booz Allen Hamilton, where he worked. She took the job.

Later, Scata left for the FAA, and soon, so did Nutting. She came aboard as an airport planning specialist in 2014.

"It's kind of neat how the connections you make, even starting in college, will really lead to different windows or opportunities down the road," she says.

Mike Hines

'87 discovered aviation at a college fair in his native Virginia. He then enrolled at a West Virginia university to learn to fly. That wasn't a good fit, so he moved home and began flying at his local general aviation airports while he sought a better fit for his education, ultimately opting for Florida Tech over Embry Riddle Aeronautical University.

He earned his pilot's license in his first semester, but he eventually pivoted to aviation management/flight technology, dropping the flight training after his freshman year. One of his favorite classes was airport planning and design, and when a representative from HNTB was on campus interviewing for an airport planning position, Hines was interviewed. A few weeks after graduation, he got the call: He was offered a position as an airport planner in the firm's Miami office.

Hines was at HNTB for 20 years. In 1994, after eight years in Miami,

he was asked if he wanted to move back to his home state to work at the U.S. Army Aviation Center of Excellence in Alexandria, Virginia. There, he worked on master planning and facility planning with many of the country's largest airports.

In 2008, with experience consulting on Washington's airports, Hines went to work for the Metropolitan Washington Airports Authority as an airfield and airspace planner. He spent eight years there, departing as manager of the Airport Planning Division under the Office of Engineering to take on his first federal job—with the FAA.

It all started, Hines says, in sunny Melbourne.

"Florida Tech opened the door. Without Florida Tech, without that interview on campus, I would never have had the opportunity."

Kent Duffy

'98 came to Florida Tech from Pittsburgh, toting an interest in aviation that started young. By age 15, he was taking flight lessons. His high school had a STEM focus, so that mingled with his growing passion for aviation.

"I didn't know what I wanted to do with that, but it was an interesting pairing," he says. "So I started looking at colleges."

His visit to Florida Tech's Melbourne campus was a good experience. Duffy felt a connection, he says. He enrolled, majoring in aeronautical science with flight. The results? "A really solid multidisciplinary aviation education."

He interned with American Airlines his junior year and spent three years as a resident assistant (RA), a deeply impactful experience.

"That was really just a great way to learn people skills, meet a lot of people I didn't know—interesting, diverse people," Duffy says. "The technical education, that was foundational. But the experience from being an RA was really huge—almost equal, in a way, just for the life-lesson aspects, if you will."

An alumni connection hatched during an end-of-year hangar party landed Duffy his first post-college job at engineering and consulting firm HNTB Corp. He did technical work related to airport planning and

environmental permitting, and he learned a lot, he says.

In 2006, a friend alerted Duffy to a job at Booz Allen Hamilton, and with an opportunity to learn management consulting—as opposed to the engineering consulting he did at HNTB—he applied and was hired.

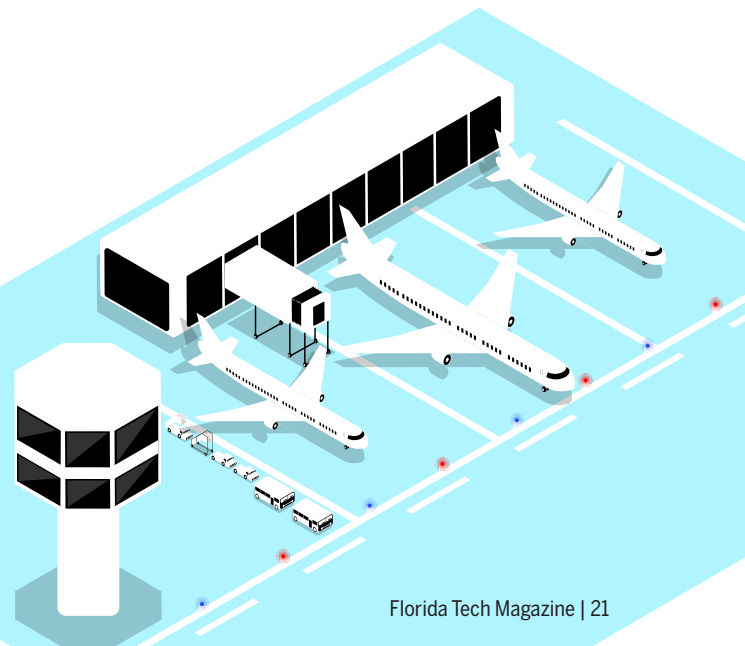
In 2009, Duffy joined the FAA as an airport planner. He worked on the Nextgen program, applying his data analytics skills to technical airport planning: airport capacity, getting runways the right length, integrating with air traffic control. Six years later, he was promoted to handle even more complex problems as an operations research analyst.

A throughline in Duffy's career, he says, is something that cannot necessarily be taught: curiosity. It has spurred him to take on a range of projects and brought lasting value to interactions with others.

"In the FAA, I spent time with people with different skill sets—air carrier pilots who work in flight standards, say—because they have a different knowledge base than I do, and they always have things you can learn from," he says. "It's really important to be curious."

JOIN THE CLUB

According to LinkedIn, as many as **83 Florida Tech alumni** work at the FAA.







Dhaka, Bangladesh, is one of the fastest-growing and most densely populated cities in the world. As resources diminish and pollution propagates,

Could Waste Be The Solution?

Inspired by the environment in their country of origin, three researchers are working to find a solution—making a difference back home and beyond.

By Ryan Randall

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“Joy Bangla.”

First appearing in a 1922 Bengali poem, the national slogan of Bangladesh means “Victory to Bengal.”

It is deeply ingrained in the country’s society and has remained a powerful notion through the decades, to the point that it was officially declared the national slogan in 2022.

The spirit that “Joy Bangla” represents, built on love and admiration for their country, lives in the Bangladeshi people. It lives in Toufiq Reza, Al Ibtida Sultana and Md Tahmid Islam.

Originally from Bangladesh, the three Florida Tech researchers are studying renewable energy sources via waste, with the goal of putting their findings to use in their homeland—and the wider world.

“Helping Bangladesh, or helping developing countries, has always been in the back of my mind,” Reza says. “I know the problem because I grew up over there.”

Helping a Country

Reza, a biomedical and chemical engineering assistant professor, has been across the globe on his research journey, with stops from Nevada to Germany. His roots, however, remain in Bangladesh.

Growing up there, Reza saw ways he could make his homeland better for its citizens. Years later, now a distinguished engineer, he has begun to focus on how his work could improve his beloved homeland.

As one of the fastest-growing countries in South Asia, Bangladesh is expected to experience a rise in energy demand. However, fossil fuel reserves in the country of 180 million people have been depleted.

But Reza and others may be able to find a silver lining to that energy consumption: an organic material byproduct called “biogenic waste,” which degrades with time, polluting the environment.

In 2021, Reza and researchers from Bangladesh University of Engineering and Technology (BUET), Bangladesh Agricultural University and University of Dhaka received a three-year, \$174,000 international grant from the National Academy of Sciences, Engineering and Medicine, and the United States Agency for International Development that allowed them to examine the use of biogenic residue in Bangladesh to create clean energy, such as hydrogen production.

The team is researching how to convert biogenic waste into hydrogen that could then be distributed inexpensively across the country via low-risk, accessible, modular hydrogen-generation distribution systems.

The project proposes an innovative process that uses biogenic residues for renewable



With the natural gas deleting out gradually and not much land to dedicate for energy production, I was concerned about the future of the energy sector in Bangladesh. But knowing that more people mean more waste, I was always keen to find a way to convert waste to energy.

—
Toufiq Reza, a biomedical and chemical engineering assistant professor researching biowaste solutions to the energy crisis in his home country of Bangladesh

hydrogen generation on the modular scale. Anaerobic co-digestion, biogas cleaning, catalytic hydrogen generation and management of by-product digestate—the material remaining after the anaerobic digestion of a biodegradable feedstock—will address current operations and maintenance issues and waste management limitations of ongoing biogas programs in the country.

“I was raised in Dhaka, Bangladesh, one of the most densely populated cities in the world. We were accustomed to scheduled blackouts every day due to the lack of electricity generation compared to the electricity demand,” Reza says. “With the natural gas deleting out gradually and not much land to dedicate for energy production, I was concerned about the future of the energy sector in Bangladesh. But knowing that more people mean more waste, I was always keen to find a way to convert waste to energy.”

In an earlier project, Reza and Ohio University associate professor Derek Kauneckis began researching an element of the waste-to-energy plan under a nearly \$2 million National Science Foundation (NSF) grant.

The project, titled “INFEWS/T2: Organic Waste Lifecycles at the Interface of Food, Energy, Water Systems (OWL-FEWs),” examined the development of radio-frequency identification technology for tracking organic waste in the waste system.

The approach used a barcode or other signature to identify the waste and then inform the user of that information, thus helping make possible this project’s primary goal of analyzing what waste could be turned into renewable resources.

Reza’s role in the NSF-funded project was to develop technology that can chemically convert appropriate organic waste into renewable natural gas and filtration media that could then be used to help purify wastewater produced in that process.

Resiliency Through Research

Al Ibtida Sultana is a third-year doctoral student working with Reza on renewable energy research. Born in Kuwait but raised in Bangladesh’s capital, Dhaka, Sultana saw how the region was severely impacted by flooding. With its low elevation and location on the Ganges Brahmaputra Delta, the region is flooded approximately 18% to 20% each year on average. When there’s a severe flood, approximately 75% of the country could be flooded.

Seeing how flooding affected her region got Sultana into science in middle school.

“I loved drawing the water cycle, so that started off my point of realizing how



interdependent we are,” she says. “As I grew up and learned more about science, I realized this interdependency is very crucial. If the utilization of fossil fuels is having an impact on global warming, that’s when I realized, ‘Okay, what alternative fuels are there to be used, and how can this global climate change be detoured eventually?’”

Sultana found she loved chemistry and math, and she was intrigued by chemical engineering, which she felt provided a platform for her to explore the different faces of the discipline and how to apply it to everyday life.

“Always witnessing the flooding and the poor people—they’re losing their land, they’re losing their family, whatever they have,” she says. She wondered, “‘What could I do ... to be there at the frontier of research into global climate change?’” That’s when she got into clean energy research.

When Sultana was a senior at BUET, she did a clean energy project, which led her to explore more clean energy avenues, and she contacted Reza through alumni at her university. She ended up coming to Florida Tech to work on more sustainable research with him.

At Florida Tech, Sultana has studied food waste and how it can be thermochemically converted to develop microporous hydrogen storage materials. This material can be used to store hydrogen, as well as greenhouse gases, such as carbon dioxide, which could be captured to prevent global warming. She is also researching the upcycling of other type of wastes, like agricultural and plastic, into ultraporous adsorbent materials. Her breakthrough research findings have earned her recognition as Outstanding Graduate Student presenter in several conferences as well as Florida Tech’s 2021–2022 Outstanding Student of the Year award in chemical engineering.

In addition to her home country, Sultana was inspired by her parents. Her father worked in a refinery, shifting duties each day. She saw him coming home from work tired but happy he gave his best. He was recognized as the top employee for consecutive years. At a young age, Sultana’s mother shouldered the responsibility of taking care of the household, which included Sultana and her younger siblings. Despite severe challenges, Sultana’s mother eventually earned her Bachelor of Arts.

“Working harder with utmost honesty and devotion like my father, while aiming high with utmost resilience to achieve like my mother is what constitutes my strong principles of being always highly motivated and in complete love with my own passion for research,” Sultana says.

Making a Difference

Md Tahmid Islam is also a third-year doctoral student with a path to Florida Tech similar to Sultana’s. After earning his undergraduate degree at BUET, Islam got in contact with Reza and ended up coming to Florida Tech.



THE COUNTRY

One of the fastest-growing countries in South Asia

...

Borders India and Myanmar along the northern coast of the Bay of Bengal

...

Population: 180 million

...

Rising energy demand compounded by climate change and environmental pollution

...

Convergence site of three massive rivers: the Ganges, Brahmaputra and Meghna

...

Prone to serious and chronic flooding due to many factors, including low-lying land, heavy monsoon rains and Himalayan melt water

THE RESEARCH

Biogenic waste includes material of vegetable, animal or microbial origin.

...

An innovative process that uses biogenic residues for renewable hydrogen generation on the modular scale will address current limitations of ongoing biogas programs in the country.

Islam’s passion for his research started during his undergraduate studies. A senior thesis saw him examining wastewater treatment and believing the water could be purified in a more natural way, such as natural coagulants and flocculants.

“From there, I had an inclination toward the waste material, like wastewater or waste materials—how can we utilize it?” Islam says. “Or how can we purify it? When I graduated in April 2019, I contacted Dr. Reza; he was just about to join Florida Tech. ... From there, I got to know what he’s working on and what is his vision in next 10 years or next 20 years.”



Working with Reza on waste energy research, Islam converts agricultural wastes into a solid, coal-like fuel through hydrothermal carbonization. The goal is to upgrade low-cost biowastes into useful fuel that could replace fossil-based fuels.

In that research, Islam has found that the waste biomass has high hydrophilicity, meaning it attracts water. To make the biomass not degrade when interacting with water, Islam converts the waste biomass into a product called “hydrochar” by using the hydrothermal carbonization process. Having biomass that is less absorbent of water is better for producing energy.

Living in Bangladesh, Islam saw the huge amounts of waste being produced by the growing population. He would like to use his research for industry, as well, and envisions developing a team that can explore renewable sources for both the energy sector and other industries using that hydrothermal carbonization technology. It all starts with research, he says.

“I think research actually exposes your potential for critical thinking, your method development, how you can utilize your ideas, your understandings toward the problem—and then come up with a better solution. I think it develops you, develops your mind well that you can actually grow if you do more research.”

The influential research conducted by these three Panthers is already making impacts in Bangladesh.

In spring 2022, a delegation from the Bangladesh Energy and Power Research Council (BEPRC) visited Florida Tech. After stopping by the Reza lab and meeting with the university’s Bangladesh Student Association, the team is keen to collaborate with Florida Tech, especially on its clean energy research, seeking to train government officials and academic faculty from Bangladesh to Florida Tech. These officials could then gain expertise on the clean energy technologies being developed and implement them in Bangladesh—the ultimate success.

Joy Bangla.



News from the desk of
**Fin Bonset '96,
'99 MSA**

Florida Tech
Alumni Association President

As we slowly come out of the COVID-19 pandemic, we continue to experience more uncertainties. These are strange times, and because of several unforeseen circumstances, we chose to cancel our in-person Homecoming events that were planned for the spring. We continue to stay positive as we move forward. In June, we hosted an event celebrating our deserving annual alumni award winners, and we are again hosting small alumni receptions where we have access to outdoor settings. Spring 2022 graduates not only crossed the stage with their families in attendance, but we welcomed them to the Florida Tech Alumni Association with our Panther4Life Grad Bash celebration the night before.

We continue to demonstrate our creativity as a university in engaging all Panthers. In February, we had an amazing Martin Luther King Jr. Day event, celebrating the pioneering spirit of Julius Montgomery and honoring our local community heroes. In March, we had a successful Chopper Dropper event and fundraiser for Florida Tech Athletics, and we conducted our annual Women Inspiring Success & Excellence awards commemorating Women's History Month.

If you haven't checked out Florida Tech's online calendar of events, please follow our Facebook, Instagram, Twitter and LinkedIn pages, and join your fellow alumni on our digital platform, Florida Tech Connect. These sites are designed to keep you informed and provide links for events and resources to keep you connected to our Panther community.

In this world that has been a roller coaster of challenges, let's continue focusing on the good things in life and the good things that our university students, staff, alumni and faculty are doing to keep things going toward a sense of normalcy. After all, we will always have each other, and that is what matters. Panthers know they can always lean on each other when times get rough.

YOUR ALUMNI ASSOCIATION OFFICERS

- Fin Bonset '96, '99 MSA | President | Indialantic, FL | fbonsset@vhb.com
- Sherry Acanfora-Ruohomaki '93, '00, '05 M.S. | Vice President | Melbourne, FL | sherry@k9kampus.com
- Chad Shoultz '96 | Treasurer | Indialantic, FL | cshoultz@icloud.com
- Warren Pittorie '15, '18 M.S. | Secretary | Melbourne, FL | wpittorie2012@fit.edu
- Jody Palmer '07 | Member-at-Large | Melbourne, FL | jodybpalmer@yahoo.com
- Chris Fernando '02 | Member-at-Large | Raleigh, NC | cfernando@gmail.com
- Kim Bozik '87 | Past President | Chandler, AZ | kim.bozik@regan.com

SUBMIT YOUR NEWS TO
alumnotes@fit.edu

1970s

1 TONY CICCOLELLA III '71 (left) and **FRANK HERMAN '72** (right) celebrated the 50th anniversary of their graduations at the Lure Fish House restaurant in Scottsdale, Arizona, along with their wives, Kathryn and Jessica. Both couples are retired and living in the Phoenix area.

DON JOFFE '72, '77 M.S., PE, was elected to the Belforest Water System (BFWS) board of directors in Daphne, Alabama. The BFWS supplies water to communities on the eastern shore of Mobile Bay.

COL. THOMAS BREHM '75 (retired) began a new role as Federal Aviation Administration aircrew program manager EMB-145 Piedmont Airlines.

2 COL. DARREL WILLIAMSON '76, '85 M.S., (retired) was awarded the Office of the Secretary of Defense Medal for Exceptional Public Service as the state chair of the Colorado Employer Support of the Guard and Reserve.

CMDR. ROBERT E. CONNERY '77 (retired) recently retired from teaching science at Creekside High School. His wife, **GAIL CONNERY '77**, retired from Marymount International School in Rome.

3 BRYAN BURNS '78 A.S., '80, president of the Air Charter Safety Foundation, received the 2021 National Business Aviation Association's (NBAA) Dr. Tony Kern Professionalism in Aviation Award. The NBAA Kern Award recognizes aviation professionals who excel in leadership in professional ethics, vocational excellence, continuous improvement, professional engagement,

professional image and selflessness.

1980s

4 DAVID LYNN ANDERSON '80 M.S. has published the seventh book in his "The Sorcerer" series, *Ultimate Calamity on the Alternate Universe: Book VII of The Sorcerer*.

RENE LEDFORD '81, MSW, LCSW, BCBA, recently launched CHS Edge, a community resource from the Children's Home Society designed to elevate child welfare and behavioral health practices through the provision of cost-effective, convenient and advanced professional development programs.

5 RON MATHIEU '84 A.S., '85, as CEO of Birmingham-Shuttlesworth International Airport, led an \$8.3 million transformation of the airport in advance of The World Games 2022 scheduled July 7 to July 17 in Birmingham, Alabama.

DAVE MUNNS '84 M.S. recently retired after careers in virus research, software engineering and test automation. His next adventures include mentoring his grandsons, traveling, performing on the clarinet in a wind ensemble and creating photographic images of nature.

6 CAPT. BARBARA ANDERSEN '85 (right) and 1st Officer **TREVI JENKINS '08** (left) were at the controls of a recent United Airlines flight to Nassau, Bahamas.

DAVID STAGG '85 retired from a career in safety and environmental services and has provided free tutoring for college science students.

ALLEN MURPHY '86 MBA, who retired after 30 years of corporate IT program management, joined

Valencia College as a visiting professor of business administration/management.

EVAN SMITH '86 M.S., '21 Ph.D., joined the Florida Tech faculty as a full-time instructor in January.

VIK VERMA '87 was named to the board of directors for Ping Identity. He currently sits on the board of directors of Cambium Networks and Zingtree, as well as the advisory board of Wiliot. The University of Michigan's electrical and computer engineering department recognized him with the 2022 ECE Alumni Impact award.

MARJORIE LUCZAK '89 MBA has published *The Glass Spider*, a historical fiction novel that spans time and distance from China after World War II to Jamaica and to the United States.

7 HERB RAYBOURN '89, '91 M.S., PE, FASCE, has been named a fellow by the American Society of Civil Engineers for his contributions and creative solutions in the fields of civil engineering and water resources.

8 DANA SCHULZE '89 was named managing director of the National Transportation Safety Board, overseeing day-to-day operations of an agency with 400 employees and a \$118 million budget.

1990s

JOSHUA RAY '91 A.S., '93, was recently promoted to regional head of general aviation-North America for Allianz Global Corporate & Specialty, a major worldwide aviation insurance provider. In this role, Ray is responsible for overseeing and steering the general aviation insurance portfolio in the U.S. and Canada.

DOUGLAS BAYLEY '92 joined Davidson Technologies as team lead for modeling and simulation efforts supporting the U.S. Air Force. Bayley earned his

M.S. and Ph.D. in aerospace engineering at Auburn University and served in the U.S. Air Force for 20 years.

JOSEPH HEINZMAN '93 MBA, DBA, joined Pasco-Hernando State College as the new director of apprenticeship, workforce development and career and technical education. His work experience started at Armstrong World Industries as an accountant and culminated as a business manager in aerospace, retiring from Lockheed Martin Missiles and Fire Control in Orlando following 24 years of service.

MONIQUE PICOU '93 MBA was named to the Ryan Companies US Inc. board of directors. Ryan is leveraging Picou's experience in supply chain operations and product and technology strategy as it expands its footprint in new markets.

BURT SUMMERFIELD '96 MBA serves as associate director for management at NASA-Kennedy Space Center. He is honored to be part of the next lunar program, Artemis, that plans to add a base camp on the moon's surface. The Artemis program, designed for deep space missions, will undergo extensive exploration, scientific experimentation and, ultimately, a trip to Mars.

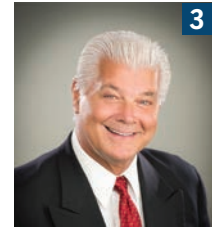
HOLLAND THOMPSON '96 was appointed to Florida's state emergency response commission by Gov. Ron DeSantis. Holland is the director of health and safety at Mosaic Co.

BRIAN LEISING '98 was named vice president of manufacturing for Opus Genetics, a patient-focused gene therapy company developing treatments for orphan-inherited retinal diseases.

2000s

9 ANTHONY BRIGGS '00 started a new role as intellectual property (IP) counsel at Accenture. In this role, he researches and strategizes Accenture positions on

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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

SARAH SNYDER '05, '09 M.S., ignored the typical advice when choosing a college—she did not tour campuses or speak with admissions counselors. While visiting a friend from high school who was enrolled at Florida Tech, she crashed a couple of classes on campus and found exactly what she was looking for—a STEM school with person-oriented experiences and a level of caring and faculty involvement that was missing from the classes she was taking.



A space sciences major who joined NASA–Kennedy Space Center after graduation, Snyder never expected it would be her other campus involvement as a resident assistant, orientation team member and campus tour guide—experiences helping incoming students navigate campus life—that would ultimately fuel her career path. Snyder is a customer experience manager for ZeeMee, a social media platform that connects students with the colleges they want to attend. By uploading photos and videos to their profiles, users can distinguish themselves during the application process and showcase their personalities for admissions officers. Prospective students can connect with other students and learn the ins and outs of campus from their peers—many even choose roommates and clubs before arriving on campus.

It's Snyder's job to optimize the platform to help prospective students make these valuable connections. Each day is a new challenge, and she enjoys digging into why something isn't working and providing feedback to make better experiences.

As much as her own college search and campus activities laid the groundwork for her passion to help students find their fit in higher education, her career trajectory, too, was serendipitous in her success. After starting as a research scientist at NASA, the retirement of the space shuttle program prompted her to pivot toward another passion: teaching. She worked as a college physics instructor in the Pacific Northwest before an opportunity at the University of California at Berkeley lured her back into research. To balance the high cost of living in California, she took on a second job as a math tutor, later parlaying those tutoring skills into an operational role with a virtual education application.

Fast forward a few years, a pit stop back at NASA and cue ZeeMee. Recruited by the founder of her old tutoring application who had moved on to become CEO of ZeeMee, Snyder joined the team in 2021, coming full circle to unite her experience in research, teaching and student life in an app future Panthers can use in their college search.

YOUR SUPERPOWER: Adaptability.

PETS: Three dogs—a retired Homeland Security explosives detection dog and two rescues. All are living their best lives in Maine.

USUAL WEEKEND ACTIVITY: My backyard is 7 acres with a lake at one end, so summer activities include kayaking and hiking.

FAVORITE FLORIDA TECH MEMORY: Nearly stepping on an escaped octopus during a campus tour not once, but twice!

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forward-looking global issues in IP (e.g., AI, NFT and other technology impacts on IP). He supports and advises deal teams in negotiating IP terms.

10 ADELE LUTA '02, an AAAS IF/THEN® ambassador, poses with her statue in the National Mall. The Smithsonian partnered with IF/THEN to display figures of remarkable women in STEM careers to celebrate the incredible impact women continue to make on vital scientific endeavors.

TIFFANIE DEMARIA ARTIGAS '03 was recently promoted to director of operational excellence at Verdex Construction in West Palm Beach. Last year, Artigas was named the 2021 Procore Groundbreaker of the Year and received her award from Jay Leno.

11 JULIEN APELOIG '04, '07 M.S., Ph.D., joined Athstat as the principal data scientist. In his new role, he develops tools to support sports clubs to make the most of their data and boost performance. The entrepreneurship and international connections he gained through Florida Tech's culture helped him realize this career shift from French aerospace and academic laboratories.

12 MANNY RODRIGUEZ '04 M.S., DBA, recently joined Puzzle Box Academy as an executive team member. Puzzle Box is scheduled to open a new innovative high school and boarding school in Viera, Florida, for 156 neurodivergent students in August 2024.

JASON KLOES '05 recently accepted a position with Blue Origin as a senior program manager for advanced development groups. Previously, he worked on human launch systems with Northrop Grumman Corp.

13 ARAVIND RATNAM '05 M.S. was appointed chief strategy officer with Q-CTRL. In his role, he is tasked with bringing quantum computing technology to many

applications, including space, transportation and climate science.

CHRISTOPHER CLAPPER '07 recently joined Solarus as captain CL604/605. He credits the Florida Tech College of Aeronautics with helping him land an opportunity to work as a captain for Gulfstream Aerospace Corp. early in his career.

14 CHRISTINE (GABRIELSE) LIN '07, Ph.D., and her husband, Junwen, welcomed their daughter, Avonlea, in July 2021. Lin is a research scientist in The Aerospace Corp.'s space science department, and her husband practices immigration law. Their little cub fills their lives with immeasurable joy and bright smiles!

15 JILL '09 M.S. and **RYAN** '09, '15 M.S., **TENNY** welcomed a daughter to their Panther pack in May 2021.

2010s

16 JENNIFER '10, '13 M.S., DPT, and **BRIAN KRYSZCZYNSKI** '11, '14 MBA, welcomed their daughter, Skyla, in November.

17 IAN MCCARRELL '10 recently started as quality manager for Ereztech Labs U.S., and **CATHERINE MCCARRELL** '10 was promoted to operational excellence manager for MilliporeSigma Sheboygan Falls. They both have careers in specialty chemicals after meeting and graduating together as chemical engineers at Florida Tech. They also have two Panther cubs, Emily, 5, and Owen, 3.

18 GREGORY FRATANTARO '11, '13 M.S., recently joined FedEx Express as an MD-11F first officer. He was an instructor pilot in the KC-10A Extender serving in the Air Force Reserve for nine years.

GAËL LE BRIS '11 MSA, C.M., P.E., and **LOUP-GIANG NGUYEN** '19 MSA published *ACRP Report 236: Preparing Your Airport for Electric Aircraft*



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and Hydrogen Technologies for the Transportation Research Board, a division of the National Academies of Sciences, Engineering and Medicine. This is the first comprehensive study on the matter and an important milestone in aerial innovation for the development of air mobility.

19 GUILLERMO NARANJO '11, Ph.D., was recently promoted to lead electronic warfare engineer with SRC. His work helps pilots return home safely from their missions. He credits his time at Florida Tech, specifically the Geophysics Space Lab and Drs. Liu, Dwyer and Rassoul, for helping to develop the tools he uses today.

20 THOMAS PARRETT '11 MBA recently took the helm of C Pathe as president/CEO. C Pathe is a specialized engineering, design and

manufacturer of static, dynamic and augmented reality displays for the retail sector.

21 LAURA DONSON '12 M.S. of Naval Supply Systems Command Fleet Logistics Center in Jacksonville has been awarded the Department of Defense's 2021 Richard Ginman Award for Contingency Contracting Officer Excellence.

CHRISTOPHER LOPER '12 M.S. joined Oasis Systems as an information systems management specialist contractor supporting the Air Force Research Laboratory at Eglin Air Force Base in Florida.

EDEN PRIELA '12 M.S. began a new position with KPMG as manager, cybersecurity services.

22 SUNAINA RAMISETTY '12 M.S. turned the hobby she

used for extra money while earning her master's in chemical engineering into a thriving business. She launched Tarinika in 2017 and recently added her second brand, Paksha.

23 GUINEVERE SHAW '12, Ph.D., began work as a nuclear engineer with the Department of Energy.

24 WILLIAM FOLCHI '13 recently made a career shift, joining Deloitte as a senior consultant in its enterprise performance practice. He previously held roles with Gulfstream Aerospace Corp. and Honeywell.

25 JOHN T. ROBERTSON '13, Ph.D., lead electrophysics engineer with Boeing Co., received the Future Technology Leader award by The Engineers Council.

26 KAJAL VAIDYA '13 M.S. was promoted to downstream lead, manufacturing technology, for Sanofi Pasteur Toronto's new vaccine-manufacturing facility for pertussis, diphtheria and tetanus vaccines. She has previously worked for manufacturing of Sanofi's polio vaccine and Merck's HPV vaccine.

CHRISTOPHER MASTRANTUONO '15 MBA has been appointed director of medical affairs operations at Mount Sinai Health System.

REBEKAH MENA '15 took a new role as senior strategic communications consultant with Guidehouse in Washington, D.C. Previously, she served as public information officer for the City of Atlantic City, New Jersey.

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KELLY COSTA '16 signed off from NBC affiliate WWLP in Springfield, Massachusetts, for her new role with FOX Weather. Costa trained with National Hurricane Center meteorologists while studying at Florida Tech, preparing her well for her new role covering tropical storms and severe weather systems.

27 NOELLE STERRIKER '16, '20 M.S., and her husband, William, welcomed their daughter, Lyla Mae, in April.

28 VINCE TRIMBOLI '16, seated (forefront), at the flight controls consoles inside Firing Room 1 of the Launch Control Center at NASA-Kennedy

Space Center for the Artemis I simulation in December.

MATTHEW DONLAN '18 MBA recently completed his doctor of behavioral health degree and opened his own practice, Donlan Counseling Services, to help others achieve their goals and recover from issues.

29 STEVEN FARRIS '18 MBA was promoted to senior principal project manager at Northrop Grumman Corp. and was accepted to Florida Tech's DBA program starting fall 2022.

HEKMAT NUJOOM '18 M.S. began a new role as account manager with Boston Scientific.

30 ARJUN NAIR '18, '20 M.S., began work as an airport planner at Syracuse Regional Airport Authority. The College of Aeronautics became home to Arjun after arriving from Abu Dhabi, United Arab Emirates, and he's thrilled to be working for **JASON TERRERI** '01.

31 ASHWIN SOMALINGA SURESH '18 M.S. joined Lassogen Inc. as a senior research associate, studying biochemistry underpinning lasso peptide biosynthesis and optimizing the production of lasso peptides and lasso peptide analogs that are being advanced for therapeutic applications in cancer.

PATRICK VOLTAIRE '18 MPA, assistant chief of operations for Brevard County Fire Rescue (BCFR) since 2019, has been named the next fire chief for BCFR by the Brevard County Board of County Commissioners.

CHIRAG DODANI '19, '21 M.S., joined HAECO Americas in Lake City, Florida, as a liaison engineer. In his role, he serves as the intermediary between airplane manufacturers and operators, providing repair dispositions for airplanes coming in for heavy maintenance checks.

32 PETER O. JOHNSON '19 M.S. was promoted to engagement analyst with Cerner Corp.

33 SHADI MOUSTAFA '19 was promoted to software engineer II at Collins Aerospace. He is pursuing his master's in systems engineering from Johns Hopkins University.

EZRA PERRY '19 joined Savannah River National Laboratory as senior system engineer. He previously worked on automated driving systems for Toyota.

ROBERT SALONEN '19 MPA was appointed by Gov. Ron DeSantis to the CareerSource Florida board of directors.

ANDRES VARGAS '19 MBA became senior planner, Global Integrated Facilities Planning Team with The Walt Disney Co. He also serves as the vice president, region 7, for the Society of Hispanic Professional Engineers, helping engage more members in STEM careers.

2020s

34 JUSTIN FLOWERS '20 M.A. was sworn in as the New Brockton town councilman for District 2, Coffee County, Alabama, in November. At age 29, he became the youngest African American New Brockton councilman to serve in Coffee County.

35 MAHYAR SAMETI '20 Ph.D. landed a role as senior quality control analyst with Editas Medicine in Cambridge, Massachusetts. He credits Florida Tech for developing the skill sets needed to land a senior role in the heart of the biotechnology center in Boston.

36 ANDREA SWANSON '20 worked for Amazon as a software engineer following graduation. She recently joined Inflection, a leading data, privacy standard and risk solution technology firm, as a software engineer.

37 DONVILLE TOMLINSON '20 MBA recently joined Microsoft Corp. as a senior business program manager supporting industry solutions delivery.

38 LOGHAN ASHLINE '21 is the newest development driver for the Larsen Motorsports jet dragster racing team.

ELISE KOLE ASPRAY '21 Ph.D. began a post-doctoral computational research biologist position with the U.S. Department of Agriculture Global Change and Photosynthesis Unit, based at the University of Illinois in Urbana-Champaign. This position harnesses her passion for addressing climate change via a mathematical background.

CASEY HOFFMAN '05, '07 M.S., '10 M.S., has over 15 years of combined spacecraft experience, having worked on the James Webb Space Telescope, space shuttle Discovery, Dream Chaser, the Orion Spacecraft, the Ares I-X rocket programs, Astrobotic—part of the NASA Commercial Lunar Payloads program—and the electrical engineering solutions team at Ball Aerospace. Most recently, she became lead lunar electrical engineer at Masten Space Systems, contracted on the NASA Commercial Lunar Payload Services program. In her spare time, she is a race car driver in her Z06 Corvette, having won fourth place at nationals in the SSL class, is a retired professional gamer with two world championship wins under her belt, enjoys building and flying RC helicopters and, occasionally, works on abstract paintings. She has been interested in space since she was a child.



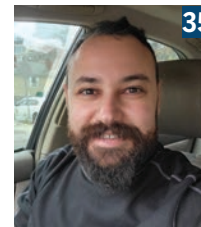
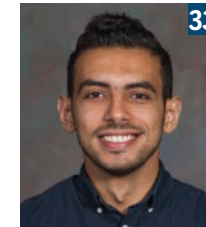
"When I was little, I was watching PBS a lot, and I was watching 'Cosmos,' and something Stephen Hawking talked about was like, if we're going to survive as a species in this giant galaxy of ours, it's like, we have to get off the one little rock we live on," Hoffman said on local Emmy award-winning PBS39 TV program, "The Future is Female: Women, Space and NASA."

YOUR SUPERPOWER: Flight!

ALTERNATE CAREER: Race car driver.

YOUR VICE: Final Fantasy XIV (video game).

FAVORITE FLORIDA TECH MEMORY: Hanging out in the Rat with my friends playing pool and eating cheap pizza!



ALEXIS "SCRAPPY" HOPKINS '21 made history when she was selected as the eighth pick by the Kentucky Wild Health Genomes, a first-year franchise in the Atlantic League, a partner league with the MLB. Hopkins played at Florida Tech while earning her B.S. in biomedical engineering.

SARAH LEVERSEE '21 MBA began a new role as business intelligence analyst with AdventHealth Central Florida.

39 JAMIE MOHNEY '21 (red shirt) and **SYDNEY SPICER '21** (black shirt) celebrated their graduation

accomplishments by jumping out of a perfectly working airplane (skydiving).

NOAH REILLY '21 joined Millsaps College as assistant football coach, linebackers. He was a student assistant at Florida Tech and later worked with the Melbourne High School football team.

CARLOS RIVERA '21 recently began working for Environmental Science Associates as an engineer.

ROBBIE WHITMAN '21 joined the Mayo Clinic as an information security engineer.



Connect with Us & Join the Fun

Visit FLORIDATECH.EDU/ALUMNI/EVENTS to catch up or mark your calendar for new offerings.



ALUMNI LECTURES



Social Media: Managing Your Digital Footprint and Expanding Your Influence

Presented by Hannah Becker '15 MBA  Recording online

 Feb. 10, 2022  39 attendees

TOP TIP» Ensure all the social media content you create, share and engage with reflects your values, as it serves as a permanent representation of you online.

SOCIAL EVENT

Virtual Maple Syrup Tasting Class

Featuring a tasting of Crown Maple syrups

 Feb. 23, 2022  77 attendees

DID YOU KNOW?» Maple producers have to boil down 40 gallons of sap to produce just one gallon of maple syrup!



ALUMNI RECEPTION

St. Petersburg, Florida

A gathering of Tampa/St. Pete alumni at the Birchwood Ballroom

 April 7, 2022  31 attendees



ON CAMPUS

Women Inspiring Success & Excellence (WISE) Awards Luncheon

The Florida Tech Alumni Association kicked off Women's History Month by hosting the inaugural WISE Awards luncheon to honor inspiring women in the Florida Tech community. Read more about each honoree on page 10.

March 3, 2022 86 attendees

Honorees pictured, from left, **ALYSSA CARSON**, astrobiology junior, Student Catalyst Award; **CAT NANNEY**, director of student involvement, Joan Bixby Staff Impact Award; **TOBY DALY-ENGEL**, director of Florida Tech's Shark Conservation Lab, Faculty Excellence Award; **DEIRDRE GONSALVES-JACKSON** '04 Ph.D., Alumna Legacy Award



ON CAMPUS

Rev. Dr. Martin Luther King Jr. Commemoration

The first in-person community event on campus since 2020, this event celebrated the life and achievements of Martin Luther King Jr. and the community members who are carrying on his legacy.

Feb. 17, 2022 240 attendees



Live rendition of Dr. King's "I Have a Dream" speech by orator Leonard Ross.



Keynote address by Jordin Chandler '19.



Fin Bonset '96, '99 MSA, Alumni Association president, presents the Dr. Harvey L. Riley Bridge Builder award to Dorothy Linson.



Kendall Moore, Florida Tech trustee, presents the Dr. Julius Montgomery Pioneer Award to Bruce Buggs.

IN MEMORIAM

GLEN BOQUIST '74 M.S., '76 M.S., died Jan. 16. Boquist enlisted in the U.S. Army during World War II and served as an officer during the Korean War. He retired after 42 years with the Army as a logistics engineer.

BERNIECE (NYENHUIS) HOWER '74 passed away Feb. 24 alongside her husband, **DOUGLAS HOWER** '74, and their daughter. She studied ocean engineering at Florida Tech, yet ultimately chose a career as a Montessori preschool teacher, through which she influenced many young lives.

DOROTHY REINSCH '77 M.S. died Jan. 7. She taught migrant children before becoming a teacher in Polk County. She taught science at Southwest Middle School in Lakeland, Florida, for over 30 years.

WAYNE C. REED '78 A.S., '79, died Sept. 23 during a trip to the Maine coast. He was an avid scuba diver thanks to his years at Florida Tech and was laid to rest in an artificial reef project named after him to protect Mexico Beach, Florida.

JOHN WALLINE '82 of Franklin, Tennessee, passed away Dec. 3. He spent his early career flying for multiple airlines as a flight engineer.

MARILYN WILLIS '83 MBA, '87 M.S., passed away unexpectedly Dec. 3. She was an elementary teacher, librarian and data manager.

MARK SCHIRO '92 M.S. passed away from COVID-19 in September. He earned his master's degree in computer science from Florida Tech. He began his career as a genetics laboratory technologist at Wesleyan University, where he and his team conducted groundbreaking *Drosophila melanogaster* recombinant DNA research.

BENJAMIN SIWINSKI '95 passed away June 8. He earned his bachelor's degree in airway science management at Florida Tech, where he met his wife, **STEPHANIE SIWINSKI** '96. Most recently, he worked as Gulf Coast managing director of the VHB Tampa and Sarasota offices.

ROBERT EUGENE MYERS '05 PMBA passed away in November 2021. He was a 20-year veteran, serving in both the U.S. Marine Corps and U.S. Air Force. He retired from the Department of the Navy after 19 years.

JOSEPH TORKAMAN '14, '16 M.S., passed away June 28. After earning his bachelor's degree in aerospace engineering and his master's in human-centered design, he worked for five years at SpaceX in Los Angeles. He was an active member of Residence Life during his time on campus and made many dear, lifelong friends.

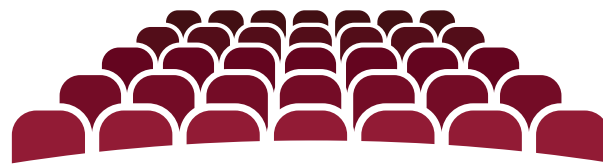
GLEB AFANASYEV, 21, an aerospace engineering major, passed away unexpectedly Jan. 30 in Satellite Beach.

YOUSUF AL FARSI, 21, a junior majoring in finance, died in a traffic accident May 2, in Melbourne. He was an active member of the Omani community at Florida Tech.

FREDERICK R. BRISTOL JR., a key member of Facilities Operations for more than three decades, passed away June 4 at age 64. He ran the university's A/C welding shop from its location at the Advanced Research Laboratory for 30-plus years before retiring in July 2021.

MIKE "CHUMLEY" GAINES passed away May 10. We was behind the Panther Pit bar that opened in the early 1990s at Panther Plaza on campus and went on to run Chumley's Depot in Downtown Melbourne. He will be missed as a friend, a positive community influencer and an exemplary Florida Tech alumnus.

JANE E. PATRICK, English professor emeritus, passed away June 8. During her nearly 20 years at Florida Tech, Patrick led the university's Individual Learning Center (today, the Academic Support Center) and served from 1982 to her retirement in 1997 as head of the department of humanities and communication. She was the first woman to lead an academic department at the university.



TAKE A SEAT

Gleason Seat Legacy at Florida Tech

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

FLORIDATECH.EDU/SEAT

PANTHER PROFILE

Data is the World's True Currency

In the interconnected society we live in, Ravi Pendekanti '90 M.S. treats the data consumers generate like gold.

When **RAVI PENDEKANTI** '90 M.S. was searching for a university to help him connect his idea of learning how software could make hardware more useful, our worlds were not so connected. The World Wide Web did not exist, and Pendekanti chose Florida Tech from a brochure in his library in India. He came to the Melbourne campus knowing little more than our strong academic reputation and proximity to the ocean and NASA. He theorized that understanding hardware plus software equaled a better customer experience, and he wanted to learn more. Beginning with his time on campus in 1988 as a graduate student, Pendekanti had a front-row seat watching the internet age unfold, with technology and innovation combining to shape the connected society we live in today.

Fast forward three decades and, indeed, we live in an increasingly digital world, and data is the currency that makes us a connected society. People rely on the shiny devices they hold in the palms of their hands to share photos and videos with family and friends, order food or summon a car service. The amount of data being created in the world is astonishing—doubling every seven or eight months.

In his role as senior vice president, product management and marketing at Western Digital, Pendekanti takes

a customer-focused viewpoint that recognizes how the growing need for data storage solutions is shaping his industry. Western Digital delivers the technology that stores the data that makes our connections. He believes nothing is more important than ensuring his firm takes care of data, so people can relive their memories and make more in the future.

Pendekanti points to the underpinnings of his education at Florida Tech as being pivotal in his career. His graduate thesis explored graphical user interfaces long before we were swiping on the faces of our phones and watches. His early research took place on the Sun Microsystems workstations that were available in his computer lab. He experienced a full-circle moment after going on to work for Sun Microsystems and earning the chairman's award early in his career.

Pendekanti's focus on bringing the customer experience to life continued in roles with Silicon Graphics, Juniper Networks and Oracle. He considers his time at Dell Technologies particularly rewarding. Prior to joining Dell as senior vice president, server and networking product management and marketing, Dell never held the market-leading position in the more than 20 years since it began shipping servers. Pendekanti changed that



CURRENT CITY: Silicon Valley, California

FAMILY: My wonderful wife and two amazing kids

HOBBIES: Hiking and charity work. Climbed the equivalent of Mount Everest 4.5 times in 2021. Have conquered Mount Whitney, and Mount Kilimanjaro ascent is scheduled for 2023.

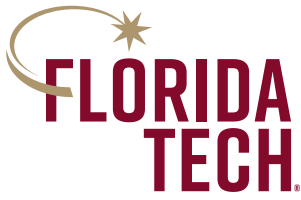
FAVORITE FLORIDA TECH MEMORY:

The “aha” moment I needed working on my thesis came to me while working in the lab at 2 a.m. I was so excited and needed to celebrate, so I biked to the nearest 7-Eleven to get a Slurpee. The sugar kept me up right into the next day, when I had a class to teach at 8:30 a.m.

statistic—catapulting Dell's flagship line of PowerEdge servers to the top.

More and more daily tasks are fueled by computing power, data and artificial intelligence, supporting Pendekanti's belief in the power of technology and innovation. His seat in the heart of Silicon Valley provides a view that is everything he imagined.

“It is the best place on the planet for anyone who is a technologist,” he says. He is grateful for the opportunities and education he received at Florida Tech, where he acquired all the knowledge he needed to make it in Silicon Valley.



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BACK IN THE DAY

- 1980s ●
- 1990s ●
- 2000s ●

Posing with university founder and president Jerome P. Keuper, 1986 Florida Tech Flying Falcons flight team members take stock of their nine trophies won at the National Intercollegiate Flying Association's Southeastern Regional Air Meet, including first place in team safety and second place in overall competition against six universities at Middle Tennessee State University. In February, the 2022 team voted to drop its "Falcons" nickname and now goes by, simply, the Florida Tech Flight Team.

