

SPECTRUM

FLORIDA STATE UNIVERSITY COLLEGE OF ARTS & SCIENCES

Summer 2019





From the Dean

share that FSU stands at its highest level of academic achievement in its history. Following a meteoric rise in the *U.S. News and World Report* rankings in 2018, FSU is set to continue its strong showing in the coming year. This advancement is thanks in no small part to the rigorous and dynamic programs offered in our college: As the university's academic core we are a central pillar of this excellence.

Arts and Sciences faculty and staff performances across disciplines continue to exceed leadership's high expectations and create a bright light moving forward. Students — 10,000 graduates and undergraduates throughout the college — have taken advantage of these efforts while bringing fresh energy to campus. And it is the dedication, innovation, curiosity and commitment of the entire academic community that have enhanced FSU's standing as a prolific Research I university.

In the following pages we highlight slices of the college to bring you information and insight into our activities through the perspectives and experiences of our students, alumni and faculty. The college's strength resides in its diversity, and these stories represent the common threads that bind us to create a world of opportunity.

As always, please stay in touch, and thank you for being part of the College of Arts and Sciences family.

A handwritten signature in black ink that reads "Sam Huckaba". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Sam Huckaba
Dean, College of Arts & Sciences

Welcome to this edition of *Spectrum* magazine, the alumni publication of the Florida State University College of Arts and Sciences. It has been an exciting year for the college, its students, alumni, faculty and staff as we continue our relentless pursuit of academic excellence and look toward 2020 on the horizon.

Students from the college made up the largest group of graduates at FSU's Spring Commencement ceremony, and I wish to personally congratulate and welcome those 3,000 new Arts and Sciences alumni. You join an alumni group that includes nearly 100,000 members, whose academic and professional records reflect a shining example from which you may draw inspiration as you begin to write your next chapters.

The value of your connection to this institution has never been more apparent. I am pleased to

SPECTRUM

FLORIDA STATE UNIVERSITY COLLEGE OF ARTS & SCIENCES

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On the cover

The Florida State University James D. Westcott Building and fountain are seen through a glass prism. Westcott was the original administration building for the Florida State College for Women, to which the College of Arts and Sciences traces its roots. Photo by FSU photography services.

Nole Notes

The top news from around the college

FSU a top producer of Fulbright U.S. Scholars

Florida State University has been named one of the nation's top research institutions for producing Fulbright U.S. Scholars by the U.S. State Department.

"This is a remarkable accomplishment," said Sally McRorie, provost and executive vice president for Academic Affairs. "It signifies the depth of excellence of our faculty."

Three of the nine faculty scholars awarded Fulbright grants for 2018-19 are from the College of Arts and Sciences:



Igor Alabugin, Cottrell Family Professor in the Department of Chemistry and Biochemistry, received a Fulbright U.S. Scholar award to lecture and share ideas at universities in the United Kingdom.



Joseph Schlenoff, Robert O. Lawton Professor of Chemistry and Mandelkern Professor of Polymer Science in the Department of Chemistry and Biochemistry, received a Fulbright U.S. Scholar grant to conduct research at the University of Strasbourg in France.



Jacob Newberry, who earned a doctorate in English-creative writing from FSU last year, received a Fulbright U.S. Scholar award to conduct a postdoctoral fellowship at Bar-Ilan University in Israel.

The Fulbright U.S. Scholar Program, which operates in more than 125 countries, is the U.S. government's flagship international educational exchange program. Since its inception in 1946, the program has awarded scholarships to approximately 400,000 participants to foster collaboration with scholars at institutions of higher education worldwide.

Nobel laureate sheds light on science teaching

Carl Wieman, renowned physicist, educator and Nobel laureate, visited FSU in February to discuss his research-based approach to science education and how new practices can provide more effective learning for college-level science students.

Wieman's visit, which included a stand-ing-room-only talk, was sponsored by the FSU College of Arts and Sciences and the FSU-Teach program as part of FSU-Teach's 10th-anniversary celebration. STEM professors and graduate students gained insight on Wieman's research and experiences included in his recent book "Improving How Universities Teach Science." His scientific teaching method differs from traditional lecturing; it gets students more involved in the subject matter and encourages them to think like a scientist or expert in the field and engage in more decision-making.

A professor of physics and education at Stanford University, Wieman has won an array of awards and honors for his innovative work in both fields. In 2001, he won the Nobel Prize in physics, and, in 2004, was named the Carnegie Foundation Professor of the Year for his influence on science education.



Carl Wieman

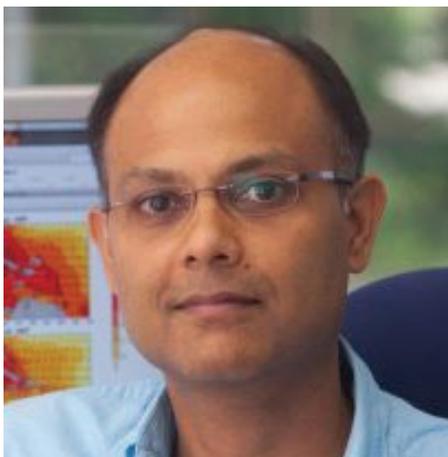


NASA funding to help develop tools for managing water resources

Researchers from FSU, in partnership with a network of scientists and stakeholders from throughout the state, have been awarded a \$1.7 million grant from NASA to develop cutting-edge climate prediction tools that could benefit Florida's water supply.

Meteorology professor Vasu Misra will lead FSU's efforts on the project, "Integrating NASA Earth Systems Data Into Decision-Making Tools of Member Utilities of the Florida Water and Climate Alliance."

Misra's team and their collaborators will use NASA Earth Science satellite and modeling products to provide actionable, localized climate information to regional water utilities in order to aid them as they make critical decisions about water resource allocation. These new tools will provide improved insight into climate's effect on systems and operations essential to state water utilities, such as the flow of rivers and streams and the storage and recovery of water in aquifers.



Vasu Misra



Sara Hart



Chris Schatschneider

Researchers receive \$3M to create national repository for data on learning disabilities

The National Institutes of Health will award nearly \$3 million over five years to researchers at FSU so they can build a first-of-its-kind national data repository that aims to inspire innovative research that helps children with learning disabilities. The ambitious project, supported by FSU Libraries, is led by Sara Hart, an associate professor of psychology and research faculty member at FSU's Florida Center for Reading Research, and Chris Schatschneider, a professor of psychology and associate director of the center.



Kimberly Hughes



Thomas Albrecht-Schmitt

Two professors named AAAS fellows

Professor of biological science Kimberly Hughes and Gregory R. Choppin Professor of Chemistry Thomas Albrecht-Schmitt have been named fellows of the American Association for the Advancement of Science in recognition of their work to advance science and its application.

Hughes was honored for her contributions to the field of evolutionary ecology, particularly on non-adaptive theories of aging and context-dependent mating preferences. Albrecht-Schmitt was recognized for his discovery that some of the heaviest elements on the Periodic Table have unexpected parallels with lighter elements, as well as for training the next generation of scientists.



Doctoral student receives philosophy award

Philosophy doctoral student Marshall Thompson won the Marc Sanders Prize in Philosophy of Religion for his essay on the value of virtues, such as courage, in heaven. He received a \$10,000 award, and his winning essay, "And All Shall Be Changed: Virtue in the New Creation," will be published in the journal *Oxford Studies in Philosophy of Religion*.



Marshall Thompson

Underwater-archaeology student awarded major scholarship

Analise Hollingshead, a graduate student in FSU's anthropology department, has been awarded the 2019 Women Divers' Hall of Fame Cecelia Connelly Scholarship in Underwater Archaeology.

The \$2,000 scholarship will cover costs associated with Hollingshead's master's research on a submerged prehistoric site located in the Aucilla River, southeast of Tallahassee. Her investigation of the site could provide clues about the first people occupying Northwest Florida some 14,550 years ago.

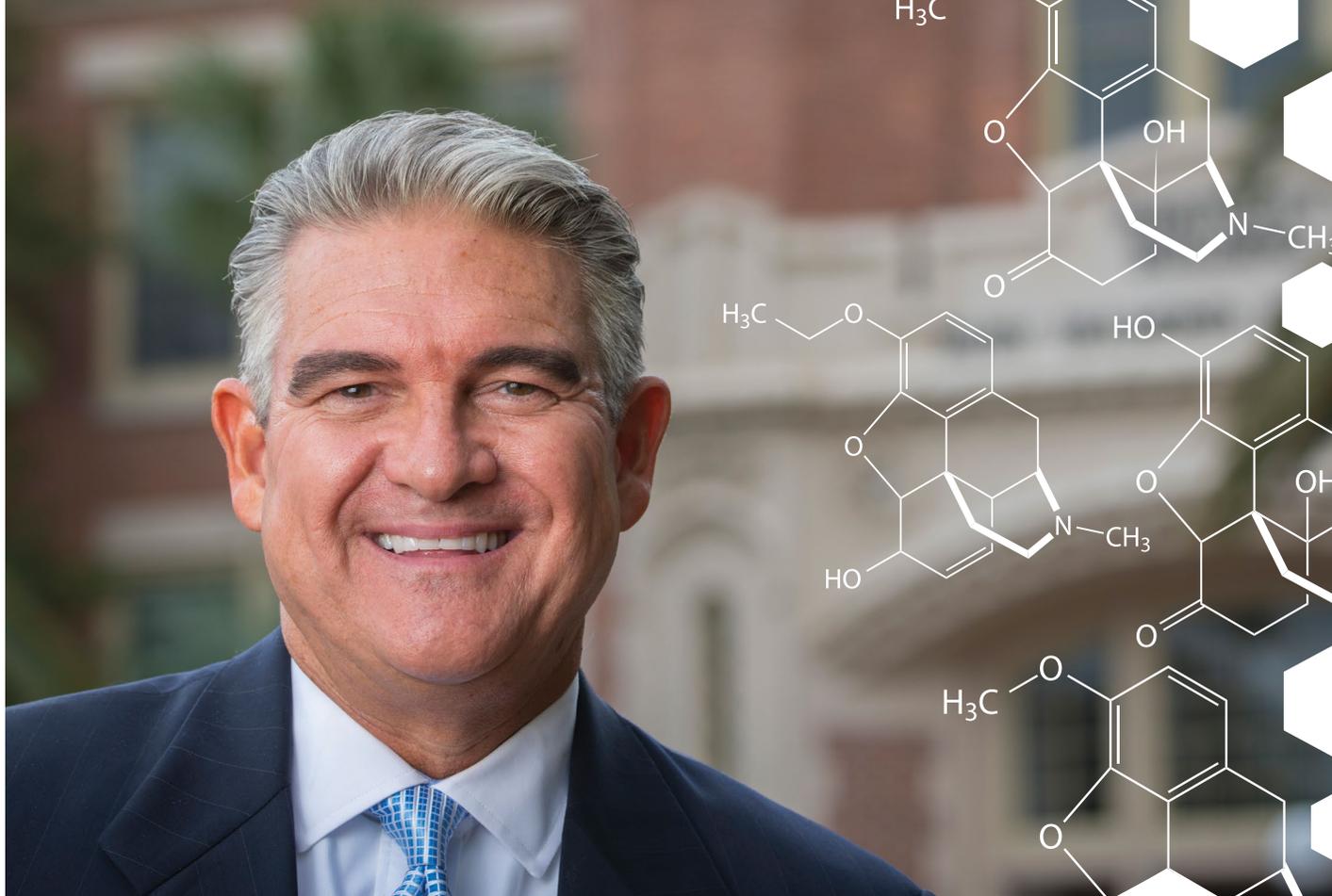


Analise Hollingshead



For the full story on these notes and more, visit artsandsciences.fsu.edu/news.





Fighting an epidemic

Alumnus Tony Ruscella demonstrates the value of a computer science education

By Kati Schardl

For nearly a decade, Tony Ruscella has served at the forefront of the nation's efforts to battle opioid addiction. His entry into the field coincided with the second wave of this epidemic, as early efforts to decrease opioid prescriptions made the drugs harder to get and users turned to illicit suppliers. But his journey to this point doesn't begin where you'd expect.

"When I first came to Florida State University, I had criminology in my crosshairs — the intrigue of finding out 'who done it' was appealing," Ruscella said.

The Nokomis, Florida, native fell hard for Tallahassee in 1981, when he visited as a Boys State delegate, lodging at FSU and learning about leadership, government and community engagement. He returned to the tree-shaded, red-brick charm of the university's campus as a student the next year and graduated with a degree in computer and information science in 1987.

The 1980s were a revolutionary time in the world of computer science: Bill Gates and Steve Jobs were competing for supremacy in the digital realm, and computers were beginning to be

mass-produced for personal use. The university, through the Supercomputer Computational Research Institute and the support of the Department of Energy, was able to install the first supercomputer in the region, giving students an amazing view into the future of computing.

Beyond the tech assets, the program was heavily grounded in math, statistics, analytical skills and problem-solving, a key contributor to Ruscella's switch to a computer science major during his sophomore year.

"The computer science program helped me by preparing me to analyze data, work on models, make predictions and use statistical logic to apply math skills," Ruscella said. "That has made me a sought-after commodity in the job market. I can take large amounts of data and synthesize it to produce predictions and analyses."

From FSU to the pharmaceutical industry

After graduating in 1987, Ruscella took a position with Whitehall Laboratories, the OTC pharmaceutical arm of American Home Products, a large corporation whose holdings also included Wyeth Laboratories. After six years and four promotions working in sales in the over-the-counter drug division, Ruscella left for a position with G.D. Searle, a research-based pharmaceutical company that makes and markets prescription pharmaceuticals and other healthcare products.

"There's less science involved in OTC product sales," Ruscella said. "I was intrigued more by the medical science involved in prescription products."

Ruscella worked for Searle for six years, promoting products such as Celebrex and Daypro (anti-inflammatory drugs), Calan SR (a blood pressure medication) and Ambien (a sedative often used to treat insomnia).

A pivot into substance-abuse treatment

He left in 2003 to enter his current field, that of substance abuse treatment, as a regional manager and business manager for the south-eastern United States for British multinational corporation Reckitt Benckiser, which patented Suboxone, a drug used to treat opioid addiction.

"I used my FSU training to work on statistical models to figure future sales forecasting for Reckitt's vice president," Ruscella said. "It helped me make very accurate estimates, and

that helped put me on the map with the folks at headquarters in England."

In 2010, Ruscella departed Reckitt Benckiser to take up a new endeavor in the field of substance abuse treatment, where Reckitt's former VP was now a CEO with a Florida-based national chain of opioid treatment programs.

"I left the pharmaceutical product industry to go into the service side with Colonial Management Group, based in Orlando," he said. "Colonial was then the second-largest provider of outpatient opioid treatment using the medically assisted treatment model, with about 60 facilities nationwide at that time."

Ruscella was able to learn from his former VP colleague and mentor, now a CEO, about the field of substance abuse treatment services.

As the third-wave of the opioid crisis emerged in 2013, with an upswing in deaths resulting from illegally manufactured fentanyl, Ruscella went to work for CRC Health Group, which was later acquired by Acadia HealthCare. Acadia is currently the largest provider of such services nationwide, with 127 facilities treating more than 62,000 patients a day. As vice president of business

development, Ruscella is responsible for opening new facilities around the country in the best places possible for outpatient treatment using the medically assisted treatment model. He also serves as co-president of the Ohio Association for the Treatment of Opioid Dependence.

Working to expand access to treatment

His experience fighting the country's opioid epidemic has fueled Ruscella's passion for expanding access to treatment for patients suffering from substance abuse disorders and opioid dependence. He recently traveled to Tallahassee to meet with legislators, the Governor's office and Florida Department of Children and Families Secretary Chad Poppell.

"Many of the rules and regulations regarding substance abuse treatment are outdated," Ruscella said. "A lot of states seek industry experts' assistance in rewriting those rules and regulations to expand access to treatment."

As a result of Ruscella's meetings and the collaborative efforts of other vendors and the DCF, a new needs assessment survey should be published this summer, which will allow the state to expand treatment via a licensure process. <



The next generation

For Tony and Aleena Ruscella, choosing to attend Florida State University was a case of "Like father, like daughter."

Ruscella brought his daughter, then a freshman at a Tampa high school, to the 2014 FSU-Notre Dame football game at Doak Campbell Stadium. Aleena fell in love with the campus and city and, today, she's set to embark on her sophomore year at FSU studying criminology.



poet in the cockpit

Alumna H el ene Dubois-Nicholson
combines her two passions

By Gabriella Paez

*“Pirouetting over pink lakes
and baobab forests, soaking
in the dry sun of New Mexico.
It’s a long meditation and
contemplation about the
incredible beauty of this
planet. Flying provides an
escape, a reset from the daily
chaos that we sometimes
encounter when living too
close to the ground.”*

With lyrical style, Florida State University alumna H el ene Dubois-Nicholson (M.A., French language and literature, 1997) paints a vivid picture of her experiences as a commercial pilot while also indulging in her other great love, writing poetry.

In her formative years, Dubois-Nicholson drew inspiration from others whose dual passions mirrored her own. Beryl Markham — a British-born Kenyan aviator who was the first woman to fly solo, nonstop across the Atlantic from east to west — and Antoine de Saint-Exup ery

— a French poet and pioneering aviator — were among her favorites.

“Years after I had read and memorized so many of their stories, I was surfing the exact same skies in West Africa,” she said.

In early 2018, Dubois-Nicholson debuted her own poetry in “Les pages du ciel” [The Pages of the Sky]. Written in her native French, the book offers a bird’s-eye view of her journeys through the clouds and the publication brings her full circle, with her two passions now entwined.

A new home abroad

Years before she became both accomplished poet and pilot, Dubois-Nicholson flourished as a graduate student in the Department of Modern Languages and Linguistics. William Cloonan, a French professor emeritus at FSU, met Dubois-Nicholson when she first came to Tallahassee from Senegal.

"I was struck not only by the breadth of her reading but also by the precision and thoughtfulness of her comments," Cloonan said. "For such a young person, it seemed literature was an essential part of her life. That impression has not changed."

Dubois-Nicholson was encouraged to publish her work, attend conferences and participate in myriad extracurricular activities. Before graduating summa cum laude in 1997, she was named the department's Student of the Year.

"Departments usually have to work hard to recruit excellent graduate students," Cloonan said. "Occasionally, one just wanders into our building. Hélène was one such occasion."

Soaring over barriers

Emboldened by academic success, and having been taught to fly as a teenager by her father, Dubois-Nicholson concentrated her determined and creative spirit into pursuing a career in aviation.

The commercial aviation industry has been traditionally dominated by men. According to the International Society of Women Airline Pilots, there were 7,409 female airline pilots worldwide in 2018, and women comprised 5.18 percent of the pilots across 34 major airlines. To break into the industry and rise to her current position at American Airlines, Dubois-Nicholson studied hard.

"I knew I had to prove myself as a pilot," she said. "My father certainly was instrumental in pushing me to be the best I could be. In the end, it is about being professional and staying on top of your skills,

no matter your gender. Nevertheless, women do need representation. More often than not, I meet little girls who have no idea that women can be pilots ... and I am ready to see a change."

Dubois-Nicholson is also passionate about eliminating unnecessary waste and making personal changes to live conscientiously, and she believes airlines can do more to protect the environment. Her employer, American Airlines, has long been a leader when it comes to implementing social change in aviation. American hired the first female pilot at a major U.S. commercial airline in 1973 and today is home to one of the industry's most comprehensive corporate sustainability programs.

"Airlines are powerful and can do amazing things," she said. "They raise millions for charities. I think there are many ways to reduce, from having more efficient airplanes to reorganizing catering that could recycle, reduce or reuse."

Andrew Simonds, American Airlines' chief pilot

for Boston, says Dubois-Nicholson is the kind of pilot who knows why you are in her airplane and understands the challenges involved in making everyone feel at ease.

"She brings a great level of enthusiasm, intellect and sensitivity to a job that requires more than just technical expertise," Simonds said. "Our pilots are sensitive to the nature of air travel and how we impact the environment. We all try to save fuel and reduce the carbon footprint in the safest and most timely manner. Clearly, she sees and understands the big picture and is part of the process that leads to the best decisions."

Dubois-Nicholson practices minimalism, eco-friendly habits and writes every day. She is eager to become a part of a green project with American Airlines and make an even bigger impact. <

Gabriella Paez graduated from FSU in May with a bachelor's degree in English with a concentration in editing, writing and media.



Hélène Dubois-Nicholson published her book of poetry, "Les pages du ciel," in 2018. Photos courtesy Hélène Dubois-Nicholson.



From athlete to innovator



Garrett Johnson makes his mark on the startup world

By **Barbara Ash**

As a student majoring in English and political science at Florida State University, Garrett Johnson was a standout, to say the least. Thirteen years after graduating magna cum laude, he still is.

The Tampa, Florida, native repeatedly distinguished himself, academically and athletically, during his years at FSU. He was named to the dean's list and the president's list and maintained a 4.0 GPA throughout his undergraduate career. As a member of the FSU track-and-field team, Johnson won the 2006 NCAA Indoor and Outdoor Shot Put Championship. He was named

an Academic All-American in 2005 and 2006 and won the FSU Golden Torch Award, which is given annually to student-athletes from each sport who achieve the highest GPA. And Johnson did all this while working as a legislative assistant in the office of former Florida Gov. Jeb Bush.

"Florida State broadened my intellectual opportunities and set high expectations of what I could achieve, and that had a major impact on my future trajectory," said Johnson, who came to FSU via the Center for Academic Retention and Enhancement program. "Through CARE, I gained the confidence and skills to pursue my interests and achieve my vision, and that has made a world of difference in my life on many levels."

CARE identifies, recruits and motivates high-performing, economically disadvantaged high school students to pursue

higher education at FSU and helps them develop academic habits necessary to succeed.

Named a 2006 Rhodes Scholar, Johnson went on to earn a master's degree in migration studies at Exeter College, Oxford University, England. His research examined global economic inequities and the effects of poverty on global migratory patterns, with particular focus on Haiti's socioeconomic conditions.

Since leaving academia, Johnson has proved a career success. Upon his return to the U.S. from Oxford, he took a position in Washington, D.C., as a professional staff member for the U.S. Senate Committee on Foreign Relations, where he focused on immigration policy and assistance relating to Haiti and Afghanistan, and made regular trips to Capitol Hill and the White House for briefings.

While in Washington, Johnson formulated an idea for a telecommunications company to help teachers in low-income areas of Tampa communicate more effectively with students and parents using text messaging. The idea took root, and in 2011 he and an Oxford classmate headed to California's Silicon Valley to launch SendHub.

The company secured backing from Y Combinator, which provides seed funding to early-stage startups, helps owners flesh out business plans and advises on pitching ideas to investors. SendHub eventually raised \$10 million from multiple sources, broadened its national reach and attracted such customers as Lyft, Berkshire Hathaway, Yale University and Teach for America. In 2015, SendHub was acquired by Cameo Global.

Johnson was soon on to his next venture. During his Washington stint, he had observed

a wide disconnect between government and the tech industry. That led to his co-founding Lincoln Network, a policy and education organization that works to bridge the gap between these two sectors.

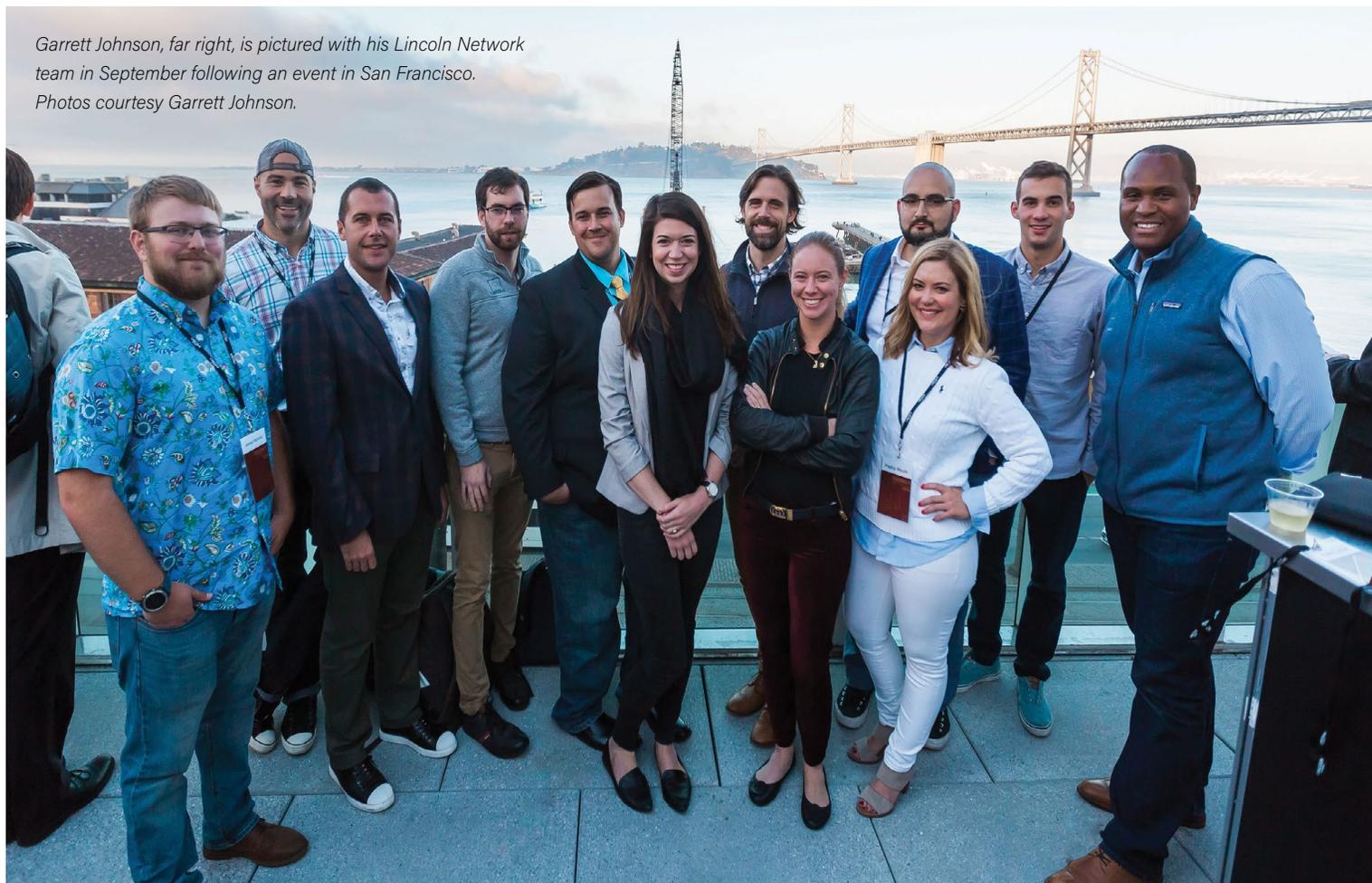
Johnson serves as executive director of the organization, which brings together an impressive array of leading voices in technology and policy to discuss concepts such as fears over the impact of technology on society, social media as a threat to democracy, fake news, job loss from automation, and how to help Congress understand technology, among other things.

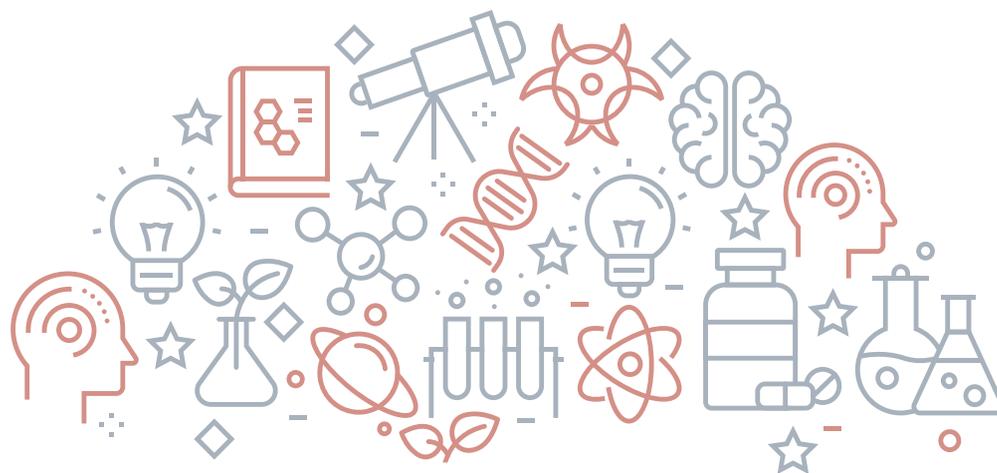
"I see myself as a problem-solver and, like my parents, I focus on the community and believe that when you roll up your sleeves and engage, you can influence your community and the world," Johnson said. <

Florida State broadened my intellectual opportunities and set high expectations of what I could achieve, and that had a major impact on my future trajectory."

— Garrett Johnson

Garrett Johnson, far right, is pictured with his Lincoln Network team in September following an event in San Francisco. Photos courtesy Garrett Johnson.





Scientific sensation

Gabriel Gomes forges a new frontier
in chemical research

— By Doug Blackburn —



Gabriel Gomes joined an elite cadre of like-minded researchers in January with a goal that sounds almost audacious. “We want to revolutionize how chemical research is done,” Gomes, freshly armed with a doctorate in organic chemistry from Florida State University, said almost matter-of-factly.

Without question, he thinks big. He also delivers. During his four years as a graduate student at FSU, Gomes did what no other FSU student is believed to have done: He co-authored 30 peer-reviewed, published papers.

“It’s amazing. It’s more than many just-tenured associate professors,” said professor Igor Alabugin, a member of the FSU chemistry faculty and Gomes’ adviser. “I think it’s unheard of.”

Gomes chose the University of Toronto to start his postdoctoral studies for one reason: to work with Alán Aspuru-Guzik, an acclaimed chemist

and computer scientist who recently left a post at Harvard University to build a diverse, unique team in Toronto.

Aspuru-Guzik good-naturedly refers to the team that Gomes has joined as “the Avengers of Science.”

“Chemistry is a collaborative field, and Alán has assembled a group with all different skills,” Gomes said. “We have people from engineering, computer science, quantum computing and chemistry. It’s a diverse team.” Gomes is the team’s computational organic chemist.

explained. “We bring people with different specialties to help.”

Edgar Gonzalez-Rodriguez knows better than most Gomes’ approach to problem-solving. Gonzalez-Rodriguez, a research assistant at FSU who is closing in on his doctorate, was lab partners with Gomes for most of the past three years.

Gomes and Gonzalez-Rodriguez co-authored one published, peer-reviewed work. The partnership was natural: Gomes is a computational chemist and Gonzalez-Rodriguez is an

pursue his graduate degrees. “It was a great move for me,” he said.

Gomes received the 2018 FSU Research and Creative Activity Award, the top award presented to a graduate student at Florida State. He also received the first IBM Ph.D. Scholarship in the university’s history and a CAS SciFinder Future Leaders Award. The last two are major international awards and significant milestones that will be inspirational for future generations of FSU students, Alabugin said.

Gomes hopes to one day return to the United States as a professor. Right now, however, he is



“We’re trying to change how we approach chemistry, and in our case, chemical discovery. We use machine learning and robotics to make better reactions, better catalysts and better materials. We would like to make materials that help society.”

— Gabriel Gomes

Ever inquisitive, he can often be found trying to understand how chemical reactions work and how to control them.

Collaboration has been a fundamental aspect of Gomes’ research. He believes in team-building. The whole, he says, is greater than the sum of its parts.

“In chemistry, it’s hard to work alone because there are so many things that need to be done for a project to be completed,” Gomes

experimental chemist. Their complementary skills made for a perfect fit.

“I have no doubt that Gabriel’s going to become an important person in the field in the near future,” Gonzalez-Rodriguez said. “He’s really hard-working and determined in what he wants. He works hard to reach his goals. Obviously, he’s also a pretty smart guy!”

Gomes said FSU researchers he met while still an undergraduate in his native Brazil convinced him the university would be an ideal place to

thrilled to be a member of Aspuru-Guzik’s team in Toronto. “We’re trying to change how we approach chemistry, and in our case, chemical discovery,” Gomes said. “We use machine learning and robotics to make better reactions, better catalysts and better materials. We would like to make materials that help society!”

Alabugin has no doubt that his protégé is capable of just about anything. “Gabriel is fearless in attacking new problems....He approaches difficult problems with an open mind,” Alabugin said. “He’s willing to do things that no one has done before.”



Esprit de corps

*FSU's ROTC
programs
develop a new
generation of
leaders*

By Audrey Post

Some want a chance to be part of something larger than themselves. Some come for the financial aid benefits. Others allude to something more personal in their motivation.

They are the student-scholar-soldiers of Florida State University's Reserve Officer Training Corps — Army and Air Force ROTC cadets. Their majors are varied — STEM fields, psychology, Chinese, Russian, finance, music, nursing and commercial entrepreneurship, for example — but their minors are military science or aerospace studies.

Many paths to success

In the ROTC programs, cadets' lower-level

courses focus on fundamentals and service branch history and customs, while upper-level courses target tactics and leadership. Upon graduation, cadets are commissioned as second lieutenants, and these young men and women put leadership skills honed at FSU to work.

Megan Householder, a spring 2019 psychology graduate, joined the Army's Chemical Corps. "Our generation needs more challenges, to get us out of our comfort zones. ROTC did that for me," she said.

Other recent Army ROTC alumni have made their own plans — some in the military and others in the private sector. Lynne Tieu, who earned a master's degree in cell biology, hopes



Left: The FSU Ranger Challenge Team competes in the Sandhurst Military Skills Competition at West Point Military Academy. Photo by Katherine Lee. Below: Air Force ROTC Detachment 145 cadets participate in training exercises. Courtesy Photo. Bottom left: ROTC commander Lt. Col. Keith Pruett speaks at the 2019 commissioning ceremony. Courtesy photo. Bottom right: Cadets from FSU's Ranger Challenge Team dig deep during the Sandhurst competition. U.S. Dept. of Defense photo.





Top: Members of Air Force ROTC Detachment 145 are on the march and led by commander Col. Rodney Singleton. Courtesy photo.

Left: FSU President John Thrasher poses with Cadet Melissa Kratzke at an event honoring FSU's ROTC's 2019 Brigade Ranger Challenge win. Photo by FSU photography services.



to go to veterinary school. Scott Gradolf, a finance graduate, is headed into aviation. Nursing graduate Savannah Markel, whose parents both served, will continue her military career and is honored to have service-members as her patients.

Moira Conley, a junior from an Air Force family, is blending her ROTC experience with her music major for Honors in the Major research on the Fife and Drum Corps' effect on military tactics.

The list of distinguished alumni is impressive for both programs and includes Army Maj. Gen. Tracy Norris, the first woman adjutant general for Texas; John Crowe, former chairman and CEO of Buckeye Technologies Inc.; retired Air Force fighter pilot Billy Francis, director of FSU's Student Veterans Center; retired Army Lt. Gen. Jay Garner, former assistant vice chief of staff of the Army; and FSU President John Thrasher.

Making their marks

Today's cadets are ready to step forward and carve out their own paths.

"They are eager. They are sincere. And they are smart," said Lt. Col. Keith Pruet, commander of the Army ROTC program and a professor of military science. "It's not about being perfect. It's not about being right. It's about understanding what it takes to lead and to be prepared."

Col. Rodney Singleton, commander of the Air Force ROTC program and a professor of aerospace studies, said no two cadets' stories are the same. "We have students from all walks of life, from students of military and middle-class families to students who are doing the best they can to build a better life, and they're all amazing," he said.

ROTC cadets get a great education and a job guarantee, plus a lot more.

Hayden Hurst, cadet commander of the Seminole Battalion for spring 2019 and co-captain of the battalion's Ranger Challenge Team, graduated with a degree in mechanical engineering and is headed to the infantry.

"Knowing where I was when I came in and where I am now, I've truly grown beyond what I thought was possible," Hurst said. "I have met all sorts of people from all around the world, and it has changed my life completely." <



TWO PROUD HISTORIES

Air Force ROTC Detachment 145 was activated July 1, 1949, just two years after the Air Force spun off from the Army Air Forces as its own service branch. The first ROTC unit at FSU, it's also known as the home of the Seminole Airmen.

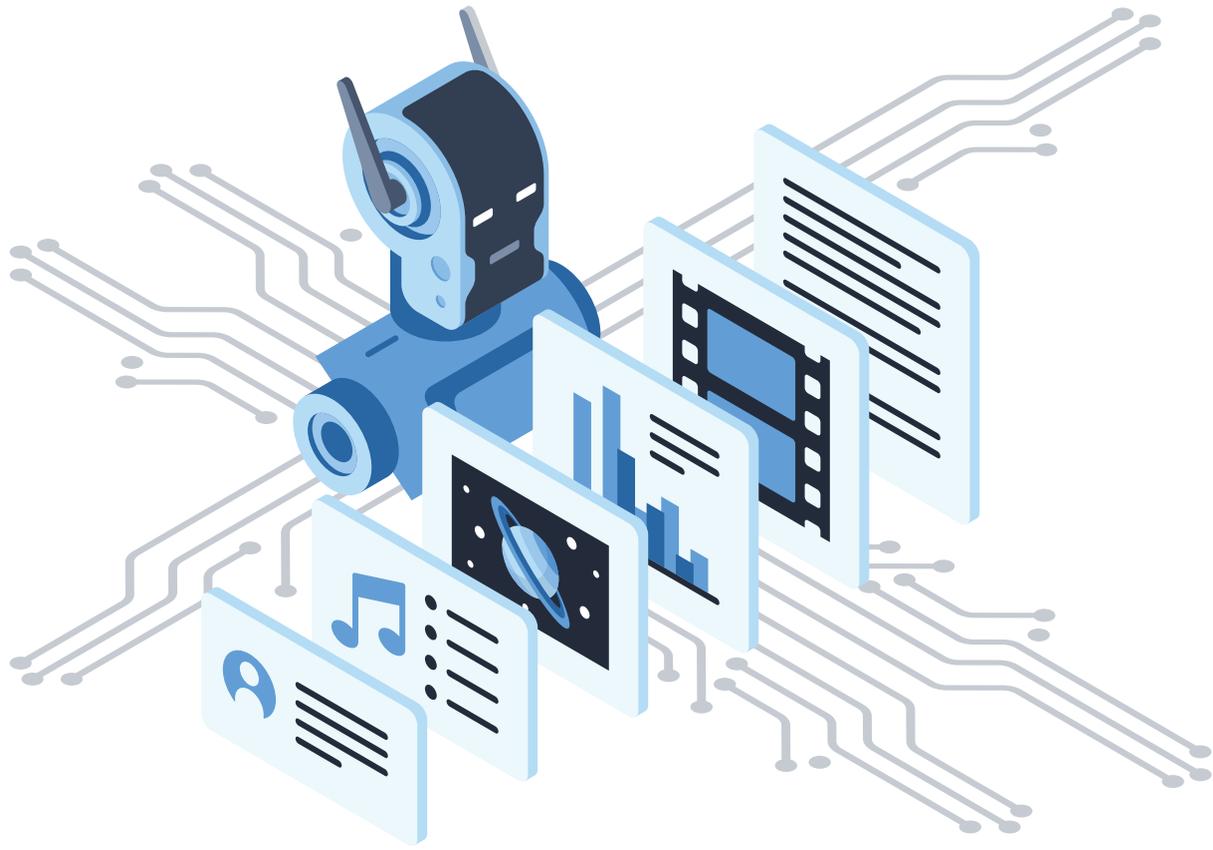
As part of the AFROTC Southeast Region, headquartered at Maxwell Air Force Base in Alabama, Detachment 145 has earned numerous honors, including top regional detachment in 1986, 1993, 2003, 2005 and 2017. In 1993, it was the nation's top detachment. More than 1,000 cadets have been commissioned as Air Force second lieutenants through the FSU program, and there are currently 139 Seminole Airmen.

FSU's modern Army ROTC program began in 1951, five years after the university became coeducational again, but the Seminole Battalion traces its origins to West Florida Seminary, which began offering classes in military science in 1859.

The program transitioned to Florida Military and Collegiate Institute, and a contingent of cadets fought in the Battle of Natural Bridge during the Civil War in 1865. For this service, the Seminole Battalion is one of only six college ROTC programs authorized to post a battle streamer on its colors for "significant participation in a battle of historical importance."

The program's recent bragging rights include winning this year's 6th Brigade Ranger Challenge, in which the FSU team bested 39 Army ROTC programs from Louisiana, Mississippi, Alabama, Georgia, Florida and Puerto Rico. The win earned the 11-member FSU team the right to take part in West Point's Sandhurst Military Skills Competition, a grueling 12-event skills contest blending physical fitness and tactics. The Seminole Battalion had Top 5 finishes in two of the events in an international field of 49 teams.

There are 157 students in FSU's Army program, almost 40 of them women. An average of 30 cadets graduate each year and move into active duty, National Guard or reserve status.



Mastering *machine learning*

Nathan Crock shines spotlight on scientific computing

— By Doug Blackburn —

Some call it machine learning. It is, in short, a new frontier. "Machine learning is like the new electricity. It's revolutionizing how things are done in business, government and industry," said scientific computing graduate student Nathan Crock.

Computational scientists use computers to solve scientific problems. We create complex models of reality and study them with tools and algorithms on computers. Machine learning is a new tool for exploring these models, he explained.

Crock, working in conjunction with department chair Gordon Erlebacher, is a force behind the Computational Intelligence Laboratory, FSU's launchpad into the heady world of machine learning. He also helps an annual machine-learning event on campus, MLX, or Machine Learning Expo.

The new wave in AI

Machine learning is an increasingly popular approach to artificial intelligence, an interdisciplinary field that requires knowledge of mathematics, statistics, computer science, neuroscience and more. The eclectic research taking place in the scientific computing department creates a fertile ground for the Computational Intelligence Lab to integrate new perspectives and ideas.

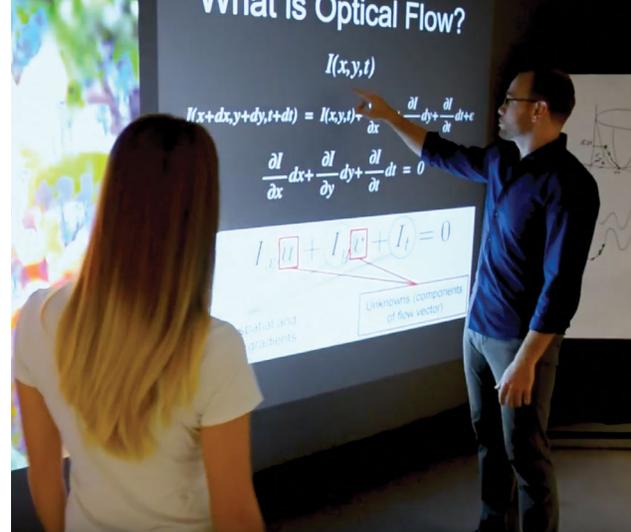
"When it comes to modern-day science and research, computational science is the centerpiece," Crock said. "You need computers to explore any of these problems. The Department of Scientific Computing teaches you the computational tools to work in many fields."

To Silicon Valley and back

Anyone familiar with Crock won't be surprised by his academic drive. As a second-year student at St. Petersburg College, he was one of 20 students in the country named to USA Today's All-Academic team, which opened the door to an attractive scholarship offer to continue his education at FSU.

Crock earned an undergraduate degree in mathematics with a computer science minor, and stayed at FSU to complete a master's degree in scientific computing before heading to the West Coast. There, he consulted for a number of companies and agencies, including NASA, but quickly grew disenchanted with Silicon Valley's culture of chasing "the next big thing" with little thought devoted to converting from concept into viable business. He returned to FSU in 2013.

"Nathan is what you would call idealistic. He's his own person, and he tends to excel in everything," Erlebacher said. "He puts effort into it, but he learns at a much faster pace than most people."



Scientific computing graduate student Nathan Crock demonstrates the applicability of computational science and machine learning across disciplines. Courtesy photos.

A man of many talents

Outside the classroom, Crock is somewhat of a millennial Renaissance man. He is a self-taught pianist who plays Chopin beautifully, according to Erlebacher. He is also passionate about boxing, and co-founded the Renegade Boxing Gym in Tallahassee, where he started the successful FSU Boxing program, winner of eight national championships.

Crock's keen interest in team-building is how he met David Lawson, a co-founder of Domi Station, an incubator for start-up businesses in Tallahassee. Lawson also owns NewSci, a start-up dedicated to the same types of machine learning Crock is pursuing at FSU.

Their partnership was seemingly inevitable. Lawson made Crock a partner at NewSci and named him director of the company's lab, where FSU undergrads and graduate students are doing internships while mastering applied machine-learning skills.

"Nathan's just super, super-intelligent and really knows machine learning and deep learning. That is very valuable, but it is the other pieces, his ability to manage people and bring out the best in them [that make him successful]. He's very team-oriented," Lawson said. "He knows how to mentor people, and that's really important."

While he expects to complete his doctoral studies next year, between his position at NewSci and his deep ties to FSU, it is unlikely that Crock is going anywhere soon.

"The thing about Nathan, I can easily see him latch on to something and get excited. Now he's focused on machine learning," Erlebacher said. "I can see him high up in some company involved with machine learning, or creating his own company. It's transforming society, and that's something he wants — to have an impact. <

Computer scientist, dancer, scholar

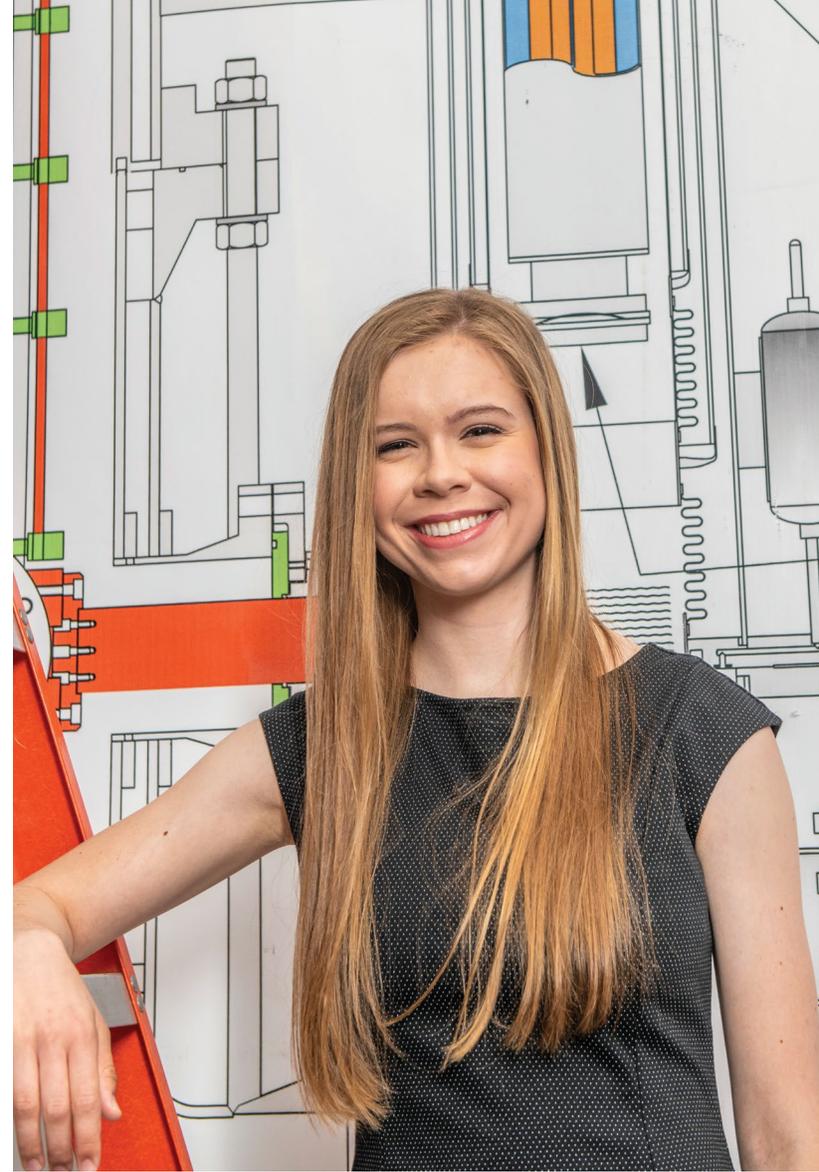
Abigail Centers brings home honors for herself — and for FSU

By Audrey Post

Abigail Centers' family knows how to keep a secret. The rising senior knew she had been nominated for the 2019 Tony DiBenedetto Undergraduate Student Employee of the Year Award, one of about 100 Florida State University students so recognized. The award is given annually to a student who demonstrates "Vires, Artes, Mores" — strength, skill and character — in his or her job on campus. Centers' parents, older brother and two older sisters wanted to attend the April 8 awards ceremony with her.

"I kept saying, 'You guys don't have to come,' and they kept saying, 'Oh yeah, we do,'" Centers said. "They knew. I didn't."

When Centers was asked to remain on stage after being named the top undergraduate student worker at FSU, even her family



didn't know what was coming next. As it turns out, the top student employee from FSU each year advances to a regional competition through the Southern Association of Student Employment Administrators. Of 800 students nominated for recognition at colleges and universities across the South, 22 were named SASEA finalists. Centers, it was announced, was one of them.

But there was still more to come. "The regional judges selected you as the 2019 SASEA Student Employee of the Year because of your work and contributions as an undergraduate research assistant within Florida State University's National High Magnetic Field Laboratory," said presenter Tracey Lord, the FSU Career Center's program director for experiential learning.

"This is the first time FSU's institutional winner was also bestowed the regional award," Lord said.

Earning top regional honors also made her one of four finalists for National Student Employee of the Year.

A computer science major who was born in Marianna, Florida, and moved with her family to Tallahassee as a child, Centers has loved programming since her freshman year at FSU, when she took "Introduction to C++." Because she had been home-schooled, she did not come to college with the level of computer experience many students gain in middle school and high school.

Centers learned quickly and soon realized she wanted a career in computer science. She applied to the MagLab's Research Experience for Undergraduates program in summer 2017 as a way to narrow down her options. REU encourages active, meaningful participation by undergraduate students in areas of research supported by the National Science Foundation. Students are awarded stipends, funded by the NSF; in many instances, they also receive assistance with travel and housing.

"I wanted to work at the MagLab so I could get experience," Centers said. "You can do a lot with a computer science degree, and I was feeling a bit overwhelmed. It helped me figure out what I want to do."

That first summer, Centers created a database that digitized forms and allowed workers to track the temperature of the chilled water plant, a critical component in keeping the MagLab's giant magnets from overheating and melting. Three times a week, workers were conducting performance tests, compiling results, then taking a photo of the completed form and emailing or texting it to colleagues. With Centers' database and user-friendly interface, the information now can be recorded directly into a phone or digital tablet. Trends can be identified and monitored, and results can be displayed in charts and graphs.

Abigail Centers receives the 2019 Tony DiBenedetto Employee of the Year award. Photo by Stephen Bilenky.



She credits her success thus far to great teachers and to her mentor, Julia Smith, a research faculty member at the MagLab. Smith, a physicist, was so impressed with Centers' work that she hired her as a research assistant after the summer REU program concluded to modernize data collection, tracking and sharing in other aspects of MagLab research. Since then, Centers has built a data acquisition program that reads the power supply to the magnets, logs it to a file and then displays it on a user interface in real time. Here's the kicker: Centers took her class on databases after she built her first one at the MagLab. She taught herself how to do it.

In her letter nominating Centers for top undergraduate worker, Smith wrote of her first project, "Her attention to detail during the debugging process of the database, as well as her diligence in ensuring that users of the system would get

adequate training and support on how to use the database, were impressive to say the least."

Not content to excel in just one field, Centers is also an accomplished performance artist. She has been a dancer since age 6, primarily ballet but some modern dance. She danced with the Tallahassee Ballet in its recent season finale, "Bernstein & Gershwin."

Years of studying ballet have taught Centers to think critically about difficult dance combinations and how to execute them, a skill that has practical applications in computer science as well.

"With ballet, you have to remember the choreography while also considering your artistry and technique," she said. "I definitely think dancing has made me a more disciplined computer scientist and has helped me in my approach to problem-solving." <





a traveler between cultures

Juan Carlos Galeano brings Amazonian cosmovisions to the world **By Gabriella Paez**

A little piece of home hangs in the office of poet, folklorist and filmmaker Juan Carlos Galeano: a llanchama painting, made from tree bark typically used as clothing or canvas by indigenous groups in the forests and rivers of Amazonia.

Like the llanchama, Galeano, who is originally from the Caquetá River area of the Amazonian region of Colombia, has woven the Amazon into all that he does as a professor of Spanish at Florida State University and as a scholar of intersecting disciplines. His canvas is the environmental humanities, which combine the natural sciences with the creative arts, ethics and other disciplines to explore the relationship between nature and culture. The people of Amazonia have been weaving these elements together into

cosmovisions, illustrated through stories and lifeways, for millennia.

Galeano's research focuses on these "cosmovisions" — symbolic oral narratives passed down through generations that reveal how Amazonian indigenous people perceive the world and humanity's place in it — and he captures these tales in poetry, folklore anthologies and documentaries.

"My research on cosmovisions of the Amazonians and the practice of writing poems are connected," said Galeano, a faculty member in FSU's Department of Modern Languages and Linguistics. "Poetry is a path that allows us to feel the world with others. It is an acknowledgment that we are part of the whole, not the center."

Working within the realms of the Spanish language, Latin American poetry and the cultures of the Amazon Basin, Galeano seeks new ways to bring about environmental awareness that may influence Western culture. The indigenous people of Amazonia perceive non-human surroundings differently. Stories of pink dolphins, clouds, serpents, trees and rivers — considered sentient beings — have all found their way into Galeano's work.

"Today, we are in the fortunate position of having our field recognized for its importance at the highest levels of science. But what changes people's hearts and minds are stories," said Joni Adamson, Galeano's colleague and a professor of English and environmental humanities at Arizona State University.



Photos from throughout Spanish professor Juan Carlos Galeano's career show his dedication to the environmental humanities. Courtesy photos.

"Dr. Galeano's work has been recognized for its power to tell an important story in ways that potentially convince his audiences to care not only about pink dolphins and anaconda but the entire Amazonian rainforest, which is critical to the survival of the Earth," Adamson said.

Galeano is a committed member of the Humanities for the Environment Global Network and director of the Latin American Observatory. His work has been published and translated into languages including Chinese and Italian and appears in notable journals. His worldwide poetry readings include a presentation at the renowned Medellín International Poetry Festival in Colombia. He has also worked with indigenous organizations and peasant communities on projects that support a sustainable way of life in the Peruvian Amazon.

From page to screen

For Galeano, what began in poetry and folklore later developed into a series of ongoing and diverse projects that include documentary filmmaking. He co-directed and produced the 2009 film "The Trees Have a Mother," an exploration

of indigenous belief systems and myths related to the natural world, set in the Peruvian Amazon.

His most recent documentary revolves around Amazonian river spirits and their role in the modern world. "El Rio" was recognized with the Gaia Award in February at the Cinema Verde International Environmental Film and Arts Festival in Gainesville, Florida. It was officially selected in April for the 2019 Annual Ethnographic Film Festival in Paris.

Classroom in Amazonia

Galeano's dedication to environmental humanities and awareness is reflected in the perspective he brings to his students at both the undergraduate and graduate levels. While at FSU, William Boose, a 2018 FSU graduate in history and Spanish, journeyed to the Peruvian Amazon multiple times under Galeano's guidance to conduct research.

"My visits to the Amazon have impacted not just my everyday life but the trajectory of my career and personal development," said Boose,

whose work was funded in part by an FSU IDEA Grant. "The people of Iquitos, Peru, and the surrounding indigenous communities are incredibly welcoming, brilliant and creative, and they kindly shared a lot of wisdom with me regarding the environment."

Diego Mejía, a Ph.D. candidate in Spanish, says working with Galeano at the graduate level is an inspiring and enriching collaborative experience.

"I think environmental humanities are an important tool, a bridge between fields considered unrelated," Mejía said.

'A natural mentor'

Martin Munro, an FSU Eminent Scholar and Winthrop-King Professor of French and Francophone Studies, shares the belief that literature and oral culture are means of expressing one's relationship with the world.

"[Galeano] is a natural mentor and has taken many of our students to the Amazon. This is a great sacrifice for any faculty member, but he does it as it is part of his natural inclination to share his work and his passion for the Amazon," Munro said. "He is also a kind and supportive colleague. He is 100 percent committed to his work. For him, it is like a mission, and we are lucky to have him at FSU to share his passion and knowledge."

Galeano's programs and methods both in teaching and in creative research are recognized and sought after by other institutions. He is helping to develop a study-abroad program in the Amazon for the summers of 2019 and 2020, sponsored by Montana State University, Billings' international studies program and Rutgers University's honors program. <

Gabriella Paez graduated from FSU in May with a bachelor's degree in English with a concentration in editing, writing and media.



Challenging perspectives

**Alisha Gaines helps students view literature
and society through a wider lens**

By Kati Schardl

When Alisha Gaines was a little girl in Ohio, she would sit her siblings down during summer vacation and make them play school, giving them assignments, grades and all.

"I always had a teacherly way," said Gaines, the Timothy Gannon Associate Professor in Florida State University's Department of English. "There was something in me that wanted to be that person but never felt represented. I was often the only person of color in my middle school and high school classes. I thought I was going to be a lawyer when I grew up because when you're a little black kid, it's either be a lawyer or a doctor."

It wasn't until Gaines moved south to attend Spelman College, a historically black college for women in Atlanta, that she began to believe her childhood game could become a reality.

"When I came to Spelman and saw women of color, particularly black women, as professors, I imagined the possibility of teaching," she said. "It's important for me to model that for my students, so many of whom have never had a teacher of color."

Gaines came to FSU in 2011, after earning an undergraduate degree at Spelman and a doctorate in English and African American studies at Duke University.

"I did a very wide job-market search, and FSU was by far the best offer and Tallahassee the best place, offering the best kind of collegial environment," Gaines said. "It's exciting to be part of such an interesting department doing interesting work."

"I first fell in love with our students. There's something about FSU students — they're enthusiastic, engaged, open-minded and curious."

Gaines brings a sense of fun as well as a rigorous and inquisitive intellect to the classroom, where she teaches undergraduate and graduate classes in African American literature and studies, popular culture, gender and sexuality studies, cultural studies and New Southern studies.

"I make sure the classes are active exchanges," she said. "In no way am I the conclusive authority on a text we're studying. I want students to know that anything we're reading is contemporary to our lives and they are a dynamic part of the conversation."

Among the classroom activities are town-hall debates, skits, and timelines that map out how characters live after the ending of a book.

You can't tell a proper history of America without talking about black folks in America. And the story of black folks in America is told with many voices and from many perspectives."

— Alisha Gaines

"One of my favorite things to do on the first day of class in my African American Literature and the South course is to give the students a map of the U.S. and ask them to color in the South," she said. "Then we compare each other's maps. The conversation always comes down to Florida — is it part of the South?"

Since coming to FSU, Gaines has been named a 2014-15 McKnight Junior Faculty Development Fellow, was awarded a Transformation Through Teaching Award by the Spiritual Life Project, and won a university-wide 2017 Undergraduate Teaching Award. This past spring, she was named the Timothy Gannon Associate Professor of English, an honor that comes with extra research support.

In 2017, Gaines published a book, "Black for a Day: Fantasies of Race and Empathy."

It documents a project looking at the stories of white people who temporarily posed as black in the name of cultural empathy and how such stories of racial impersonation affect issues of racial identity and representation.

They're the same issues Gaines helps all students navigate in her classes.

"Some white students are starting from scratch, or from misinformation," Gaines said. "That also happens with students of color. It just shows how poorly integrated African American culture, literature and history is into the high school and middle school experience."

"You can't tell a proper history of America without talking about black folks in America. And the story of black folks in America is told with many voices and from many perspectives," Gaines said.

Blackness "is not a monolithic experience," she said. "It's not just one thing. You have to be willing to read different voices. For instance, Marlon James [author of 'Book of the Night Women' and 'Black Leopard, Red Wolf'] is talking about blackness differently than, say, Toni Morrison ['The Bluest Eye,' 'Beloved,' 'Song of Solomon'] or Zora Neale Hurston ['Their Eyes Were Watching God,' 'Mules and Men']."

"It's a matter of amplification, and social media has a huge place in that conversation, because we can talk back as audiences. We can not only show up with our dollars, we can talk back."

The payoff for Gaines is when she can spark the same kind of connection in a student as the one that led her to see herself at the head of a classroom. Helping her students see themselves in African American literary canon and find their own voices to add to the conversation is her best reward.

"That's the ultimate goal," Gaines said. "When you're a teacher, you hope you're planting seeds that will later grow. Sometimes you never get to see them grow. But sometimes a student will come to class clutching the book we're studying to her chest and with fire in her eyes." <

An underwater photograph of a coral reef. Several divers in black gear and blue fins are visible, swimming over the diverse coral structures. The water is clear and blue, with sunlight filtering down from the surface, creating a shimmering effect. The coral is in various colors, including green, brown, and white, with different textures and shapes.

from sea to sky

**Young
researchers
change
the face of
the Earth
sciences**

*By
Rosanne
Dunkelberger
and
Heather Athey*

Tropical cyclone formation. Paleoclimatology.
Ecology and biology of deep-sea organisms.
Conservation. Geochemistry. Microbial ecology.

Faculty in Florida State's Department of Earth, Ocean and Atmospheric Science are conducting world-class research on these subjects and more, and expanding knowledge of the Earth, air, water and the life that inhabits them.

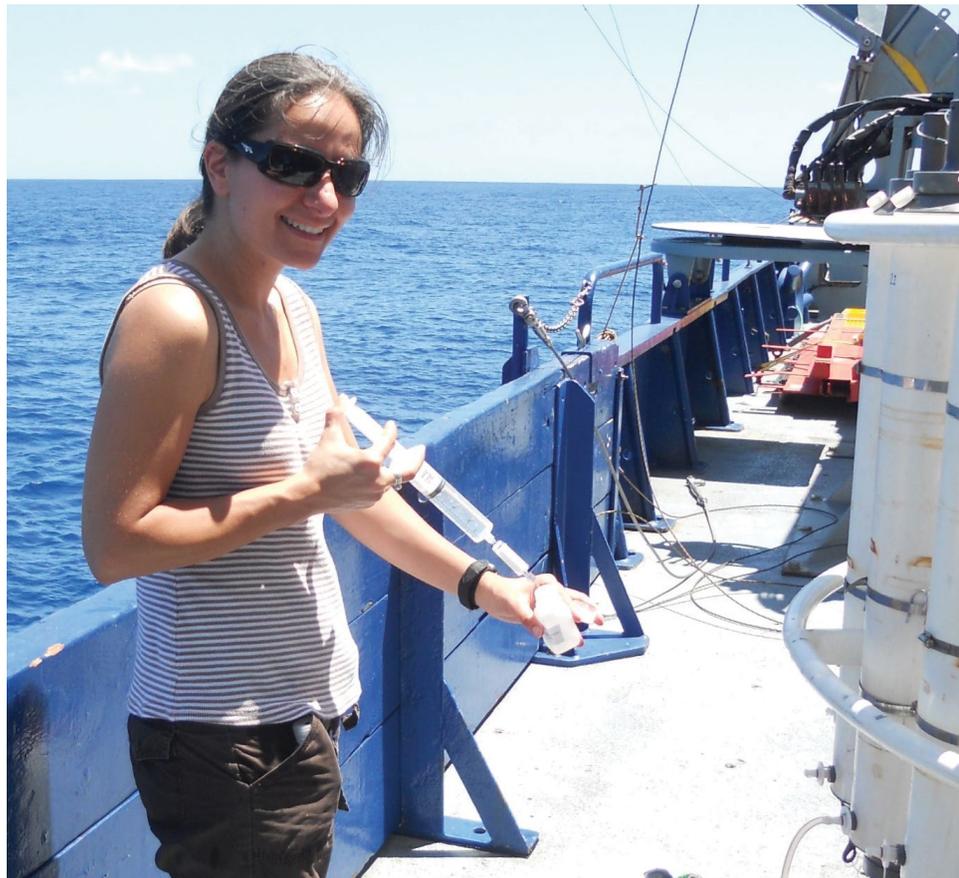
Part of the department's recent success is being driven by intense interdisciplinary collaboration pursued by some of its newest members — six young women hired since 2008 who have accounted for more than \$3 million in grant funding over the past five years and whose research is critically relevant as activists and legislators take steps to address climate change.

When it comes to EOAS, "I think our department is among the big dogs in our field," said associate professor of biological oceanography Amy Baco-Taylor. "We have really high-quality faculty in all three fields."

Looking to the deep

Baco-Taylor's research centers on ecology and biology of deep-sea organisms, and the questions she asks inform conservation and management of deep-sea species. Humans now impact nearly the entire ocean — trawling, a destructive fishing method that scrapes across the sea floor as far down as 3,000 meters or nearly 10,000 feet is among the biggest — so much of her recent work is focused on seamounts and deep-sea corals.

"Seamounts have specialized communities of deep-sea corals, sponges and other organisms. In some areas, they can form reefs or dense coral forests — and because they make that structure, seamounts act as a habitat for a variety of invertebrates and fish," Baco-Taylor said. "But a lot of these organisms are slow growing — microns per year — and a lot of them are long-lived. If fishermen destroy that with a trawl, it may never recover."



Top: Associate professor of biological oceanography Amy Baco-Taylor.
Above: Geochemist and assistant professor of oceanography Angela Knapp.
Opposite: Assistant professor of oceanography and meteorology Alyssa Atwood on a dive.
Courtesy photos.





Assistant professor of oceanography and meteorology Alyssa Atwood. Courtesy photo.



The birth of tropical cyclones

Atmospheric variation impacts the formation of clouds and cyclones in tropical regions, which are part of assistant professor of meteorology Allison Wing's research. She analyzes how and why tropical clouds clump together and the effect storms have on the larger climate system, as well as why the number and strength of tropical cyclones varies year to year. On her radar is one of the biggest open questions in tropical meteorology: What controls how many tropical cyclones form across the world in a given year?

"Around 90 form globally per year, but we don't know why it isn't nine or 900," Wing said. "I study the basic physics of tropical cyclone formation to try to make progress on this question. In addition to scientific curiosity, I'm motivated by the profound impact tropical cyclones and other weather and climate phenomena have on our society. It is of utmost importance for us to understand, so we can help people be more prepared."

Effects of the 'unseen majority'

From natural to man-made disasters, associate professor of oceanography and microbial ecologist Olivia Mason studies bacteria and archaea (microbes) in the ocean and in coastal terrestrial environments. Her research focuses on how microbial communities respond to ecosystem disturbances, such as oil spills and low oxygen conditions, as well as the ecological consequences of this response.

"Often referred to as the unseen majority, microbes serve in important functions, such as production of life-sustaining oxygen, filtration of nutrients in salt marshes, minimization of harmful algae blooms, and consumption of oil," Mason said. "My research revealed which

Phytoplankton's key role

Geochemist and assistant professor of oceanography Angela Knapp examines the health of the oceans by studying the nutrients that fuel phytoplankton growth. She recently served as chief scientist on a research cruise in the Gulf of Mexico aimed at understanding nutrient addition and limitation, which could identify nutrient sources fueling red tides on the West Florida shelf.

"We care about phytoplankton growing in the ocean because they play an important role in regulating atmospheric carbon dioxide concentrations, and CO₂ in the atmosphere plays an important role in regulating climate," Knapp said. "We also think plant growth in the ocean is limited by nutrient availability, so my research focuses on identifying and quantifying the role of different nutrients supporting phytoplankton growth and how that influences climate."

Lessons from the past

Assistant professor of oceanography and meteorology Alyssa Atwood studies paleoclimatology to develop records of past sea surface temperature and rainfall patterns in the tropics based on the chemical composition of coral skeletons and mud, and examines climate extremes associated with the El Niño/Southern Oscillation. Her research centers on the Pacific Ocean, which serves as one of the planet's largest heat engines — taking in solar energy and redistributing it around the globe.

"What happens in the tropical Pacific affects temperature and rainfall patterns across more than half the globe, and this changes every few years through ocean temperature variations associated with the El Niño/Southern Oscillation," Atwood said. "Studying past variations may help us understand how it is likely to change in the future."

microbes were abundant and active, and what oil constituents the dominant uncultured microorganisms consumed, during the Deepwater Horizon oil spill, leading to a greater understanding of the ecological impact of oil spills.”

A focus on conservation

While Mason examines microscopic organisms, assistant professor of oceanography Mariana Fuentes’ research addresses questions that are advancing conservation and management of marine megafauna, specifically sea turtles, although she has students working with dolphins and sharks as well.

Some of Fuentes’ work aims to ascertain the best allocation of resources to maximize conservation outcomes, or to identify where to place marine-protected areas to shelter certain species. Other aspects consider the spatial ecology of species to examine where species and areas of threat coincide.

“One of my projects looks at the impacts of vessel strikes on sea turtles, and for this we need to determine the spatial extent of both sea turtles and vessels to identify areas where they overlap,” Fuentes said.

A gradual shift

Because FSU is a Research I institution, responsibilities of EOAS faculty include teaching undergraduate and graduate classes, advising students, doing service both at FSU and in the broader scientific communities, and engaging in scientific research at the highest level.

And while their main emphasis is on the research, these faculty members are also quietly helping to turn another tide — the underrepresentation of women in the sciences. Just eight of the department’s 43 faculty members are women.

“For decades there’s been equity in female undergraduate and graduate student levels, but then there’s the leaky pipeline, there’s falloff at the postdoc and faculty stages,” Knapp said.



Fuentes, who joined FSU in 2015, noted that most of the women on staff are at the junior level, but she expects them to climb the ranks. “When I came here, I saw the department was heavily male dominated, but that’s changing, and it will continue to change,” she said. “You can see that shift happening.” <

Clockwise from top: Assistant professor of oceanography Mariana Fuentes; associate professor of oceanography and microbial ecologist Olivia Mason; and assistant professor of meteorology Allison Wing. Courtesy photos.





FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS & SCIENCES

Coming soon

New building set for Spring 2020 debut

The Earth, Ocean and Atmospheric Science building is nearing completion. Visit artsandsciences.fsu.edu for the latest updates on naming opportunities and the dedication ceremony as this information becomes available.

Photo by McKenzie Harris.



SPECTRUM

FLORIDA STATE UNIVERSITY COLLEGE OF ARTS & SCIENCES

The official magazine of the Florida State University College of Arts and Sciences

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