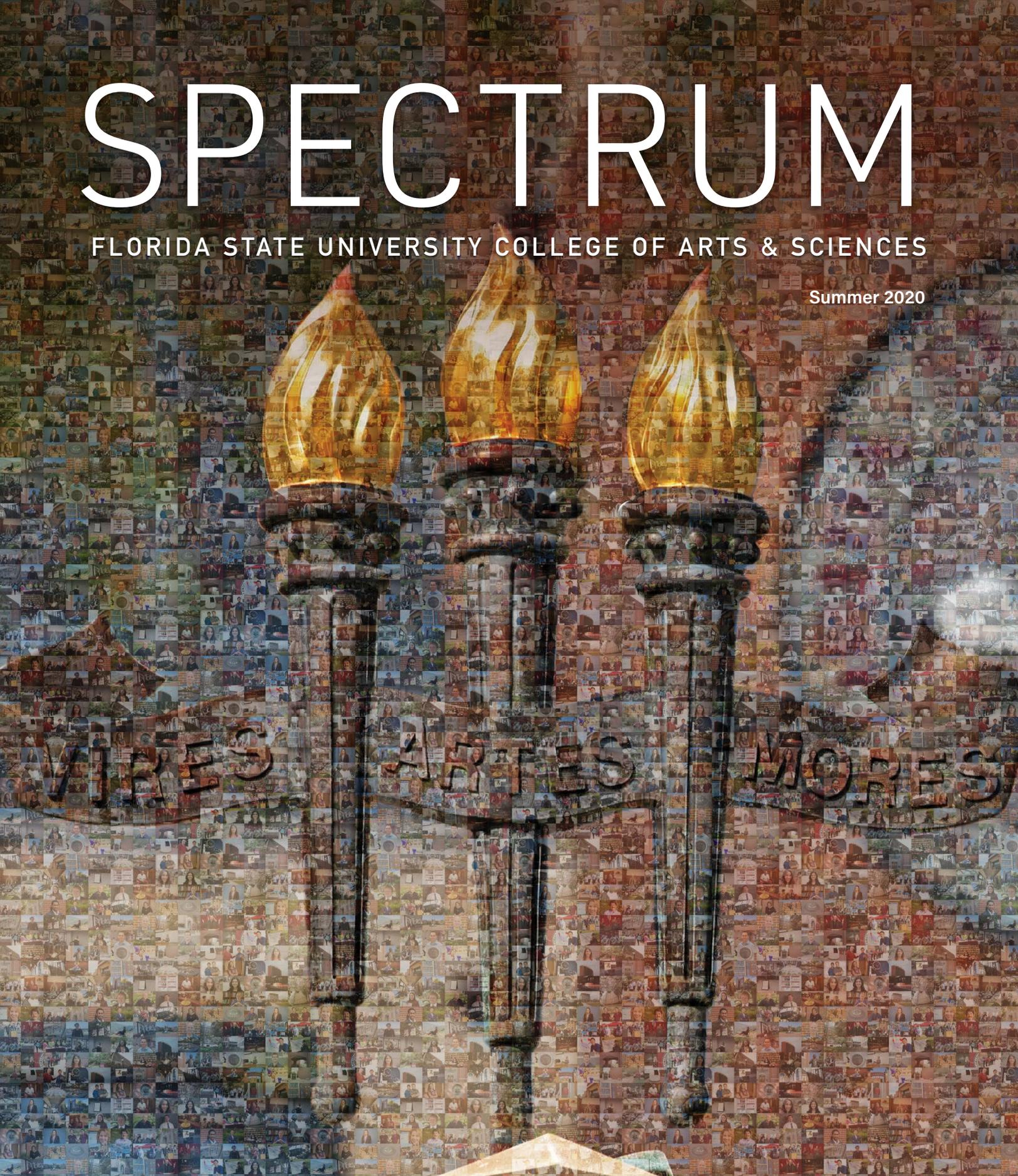


SPECTRUM

FLORIDA STATE UNIVERSITY COLLEGE OF ARTS & SCIENCES

Summer 2020



VIRES ARTES MORES



From the Dean

and took advantage of valuable resources the university provides in support of their academic and career success. The staggering transition motivated everyone to make creative use of virtual platforms, and FSU's online communities and social media swelled with messages of support and determination.

The unprecedented events of the pandemic have reached all corners of society and introduced furious instability. Economic disruption, agony of the unknown, and heartbreaking stories of loss have become hallmarks of this spring.

At Florida State, COVID-19 challenged our expectations, derailed some of FSU's most cherished traditions and pushed us outside our comfort zones. But we adapted quickly, using Zoom technology to teach courses, hold doctoral defenses and advance research collaborations. We also used it to engage and connect: Nearly 1,800 members of the Class of 2020 and their families joined us for a virtual celebration welcoming them as the college's newest alumni.

Through it all, I am proud to report, our students, alumni, and faculty continued to amass accolades and achievements, highlights of which you'll find in the following pages.

The crisis continues to test our perceptions of what is routine and "normal," but I hope you will take comfort knowing that your FSU College of Arts and Sciences family is here to support you, always.

W elcome to Spectrum magazine, the alumni publication of the Florida State University College of Arts and Sciences. This spring semester was like no other, and while the events surrounding the COVID-19 crisis have forced adjustment to the way we live and work, they have enhanced my pride in and admiration for the accomplishments of our students, faculty, staff and alumni.

In March, FSU instructors migrated more than 10,000 classes from face-to-face to online delivery in the space of a week. Faculty and graduate teaching assistants across the college were responsible for over 5,000 of those courses, and they threw themselves into delivering a remote, yet still world-class education, while finding ways to maintain robust research activities.

Our students were just as impressive. Despite familiar environments dissolving during the toughest part of spring semester, they pivoted to complete courses in a virtual setting, sought ways to remain connected to each other and to FSU,

A handwritten signature in black ink that reads "Sam Huckaba". The signature is fluid and cursive.

Sam Huckaba
Dean, College of Arts and Sciences

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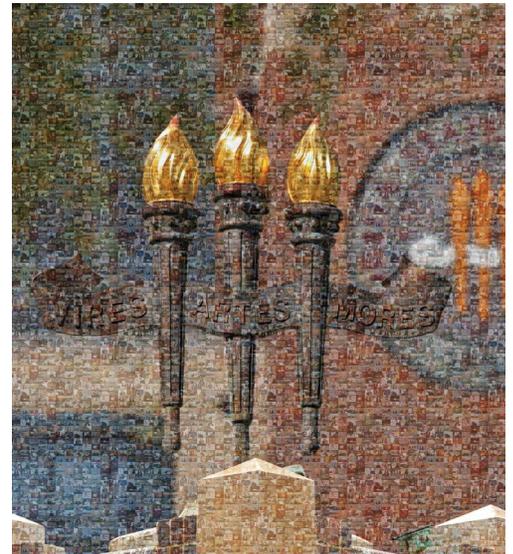
Give a gift that CARES

The new Coronavirus Aid, Relief, and Economic Security Act, or CARES, is designed to help you, businesses, and nonprofits facing economic hardship during the coronavirus pandemic. Some key provisions may affect you and your philanthropic goals. Many individuals and communities are suffering right now, and we are grateful for your consideration of the FSU College of Arts and Sciences as a philanthropic priority.

The Act allows taxpayers to take a charitable deduction of up to \$300 (\$600 for married couples) for those claiming the standard deduction on their 2020 taxes. You might think this amount would not make a difference, but such gifts have a huge impact on those we serve.

Additionally, the Act suspends required minimum distributions from retirement accounts. Despite the RMD suspension, if you are 70 years and 6 months or older, you can still make a gift from your individual retirement account or name Florida State University a beneficiary. IRA gifts will be put to use immediately, allowing you to see the difference your donation is making for FSU students.

Please know we are deeply grateful for your continued kindness and support during this difficult time. For more information, or to make a gift, contact Nancy Smilowitz, the college's assistant dean for development, at 850.294.1034 or nsmilowitz@fsu.edu.



On the cover

Photo illustration by Tom Morgan. Original photo courtesy FSU Photography Services/Bill Lax. Mosaic photos courtesy Florida State University College of Arts and Sciences and other FSU sources.

Note Notes

The top news from
around the college

U.S. News ranks FSU graduate programs among nation's best

Florida State University's graduate programs are among the nation's best, according to U.S. News & World Report's 2021 edition of "Best Graduate Schools."

The FSU Clinical Psychology graduate program soared nine spots to No. 27 in the latest national rankings and checked in at No. 18 among public universities. The program, housed in FSU's College of Arts and Sciences, has jumped 20 places since 2015.

"It is gratifying to see this leap in the rankings, which is a bonus to the hard work of faculty, students and staff," said Sam Huckaba, dean of the College of Arts and Sciences. "The program, along with all the other areas of psychology, is focused on excellence and high quality, and our colleagues are relentless in their pursuit of these standards."

Top climatologist named Lawton professor

Department of Earth, Ocean and Atmospheric Science meteorologist Sharon Nicholson has been recognized by FSU faculty members with the highest honor they bestow upon one of their own — the Robert O. Lawton Distinguished Professorship.

Nicholson's research focuses on dry climates, particularly in Africa, where she has changed understanding of drought and rainfall, and debunked previous explanations of the expansion of deserts on the continent.



Sharon Nicholson

Before Nicholson's work, scientists were studying drought in a region known as the Sahel based on just a handful of weather stations. Her finished data set contained information from several hundred weather stations in the Sahel and about 2,000 stations across the continent.

Along with this honor, Nicholson received a Humboldt Research Award and a Fulbright Global Scholar Program Award in 2019, and in 2009, the American Meteorological Society's Charles E. Anderson Award, an award given for promoting diversity in the atmospheric sciences.

FSU nuclear physics lab wins \$5.7M NSF grant to continue research

Six Florida State University physicists have received a \$5.7 million grant from the National Science Foundation to continue their cutting-edge research in nuclear physics and nuclear astrophysics.

The grant supports operations of the John D. Fox Accelerator Laboratory at FSU and the research of professors Ingo Wiedenhoever, Samuel Tabor and Paul Cottle; assistant professors Sergio Almaraz-Calderon, Vandana Tripathi and Mark Spieker; and their respective graduate students.

As the researchers have different interests and specialties, the grant covers a variety of experiments over the next three years.

For instance, Wiedenhoever and Almaraz-Calderon both work in nuclear astrophysics and try to understand how nuclear reactions play a role in stars and star explosions.

"Nuclear astrophysics questions how the chemical elements we find on our planet came into being, where they were made and why we see the different elements and isotopes that we observe around us," Wiedenhoever said. "We call this the chemical history of the universe."

FSU among top producers of U.S. Fulbright scholars, students

Florida State is among the nation's top research institutions for producing Fulbright U.S. Scholars and students, according to the Chronicle of Higher Education. Only 20 institutions across the U.S. were named top producers for both programs.

Eight faculty scholars from FSU were awarded Fulbright grants for 2019-20, tying the university for fourth in the nation among research institutions. Ten FSU students received Fulbright awards in 2019-20.



Robert Schurko

Chemist takes the helm at key MagLab facility

Professor of chemistry and biochemistry Robert Schurko is the new director at the Nuclear Magnetic Resonance and Magnetic Resonance Imaging Facility at the National High Magnetic Field Laboratory.



FSU's Army Reserve Officer Training Corps

Schurko joined Florida State last year after two decades at the University of Windsor in Canada, where he built a prominent research group specializing in the study of inorganic materials, organometallic complexes and organic solids using solid state NMR, X-ray crystallography and quantum chemical calculations.

Army ROTC wins prestigious MacArthur Award

Florida State University's Reserve Officer Training Corps is one of the nation's best, according to U.S. Army Cadet Command, which oversees the nation's ROTC programs.

FSU Army ROTC joins seven other programs selected as a 2019 recipient of the MacArthur Award, which recognizes the ideals of "duty, honor and country" as advocated by the late Douglas MacArthur. It has been presented jointly by Cadet Command and the Gen. Douglas MacArthur Foundation since 1989.

Winners were selected from a pool of 275 programs across the country. This is FSU Army ROTC's first win.

Professor named 2020 American Statistical Association Fellow

Yiyuan She, professor and assistant undergraduate adviser in the Department of Statistics, was selected by the ASA in

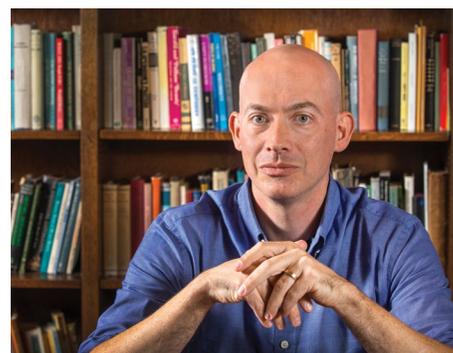
recognition of his outstanding contributions to the field of statistical science.

The American Statistical Association strives for the development, application and dissemination of statistical science through meetings, publications, membership services, education, accreditation and advocacy. Each year, the ASA's Committee on Fellows elects less than one-third of one percent of the association's total membership as fellows.

Founded in Boston in 1839, the ASA is the second-oldest, continuously operating professional association in the U.S. With more than 19,000 professionals in academia, government, research and business, the ASA is also the world's largest community of statisticians.

Philosophy professor wins coveted NEH Fellowship

Associate professor Nathanael Stein is the recipient of a highly competitive, \$60,000 grant from the National Endowment for the Humanities. The award allows Stein to take a yearlong sabbatical to complete work on his forthcoming book tentatively titled "Causation and Explanation in Aristotle." It will be the first full-length treatment of Aristotle's account of causation in English-language scholarship for over a century.



Nathanael Stein

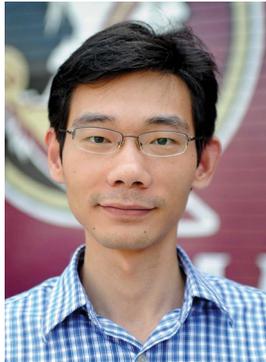
Stein, a researcher of Ancient Greek philosophy who joined the FSU faculty in 2011, is one of just 81 NEH Fellowship winners this year. He is one of only six 2020-21 winners across the nation conducting projects in philosophy.

Computer scientist awarded NSF grant for wireless sensing research

The NSF has awarded a three-year, \$459,000 grant to Department of Computer Science professor Jie Yang for his project, "Towards Ubiquitous Sensing With Commodity Wi-Fi"

The aim of the project is to build a commodity WiFi-based ubiquitous sensing system that can simultaneously sense multiple persons and provides quantifiable gesture recognition without requiring environment-dependent training.

Project outcomes may be directly adopted by industry and facilitate a variety of applications, such as smart homes, mobile healthcare, and security surveillance, among others.



Jie Yang

Researcher awarded international fellowship for work in French cultural studies

Aimée Boutin, a professor of French in the Department of Modern Languages and Linguistics, was selected by the Collegium de Lyon in France for her innovative research on the impact of the railway on women's artistic expression in 19th-century France. She will travel to Lyon for a semester in the spring of 2021 to work alongside internationally renowned researchers, teachers and scholars.

Boutin specializes in the study of 19th-century French poetry, women writers, cultural history, gender studies, art history and the city in literature.

Marine geologist named Sloan Research Fellow

Jeremy Owens, an assistant professor of marine geology in the Department of Earth, Ocean and Atmospheric Science, was named a 2020 Sloan Research Fellow by the Alfred P. Sloan Foundation. Owens received a two-year, \$75,000 fellowship that will allow him to build a record of oxygen in the ocean across the globe from millions of years ago, which will provide a framework to compare modern and ancient disruptions in the climate.



Study of smoke from prescribed burns aims to improve control of wildland fires.

Sloan Research Fellowships are awarded each year to researchers in eight scientific and technical fields — chemistry, computer science, economics, mathematics, computational and evolutionary molecular biology, neuroscience, ocean sciences and physics.

Interdisciplinary research aims to better understand prescribed burns

A \$2.2 million Department of Defense grant will fund an investigation into the dynamics of smoke from prescribed burns, giving land managers a better understanding of when and how to best use the technique.

"When we understand how plumes are affected by key controls, such as the ignition pattern, this is one way that fire managers will be able to engineer plumes that have a less significant impact on communities," said assistant professor of scientific computing Bryan Quaife.

FSU researchers from the Department of Scientific Computing, the FAMU-FSU College of Engineering's Department of Mechanical Engineering and the Geophysical Fluid Dynamics Institute are partnering with the forest research station Tall Timbers, Los Alamos National Laboratory, and others to understand the complexities of wildland fires.

NEH grant set to strengthen humanities data sharing

A team of FSU researchers has received a grant from the National Endowment for the Humanities to determine what a data repository for a specific subset of the humanities might look like.

The grant will fund the project "Data Repository Infrastructure for Prosopographic Data," which proposes a three-day working meeting to convene experts in repositories, humanities data and prosopographic research.



Jeremy Owens

Team members include Sarah Stanley, a digital humanities librarian at FSU and the project director; Tarez Samra Graban, associate professor of English; Judith Pascoe, the George Mills Harper Professor of English; Will Hanley, associate professor of history; and Bryan Brown, a developer within FSU Libraries.

Researchers discover new genetic variants behind heart disease in infants

FSU researchers working in international collaboration have identified new genetic variants that cause heart disease in infants. Their research has led to novel insights into the role of a protein that affects how the heart pumps blood, a discovery that could lead to new treatments for people suffering from heart disease.

In two separate papers, Jose Pinto, an associate professor in the College of Medicine, and P. Bryant Chase, a professor in the Department of Biological Science, worked with doctoral students Jamie Johnston and Maicon Landim-Vieira to explore a disease that caused the heart to pump with too little force. Their work was published in the *Journal of Biological Chemistry* and in *Frontiers in Physiology*.

Researchers from the FSU Translational Science Laboratory, Federal University of Rio de Janeiro, Federal University of Minas Gerais, Tel Aviv Sourasky Medical Center, Tel Aviv University and Yale University contributed to this work. The research was supported by the American Heart Association and the National Institutes of Health.

Classicist awarded prominent fellowship

Jessica Clark, an associate professor in FSU's Department of Classics, has been awarded a fellowship from the Loeb Classical Library Foundation for the 2020-21 academic year. Clark, a Princeton graduate and faculty member at Florida State University since 2013, specializes in the history of the Roman Republic.



Jessica Clark

Clark will use the \$35,000 fellowship to continue her research on "military tribunes," or junior officers, in the Roman army, and expects the results to form the basis of her forthcoming book on the same topic. She is the fifth FSU Classics faculty member to receive the Loeb fellowship in the last 12 years.



Ananya Sengupta and James Frederich

Natural products shed light on protein interactions in cancer, neurological diseases

Researchers from the Department of Chemistry and Biochemistry found that a natural product from the fungus *Fusicoccum amygdali* stabilizes a family of proteins in cells that mediate important signaling pathways involved in the pathology of cancer and neurological diseases.

According to assistant professor James Frederich and professor Brian Miller, fusicoccin — a product derived from the fungus — binds to and stabilizes protein complexes that are essentially major intersections in cells for signaling and regulatory operations. When their

functions go awry, disease is often present. This work is funded by the National Institutes of Health and supported by the Pfeiffer Endowed Professorship for Cancer Research. FSU graduate students Ananya Sengupta and Josue Liriano also contributed to this research.

Researcher awarded fellowship for study of Spanish colonial expansion

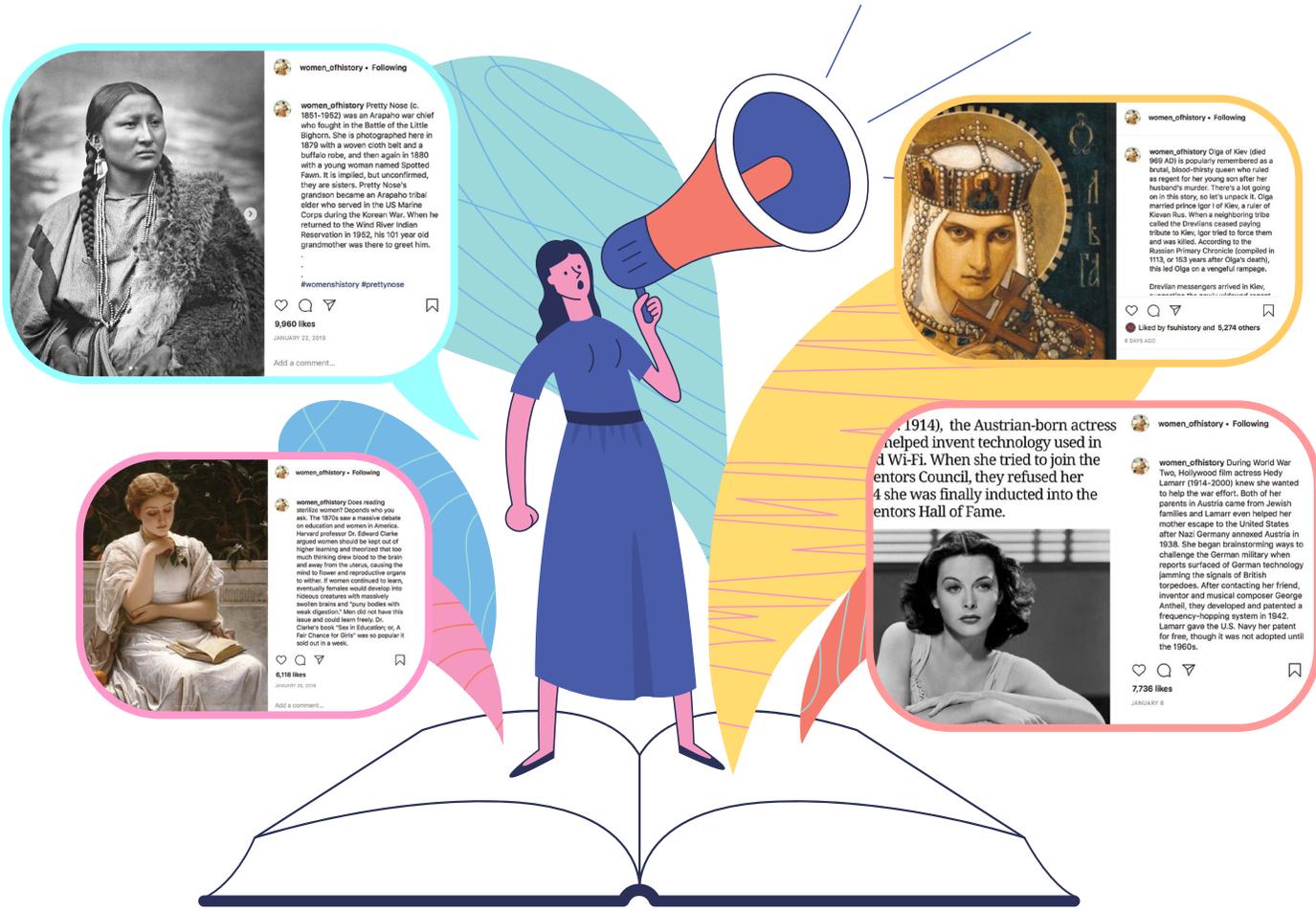
Assistant Professor of Spanish Matthew Goldmark was awarded the Ruth and Lincoln Ekstrom Fellowship to continue researching colonial Latin America and the formation of Spanish colonial empires during a four-month residence at the John Carter Brown Library, on Brown University's campus in Providence, Rhode Island.

The Ekstrom fellowship is open to individuals whose work centers on the colonial history of the Americas, including all aspects of European, African and Native American engagements in global and comparative contexts. Goldmark's focus on the Spanish empire includes the early modern Spanish expansion that resulted in the domination and displacement of peoples, as well as extraction and destruction of resources and ideas, and how the cycle repeats and changes over time.



Matthew Goldmark

His research in the library's special collections will include examination of 17th-century volumes describing the lives and deaths of Franciscan martyrs in New Spain in preparation for a book on the impact of Spanish colonialism on indigenous sexuality, gender, and families in the 16th and 17th centuries. <



Insta Historian

Dena Sutphin uses social media to reveal history's misremembered and unknown women

By Casey Taylor

Dena Sutphin has 141,000 followers on Instagram — but she's not your typical influencer.

Sutphin, who graduated from Florida State this spring with a master's degree in Middle Eastern history, runs the popular "Women of History" Instagram account, where she educates followers on women from the world's history, many of whom are not well-known or whose impact is misconstrued.

"Dena's Instagram page tells us about women from different regions, time periods, and backgrounds whose experiences had long been on the margins of historical narratives," said Nilay Özok-Gündoğan, Sutphin's dissertation advisor and an assistant

professor of history at FSU. "She's using social media in an incredibly effective way to debunk historical myths and bring an informed historical perspective to the general public."

Sutphin established the account in 2015, when she was just 18 years old.

"I had this desire to take what I found interesting and what I was passionate about and share it with people in a way that is not only accessible, but entertaining," she said.

Sutphin certainly wasn't expecting the account to blow up the way it has. She believes she has gained so many followers due to a lack of in-depth women's history in many education systems around the world.

"There's a real hunger for putting women back into history. But there's also a desire for nuance, because a lot of the coverage of women's history that has become available in recent years is aggressively positive — sometimes too positive."

Sutphin prefers to present an unbiased snapshot of history in each post, and part of that is admitting not all women's history has been inherently good or progressive.

Although most of the feedback Sutphin receives is positive, she has experienced some backlash in her attempts to present unbiased and sometimes controversial world history.

"Many interesting topics are going to trigger a negative response — comments about race, gender, class — I recognize that and try to deal with it to the best of my ability," Sutphin said.

She deletes only the most inappropriate comments because leaving the majority helps foster new conversation and brings

awareness to the lasting effects of history. "Historical events still have emotional, political and social connotations today, so I like to keep those comments up to remind people that what we read about history is real, and it's still affecting people," Sutphin said.

After creating the account, Sutphin went on to complete her bachelor's degree at the University of Central Florida. Having heard only positive feedback about the Middle East history program at Florida State University, she came to FSU for her master's degree.

In April 2020, Sutphin defended her dissertation, "Kurdish Networks of Negotiation in the Twentieth Century." She examined post-World War I Kurdish elites in both the urban and tribal context within the Ottoman Empire and Istanbul, and how they negotiated with the Ottomans and with British powers in pursuit of a state or to solidify their own regional power and influence.

Sutphin accredits her interest in the Middle East to her online friendship with a girl from Dubai, Noor Fikree, which began when Sutphin was 14 years old. She finally met Fikree in person seven years later.

"It's amazing how a friendship that started online has influenced my life this much!" Sutphin said.

Sutphin also studies Arabic and, in Summer 2019, she took part in an intensive Arabic language program at the American University of Beirut. Being able to speak Arabic helps her to complete research and communicate with other historians in the Middle East.

Sutphin has decided to continue her education at FSU by pursuing a doctorate in history. She also plans to expand her social media presence with a YouTube



Left: Posts from the "Women of History" Instagram. Top: Dena Sutphin. Above: Dena Sutphin and her friend, Noor Fikree. Courtesy photos

channel, which will allow her to go more in-depth into the stories of historic figures presented in her Instagram posts. <

Casey Taylor graduated from FSU in May with a bachelor's degree in English with a concentration in Editing, Writing and Media, and Italian.



Courtesy photo

Factual Fiction

Creative writing Ph.D. Feroz Rather grounds his work in real-life experiences

————— ***By Mia Ries*** —————

Feroz Rather was just five years old in 1989 when Kashmir began its rebellion against the Indian state. In his youth, the author and creative writing Ph.D. witnessed countless acts of torture and police brutality against the Kashmiri people.

Kashmir, a largely Muslim region claimed by both India and Pakistan, has been a site of conflict for decades, with much of the region's population favoring independence. The resulting violence and suppression have dominated the lives of millions of Kashmiris.

"My stories are attempts to see, retrospectively, what happened in Kashmir and to Kashmiris during the ongoing years of war," Rather said.

Although Rather has lived in the U.S. for almost a decade, Kashmir and India remain settings for many of his stories.

"The occupation of Kashmir and the military siege imposed by the Indian government form the political component of the landscape I want to evoke in my fiction," Rather said. "Literature, after all, exists because of human yearning for justice."

Soon after completing high school, Rather was already on the path to becoming a writer. He earned multiple degrees, including a bachelor's in psychology from Aligarh Muslim University in Aligarh, India, a Master of Arts in English Literature from Jamia Millia Islamia in New Delhi, India, and a Master of Fine Arts in creative writing from California State University, Fresno.

Rather completed his doctorate at Florida State this spring and said the program's workshops and literature classes were transformative experiences.

"It is not just one book or writer you have a chance to engage with but larger trends and schools within different traditions of literature," Rather said. "FSU has a competitive program and once you spend a few years here, you acquire tools that enable you not only to polish your writing, but also deal with a fierce job market."

Rather decided to pursue his doctorate at Florida State largely due to associate professor and director of Creative Writing Skip Horack, whom he met while at Cal State. Although he had been accepted other places, Rather chose Tallahassee for the opportunity to work with Horack,

whose attitude and work ethic, he said, have been among his biggest influences at FSU.

"Writing fiction is complicated business," Rather said. "The most important lesson I've learnt from him is that though the elements of doubt and mystery remain, one needs not romanticize or fetishize or mystify the act of writing. One needs to apply oneself and have faith."

Horack assisted Rather in finishing his debut novel, "The Night of Broken Glass," which was published to critical acclaim in 2018, and has been reviewed and mentioned by numerous publications, including Indian Express, The Common, Adroit Journal, The Millions, and Chicago Review of Books.

"A good storyteller can make the mundane fascinating and a boring storyteller can butcher the best material in the world," Horack said.

"Feroz is fortunate to be working with extremely compelling source material, gleaned from his life experiences, but he is also very much a craftsman when it comes to the words on the page."

Lisa Ryoko Wakamiya, associate professor of Slavic studies in the Department of Modern Languages and Linguistics and courtesy associate professor of English, also supported Rather's writing. During one of her seminars, he wrote a draft of "Rosy," which was eventually included in "The Night of Broken Glass."

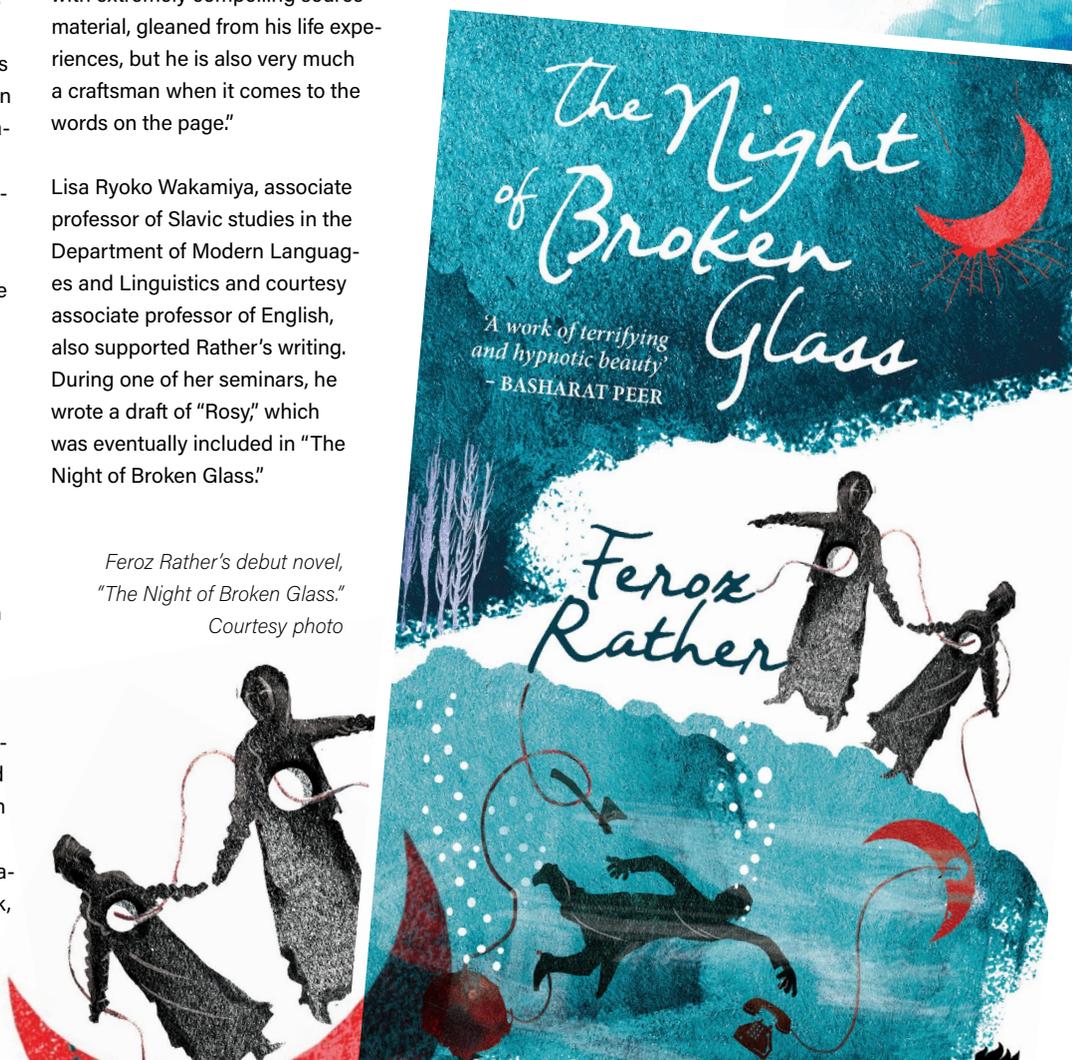
*Feroz Rather's debut novel, "The Night of Broken Glass."
Courtesy photo*

"Feroz brings a distinctive approach to writing about human experience," Wakamiya said. "Attentiveness to others' life experiences is evident in everything he writes."

Along with the guidance of his professors, Rather attributes his success at FSU to teaching creative writing to undergrads.

"I do not think my time at Florida State would have been as productive as it has were I not teaching," Rather said. "Talking to my students has moored me culturally and given me meaning, structure and context." <

Mia Ries graduated from FSU in May, earning dual bachelor's degrees in Media and Communication Studies and English with a concentration in Editing, Writing and Media. She minored in Film Studies and Humanities.





Fernando Febres Cordero



Skip Horack

Courtesy photos

Seminoles *Forever*

Alumni faculty members
deliver on FSU's legacy
of excellence

By Tom Morgan

Florida State graduates know the adage, "Once a Nole, always a Nole," but a group of academics are making that saying their life's work. Alumni-turned-faculty members are found across the university, but many call the College of Arts and Sciences home.

Some departed FSU after completing undergrad degrees or graduate school, choosing to return to Tallahassee and bring their expertise to a new generation of students or pursue research. Others wished to continue important work already underway.

Since earning doctorates at FSU and other institutions, these alumni continue to make fascinating contributions as scientists, scholars and authors.



David March



Vasubandhu Misra



Fernando Febres Cordero

Ph.D., Physics, 2007

Associate professor of physics Febres Cordero studies the smallest building blocks in the universe, working with fellow FSU High Energy Physics Group members to understand how particles interact, evolve, and combine to create matter. While theoretical work is often abstract, historically, knowledge generated by high energy physicists has led to practical technological applications with huge impact in modern society. Febres Cordero uses quantum field theory to make precise predictions for physics experiments.

"You have a theory and experiment and try to see if they match. What's exciting is maybe the predictions don't work, which means there may be something new, some sort of missing piece," Febres Cordero said.

Skip Horack

B.A., Creative Writing, 1998 | J.D., 2001

Before returning to FSU, where he now serves as an associate professor and the director of the Creative Writing Program, Horack spent six years practicing law in Baton Rouge, La. The author of "The Other Joseph," "The Southern Cross" and "The Eden Hunter" finds proximity to FSU's research activities makes for better stories.

Horack's latest writing project involves scuba diving and underwater scientific research set in North Florida. To make the story believable, and accurate, he enrolled in an FSU Coastal and Marine Laboratory course that trains individuals to conduct such work.

"After I get enough pages down, the world of the next book very much begins to feel like some second, and secret, life I'm living," Horack said.

David March

B.S., Psychology, 2004

March, an assistant professor of psychology, studies responses to perceived threats of bodily harm. His work covers phenomena including phobias and anxiety, responses to which have social cognitive components not yet fully understood, he said. People can often experience reductions in anxiety and phobic responses only for the responses to spontaneously reoccur.

"Threat is paramount but also endemic, meaning it's the most important thing to account for in any situation and possibility for it exists everywhere," March said. "There are important implications for many of our behaviors."

Vasubandhu Misra

M.S., Meteorology, 1994

Ph.D., Meteorology, 1997

As a professor of Earth, Ocean and Atmospheric Science, Misra's widespread research interests include seasonal climate forecasting to aid Florida water management decisions, studying Atlantic tropical cyclones, and understanding seasonal monsoon variation in Australia and India using a variety of numerical models. Like storm seasons, Misra acknowledges learning and teaching are also cyclic.

"In a Research I university setup, where teaching and research are complementary to each other, it's invigorating to involve students in research and watch their progression," Misra said. "Initially you train them and eventually you learn from their work, which provides fodder for future research questions."

Richard Oberlin

B.S., Mathematics, 2002

A Tallahassee native, Oberlin followed in his father's footsteps as a faculty member in FSU's math department. Now an associate professor studying a branch of pure mathematics known as real analysis, Oberlin says pure math lays the foundation for real-world applications years down the road. His narrow subfield of harmonic analysis has led to algorithms used to compress computer images and audio and to transform CAT scan sensor data into representations of the human body.

"Pure math has intrinsic value. I place it alongside music, literature and art as an expression of human creativity," Oberlin said.

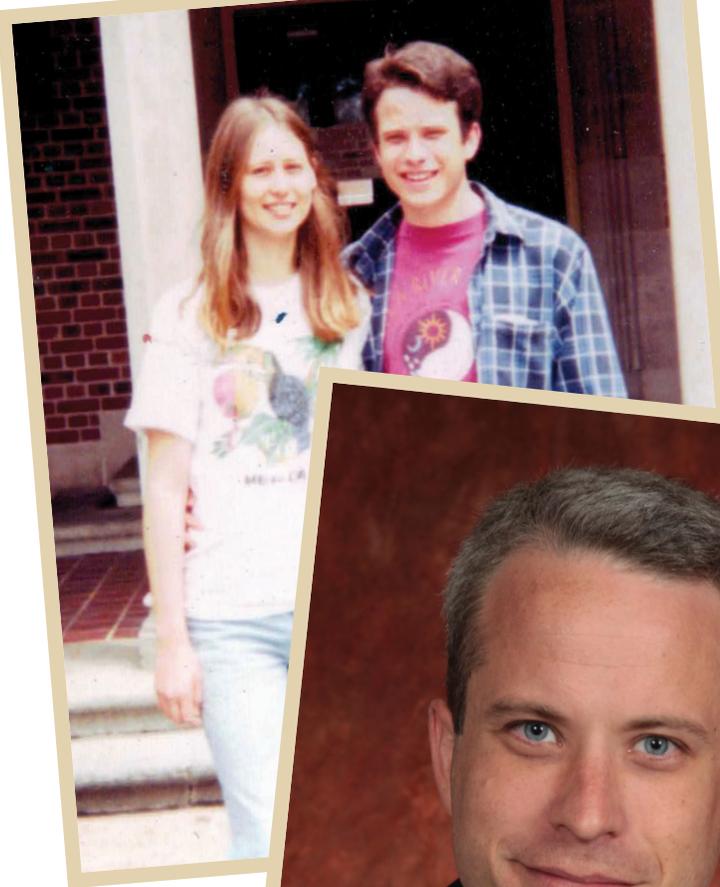
Tanya Peres

B.A., Anthropology, 1995

M.A., Anthropology, 1997

Peres, an associate professor of anthropology, says her biggest research question is "What's for dinner?" since her area of study is what people ate hundreds and thousands of years ago. As lead investigator, in 2017, Peres initiated the FSU Apalachee-Spanish Mission Archaeology Project. She collaborates with anthropology department chair Rochelle Marrinan to study Apalachee and Spanish foodways during the Mission Period, 1633-1704, in the Red Hills Region of Tallahassee.

"History happened everywhere, not just in far-away places," Peres said. "Unearthing history that happened in our backyards is one small way we can learn about and share how people were born, raised and fed their families, and died here."



Richard Oberlin



Tanya Peres



Courtesy photos



Jessica Ribeiro

Jessica Ribeiro

M.S., Psychology, 2011
Ph.D., Psychology, 2014

Ribeiro, an assistant professor of psychology, conducts research across three major domains of suicide science — risk, cause and intervention. Her work tries to identify who is at risk and when they will engage in suicidal behavior; what causes and deters suicidal behavior; and how to translate causal information into efficacious interventions and how to widely implement those solutions.

“There has been more suicide research over the last decade than at any other point in history, but U.S. suicide rates continue to climb,” Ribeiro said. “Understanding this perplexing trend is a major impetus of my work.”

Alan Spector

M.S., Psychology, 1981
Ph.D., Psychology, 1984

For the past 40 years, Spector, a Distinguished Research Professor, has conducted neuroscience research related to taste: He seeks to understand how taste information from the mouth is used by the brain to influence behavior and physiology.

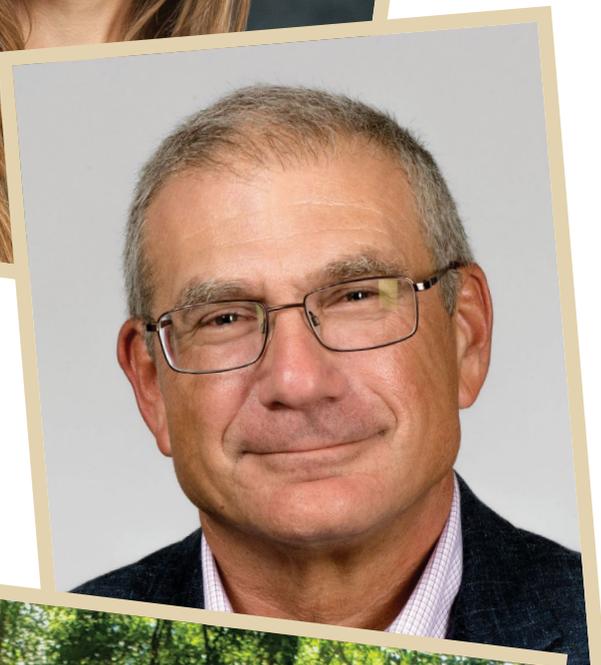
“Many clinical conditions and diseases are directly or indirectly caused or exacerbated by food and fluid intake,” Spector said. “I hope my research advances understanding of gustatory system function and that this knowledge can be harnessed to develop interventions that can promote healthier eating and drinking.”

Tim Stover

B.A., Humanities, 1994
M.A., Classics, 1997

As an associate professor of classics, Stover has a special interest in epic poetry. His new book, “In the Wake of the Argo: Valerius Flaccus and his Flavian Epic Successors,” will examine complex appropriation of Flaccus’ “Argonautica,” an epic poem centering on the quest of Jason and the Argonauts, by his successors in the Roman Empire’s Flavian Dynasty, 69-96 CE.

“This project breaks new ground in analyzing interrelations among epic poems of the era and, for the first time, demonstrates Valerius Flaccus’s influence on his contemporaries,” Stover said. <



Alan Spector



Tim Stover



Encore performance

History education forms the perfect backdrop for theatrical success

————— *By Rodney Campbell* —————

Nearly two decades ago, Florida State alumna Danielle Wirsansky sat in a darkened theater in London's West End and watched Andrew Lloyd Webber's "Starlight Express" come to life on stage. The spectacle and excitement of that live performance captivated her imagination and spurred in her a life-long passion for the theater.

By the time she arrived at FSU as a teen, Wirsansky's career goals had coalesced and it became obvious her profession of choice would align with the theatrical, but a question loomed: What path would take her there?

"I've wanted to be a storyteller ever since I was small," Wirsansky said. "I enjoyed many different mediums, from theater to photography to fiction writing, so it was no big leap when I pursued dual bachelor's degrees in theatre and English, along with a history minor. Pairing these highly rated programs granted me the opportunity to explore other forms of storytelling adjacent to each."

Success in three acts

Wirsansky gained a head-start on her dream while serving as a casting assistant at the English National Theatre in Tel Aviv in 2015. Two years later, she was a producing apprentice at the Tony Award-winning Infinity Theatre Company in New York before founding White Mouse Theatre Productions at FSU. Wirsansky's first post-graduation job was as associate managing director for a leading regional theater in Vermont.

By the time she earned her third FSU degree, a masters in modern European history in 2018, it was clear diversification was the right decision. While theatre was a logical choice, history gave her an appreciation of the past and English provided the opportunity to focus on creative writing.

"I studied such a broad array of subjects that I found a lot of different doors open to me career-wise," she said. "But my dream was to work in the theater industry."

History takes the stage

Wirsansky often writes about the Holocaust and World War II, and has penned more than

20 plays set in that time period. She also has finished scripts and lyrics for two musicals on those subjects, and her work has been produced in the U.S. and internationally.

"I think it is incredibly useful to make parallels between the present and the past, to show how far or how little we have come, and to see how society can easily lead itself into the same traps time and again without ever learning its lesson," she said. "It is also important to me to write pieces that feature strong women's roles and stories."

Among Wirsansky's biggest influences at FSU was her adviser, Nathan Stoltzfus, the Dorothy and Jonathan Rintels Professor of Holocaust Studies in Department of History. The two worked together for more than eight years, and she served as Stoltzfus' undergraduate research assistant and teaching assistant.

Wirsansky, now living in Jacksonville, still teams with Stoltzfus to honor Holocaust rescuers as a research coordinator for the Rosenstrasse Foundation, a nonprofit that aims to educate the public about the Rosenstrasse Protest and its significance, honor the memory of the protesters involved, and create a platform for the descendants of the protestors to reunite. The protest, the only mass public demonstration by Germans in the Third Reich against the deportation of Jews, was entirely initiated and led by women.

"Danielle is a natural powerhouse, taking action and moving others into action for public service as she goes," Stoltzfus said. "She has a formidable capacity for creativity in a whole range of form and a passion for Holocaust history."

History in the making

When historians look back on 2020, they will see tough days for the performing arts as the coronavirus pandemic brought live performances to a halt. With public gatherings out of the question, theaters are shuttered and technical and creative teams face uncertain futures.

"Part of the beauty of theater is having the audience inhabit the same space as the performers. To share that space, to feel the energy and tension is to be swept away," Wirsansky said. "Many theaters are closing permanently as a result of the pandemic, so it is important we do what we can to support them."

Wirsansky has stayed busy during the shutdown: She finished writing a full-length play and is turning her research on women spies during World War II into a book.

"She is both historian and artist, and I think most people would say you have to choose between those two careers," said associate professor of history Jennifer Koslow, who taught Wirsansky and oversaw her capstone project. "She has done an amazing job blending the two paths." <

I think it is incredibly useful to make parallels between the present and the past, to show how far or how little we have come, and to see how society can easily lead itself into the same traps time and again without ever learning its lesson."

— Danielle Wirsansky

Operation: Space

Math, physics undergrad
overcomes brain surgery to pursue
dreams of engineering space travel

By McKenzie Harris

As John Wise kicked off his third year at Florida State, he had his sights set on the stars. With lofty aspirations to design and engineer rockets and spaceships, not even neurosurgery could slow him down.

Wise spent his freshman year as a civil engineering major with plans to work in architecture. However, a class with assistant professor of physics Jeremiah Murphy opened his eyes to a new frontier and left Wise captivated by the relationship between astronomy and physics. Shortly after, he transferred into astrophysics.

"Though my goals are related to astrophysics, double-majoring in physics and applied mathematics gives me a broader scope that will help me understand my specific field. I want to obtain as many tools and skills as possible to be the best aerospace engineer I can be."

Stellar foundations

After just two semesters in the Department of Physics, Wise was accepted into a Research Experience for Undergraduates at Texas Christian University. This competitive astrophysics REU, under TCU's Peter Frinchaboy, included investigation of local stellar populations, using star clusters and giant stars to analyze the structure, evolution and age of the Milky Way and other galaxies.

When Wise returned from Texas, he began working at the National High Magnetic Field Laboratory, the world's largest and highest-powered magnet lab, as a research assistant to Krafft Professor of Physics and MagLab chief scientist Laura Greene and research faculty member Wan Kyu Park.

At the National MagLab, Wise uses quantum physics to investigate superconductors — materials that offer zero resistance to electricity when cooled to low temperatures. These super cool materials are already found inside hospital



*John Wise and his mother, Violet Taylor-Lewis.
Courtesy photo*

MRI machines and certain research magnets, but could be key to developing new efficient electric motors, generators and power transmission lines of the future.

"John is an impressive young scientist," Greene said. "What stands out most about him is how eager he is to conduct research. He's hardworking, clever and extremely helpful in the lab."

Big-brained

Wise's best-laid plans came to a halt in 2019, when he slipped from a pull-up bar during a seemingly normal workout. His grip strength weakened until it was almost impossible to hold anything — a water bottle, the car door handle or even a pencil.

Tests for carpal tunnel syndrome and rheumatoid arthritis came back negative, so Wise underwent a series of MRIs. He was diagnosed with an Arnold-Chiari I malformation, a congenital condition in which the lower part of the brain, the cerebellar tonsil, presses down through the back of the skull and into the spinal canal.

In other words, Wise's brain was too big for his head. This pressure led to a block of spinal fluid flow and the formation of a cyst in his spine, which affected his grip strength but could have affected much more, had it gone undiagnosed.

Wise had neurosurgery in October and was hospitalized for three days.

"The recovery was the worst pain I've ever felt," he explained. "I had to retrain my body to sit up, to walk."

While recovery wasn't easy, it would have been unbearable without the support of his loved ones, he said. Wise started physical therapy in December and returned to work and school in January of this year.

Stars re-align

Despite the immense challenges of 2019, Wise's future has only crystallized further. As he prepares to graduate with a dual degree in Fall 2022, he has compiled a list of potential graduate schools and is starting applications for master's programs in aerospace engineering.

"I never want to stop being innovative or creative," Wise said. "I want to design spaceships and help commercialize space travel. With an applied mathematics and physics background, I hope to work at a company such as SpaceX."

Greene said Wise's work ethic and brilliance are integral to his success as both student and scientist.

"He also has a true desire to 'get a number out of nature,' which is code for loving science," she said. "I'm lucky to have him in my laboratory!" <

McKenzie Harris graduated in May with a bachelor's in English with a concentration in Editing, Writing and Media.

Gold standard

FSU students collaborate, combat citrus greening on a global stage

By Amy Robinson and McKenzie Harris



There's no "I" in "team," but for Florida State University's International Genetically Engineered Machine team, known as "iGEM"... well, you see where this is going.

FSU's interdisciplinary team includes more than a dozen undergraduates hailing from departments across campus: biology, biochemistry, mechanical and chemical engineering, computer science, statistics, entrepreneurship and criminology.

"Working on such a team exposes you to the different ways people think," said biology student and team leader Roderick Meyer. "When you collaborate, the work you do is magic."

Each year, FSU's iGEM team tackles a different project with the goal of developing practical solutions to complex scientific problems, before pitching the plan to a global audience during the annual International iGEM Competition in Boston. The 2019 competition saw more than 350 teams registered from around the world and over 6,000 participants in attendance.

Florida focus

This time, the team took on Florida's citrus greening epidemic, an issue affecting 80 per-

cent of the Sunshine State's citrus trees: Asian Citrus Psyllid insects spread greening bacteria and infected trees then produce smaller fruit and in scarcer quantities.

"We chose a problem important to our community. The effects of citrus greening have been evident in the state for years, and citrus production has dropped to less than a third of what it was 20 years ago. Annual loss estimates are between \$450 and \$500 million over the past 15 years," Meyer said.

Cameron Conroy, a double-major in computer science and statistics, said initial feedback from advisers indicated the project was overly ambitious.

"The biggest challenge was having subject-matter experts tell us there was no way we could contribute to a complicated problem experts have not been able to crack for over a decade," Conroy said.

While strong opinions initially cast doubt over the project's topic, the team used those conversations as a reason to work harder.

"We dug in our heels and gave the problem our very best. We wanted to prove Florida State does great undergraduate research and that we were among the top teams competing," Conroy said.

Language barriers

As research got underway via team workshops at FSU's Innovation Hub, members soon discovered embracing their wide range of skills would be fundamental to success.

"Our team was diverse — some had no background in biology at all," biochemistry student Conner Quinlan said. "The feedback from those members provided insight science-minded people might not have considered."

Such diversity in interpretation underscored the importance of effectively communicating research to wide audiences to make projects more marketable.

"When we gave our first presentation, we called the product an 'antimicrobial peptide.' Most people wouldn't understand that term, but it had become commonplace to us," Quinlan explained. "It wasn't until our computer science team member spoke up mid-presentation and asked what an antimicrobial peptide was that we realized our error."

Beyond differences in areas of study, the team also included a mix of freshmen, sophomores, juniors and seniors.

"The challenge wasn't just communicating the science efficiently to non-science students, but also to science students with varied depths of education," Meyer said.

Showtime

Following months of hard work, the team debuted its project in Boston. FLOEMA, a hardware, software and biotechnology solution,

is designed to heal trees affected by citrus greening. The system allows citrus growers to assess tree health, deliver antimicrobial therapy to eliminate *Candidatus Liberibacter asiaticus* — the bacteria that causes greening — and to administer an antimicrobial cocktail that guards against emergence of resistant strains.

"No other Florida iGEM team had ever earned a gold medal. We were laser focused on getting the gold, which meant we aimed high," Quinlan said.

Of the 52 U.S. collegiate teams competing, FSU was among eight awarded a gold medal and became the first-ever Florida team to take home the honor.

"It was the most difficult and rewarding experience of my undergraduate career. Asking questions from so many different vantage points allowed us to cast a wider net for potential solutions," Conroy said. "Research, after all, isn't always about finding the solution, but, contributing in a meaningful way no matter how big or small." <

McKenzie Harris graduated from FSU in May with a bachelor's degree in English with a concentration in Editing, Writing and Media.



Opposite: FSU's iGEM team celebrates gold. Left to right: iGEM team members Roderick Meyer, Jacob Gottlieb, Hannah Pascoe, Juan-Martin Portilla, Conner Quinlan, Cameron Conroy, Kathleen McClellan, Shams Dhanani, Alyssa Klein, Mezindia Blessing Nkembo, Derica Parathundil, Nicholas Vazquez, Jessie Griesheimer. Courtesy photos



Beating the Odds

Jessica Dixon advocates for students with disabilities while using her own to become a better researcher

By Casey Taylor

Florida State neuroscience major Jessica Dixon's fascination with the brain started on her 10th birthday. That day, her sister, Alex, had brain surgery to treat a severe neurological movement disorder and suffered a subdural brain hemorrhage.

"She was not expected to recover. They were not sure she would even survive," Dixon said.

Alex's family and doctors worked hard to help her rehabilitate and graduate high school on time. Dixon helped her sister relearn everything she had lost, and co-authored a book, "A Stroke of Luck:

A Girl's Second Chance at Life," with her mother, Juli, about the experience. The family also speaks at conferences around the country to bring awareness to the learning practices of students with disabilities.

Dixon's drive proved important when, five years later, at age 15, she was diagnosed with a movement disorder of her own — Tourette's Syndrome.

"A movement disorder nearly cost my sister her life, and now I had one too. It was terrifying," she said.

Patient and researcher

Dixon joined a Tourette's clinical trial to explore treatments, and the experience solidified her interest in neuroscience.

"Having Tourette's gives me a better perspective to approach research because I know how it feels to be a participant in that process," Dixon said. "I know what having a disability feels like, which makes me a more compassionate researcher."

As a high-achieving student — she is an FSU Presidential Scholar — Dixon has accumulated an impressive slate of accomplishments, and she only just finished her sophomore year. In Spring 2020, Dixon was awarded a prestigious Barry Goldwater Scholarship — the top undergraduate award in the country for engineering, mathematics and science — for her research into hyperactivity in the CA1 region of the hippocampus, an area associated with navigation and Alzheimer's disease in mouse models.

The award provides Dixon with up to \$7,500 in both her junior and senior years from the Barry Goldwater Scholarship and Excellence in Education Foundation to cover tuition, fees, books, and room and board.

A new challenge

FSU began offering neuroscience as an undergraduate major in Fall 2018, the same year Dixon started as a freshman.

"Jessica excels in the classroom, takes full advantage of research opportunities, and actively engages in outreach activities as a strong advocate for students with disabilities," said Lisa Eckel, director of the Interdisciplinary Program in Neuroscience and a psychology professor.

Dixon conducts research in the lab of assistant professor of psychology and neuroscience Aaron Wilber, whom she met through FSU's Undergraduate Research Opportunity Program. In Wilber's lab, Dixon examines mouse models of Alzheimer's disease and compares navigation in new surroundings, among the first abilities compromised in the early stages of Alzheimer's, to these abilities in normal mice.

Doing the work

She has expanded on that work by examining activation in the hippocampus of mice with Alzheimer's disease and attempting to determine if overactivity in that area is a compensatory mechanism or a symptom of injured brain cells.

Understanding brain changes in mice with early Alzheimer's disease can lead to an earlier diagnosis in humans — present treatments are often applied too late to be effective, she said.

Dixon received the 2019 Scott and Ina McNichols Undergraduate Research award, an IDEA Grant offered through the Center for Undergraduate Research and Academic Engagement and, in the coming year, Wilber will advise her honors thesis.

"Jessica has the work ethic to succeed and is exceptionally independent," Wilber said. "It's extremely rare for an undergraduate to be this independent in generating and refining their own research ideas."

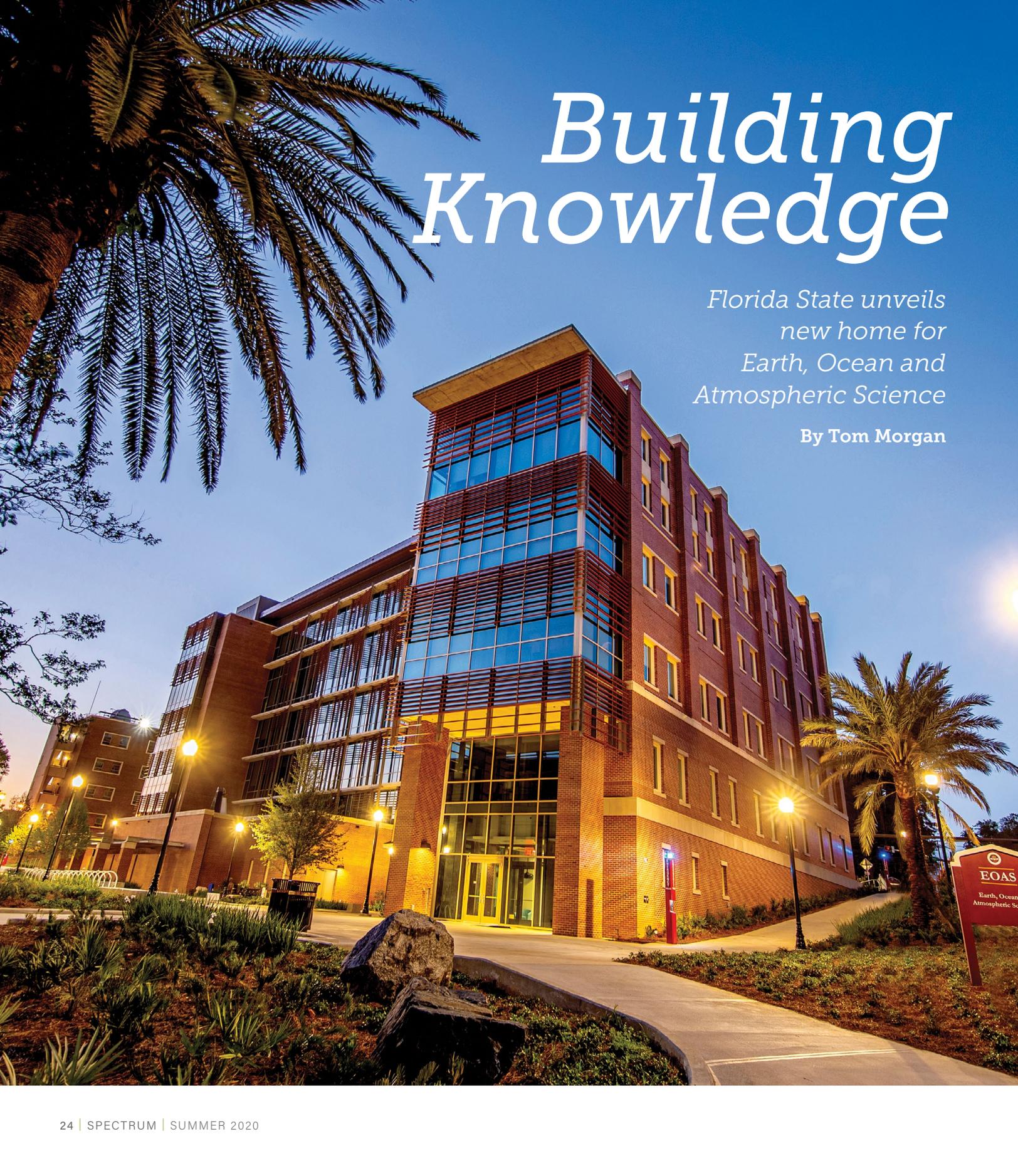
Dixon's aspirations include a career as a professor and researcher of neurological conditions, including movement disorders.

"As our program grows and matures, Jessica will serve as a role model for those who follow her," Eckel said. <

Casey Taylor graduated from FSU in May with a bachelor's degree in English with a concentration in Editing, Writing and Media, and Italian.



Left and above: Jessica Dixon and members of her close-knit family. Courtesy photos



Building Knowledge

*Florida State unveils
new home for
Earth, Ocean and
Atmospheric Science*

By Tom Morgan

EOAS
Earth, Ocean
Atmospheric Science

A new edifice has overtaken Doak Campbell Stadium in providing the loftiest views on campus.

The recently completed Earth, Ocean and Atmospheric Science building towers over Florida State University's Woodward Avenue entrance, its brick exterior complemented by an enormous glass-and-metal window installation by the Master Craftsman Studio featuring the FSU torches.

But it's the staggering technology housed inside that makes the building a must-visit part of campus.

State of the art

FSU students and faculty in environmental science, geology, meteorology and oceanography now study, learn and conduct research in the 130,500-square-foot space, which includes 23 research labs, eight teaching labs, a meteorology broadcast studio, a 280-seat auditorium and a 100-seat active learning classroom.

Florida State marked the building's official opening in February, paying tribute to leaders integral to the project's completion.

Former President Eric J. Barron, who served from 2010 to 2014 as FSU's 14th president, is also a 1973 Geology alumnus and, under his leadership, Florida State merged three departments, creating what is known today as the Department of Earth, Ocean and Atmospheric Science. Barron also set in motion plans to build a new facility that would house all of the department's disciplines.

"[Dr. Barron] got the ball rolling and secured the first round of funding for this building six years ago," FSU President John Thrasher remarked during the grand opening ceremony.

Home sweet home

Students and faculty were previously scattered across eight buildings, according to Sam Huckaba, dean of the College of Arts and Sciences. Ensuring efficient delivery of a world-class education



Left: The Earth, Ocean and Atmospheric Science building. Photo by Mark Wallheiser. Above: The Smartflower, a gift from oceanography professor emeritus Jack Winchester. Photo by Tom Morgan.

required bringing members of the new department together under one roof.

Florida State broke ground on the building in October 2016, and the first occupants began moving in at the end of Fall 2019.

“Over the years, a large number of people have worked hard and put in a lot of time to make this happen. It’s impossible to thank everybody,” Huckaba said.

Better together

“The Earth’s climate is determined by complex interactions between land, water and atmosphere, so it makes sense to have scientists in those fields work together,” said James Tull, a geology professor and the department’s chair from 2013 to 2019. “For example, abundant, clean water is among the most critical issues in today’s world. Water cycles from the oceans to the atmosphere, to the ground and back to the ocean. The study of the global water cycle alone involves geologists, meteorologists and oceanographers.”

Vincent Salters, a geochemistry professor and current EOAS chair, emphasized the new space will encourage communication and collaboration across disciplines, and the building’s resources may serve as a catalyst for new interdisciplinary projects.

Those resources include “wet labs” used for analyzing chemicals and biological matter and “dry labs” where computer models are generated. The labs are also the latest example of a university-wide effort to improve the academic experience for FSU students through technology.

“Students can get hands-on experience doing experiments and analysis in ways they couldn’t have before,” Salters said.

From the windows of one of those labs, students can see the Smartflower, a system of collapsible solar panels positioned along the building’s rooftop terrace that “bloom” and move with the sun. The Smartflower is part of nearly \$1 million in gifts committed to FSU by longtime



Top: A statue of 14th FSU president and geology alumnus Eric J. Barron. Photo by Mark Wallheiser.
Above: A look inside one of the EOAS building’s new lab spaces. Photo by Tom Morgan.

solar energy proponent and oceanography professor emeritus Jack Winchester. It delivers 4,000 kilowatt hours of electricity annually, which is enough to power the average home for a year, and automatically retracts its petals when it senses high winds in the area.

The public good

Some of the building's specialized features directly benefit the public. Among the most highly anticipated technology is Science on a Sphere, installed by the National Oceanic and Atmospheric Administration.

The six-foot sphere, on view in the building's main atrium, displays such planetary data as atmospheric storms and the effects of climate change, and its visual representation of complex models and environmental processes help make science accessible and captivating for FSU students, K-12 students and community visitors. FSU joins 160-plus elite universities, museums and institutes worldwide in hosting the technology.

Two wells drilled into the limestone bedrock beside the building also house equipment used for scientific study.

The seismometer, installed in a 100-foot bore hole and donated by U.S. Geological Survey retiree Robert Hutt, has become part of the Global Seismographic Network, a partnership between the U.S. Geological Survey and research institutions that combines more than 150 modern seismic stations to monitor earthquake waves across the globe.

The network had a dead zone in South Georgia and Florida, so the seismometer's location in Tallahassee fills an important gap in the worldwide array, Tull said.

Another instrument now measures water quality in the massive Floridan Aquifer that runs below campus and much of the southeastern United States.

"The wells and sphere are considered public outreach, which is important for the university," Tull said. "Part of our mission is to make our knowledge available to the public."

The new building, with its multipart goals of expediting cutting-edge research and serving as a place of learning, is already attracting some of the best students and faculty in the country, Salters said. <

Students can get hands-on experience doing experiments and analysis in ways they couldn't have before...The new building, with its multipart goals of expediting cutting-edge research and serving as a place of learning, is already attracting some of the best students and faculty in the country."

— Vincent Salters, FSU geochemistry professor and current EOAS chair



"Emerald Beach," 1997, by Gabrielle Wu Lee. Donated by Paul Z. Lee. Courtesy photo

Finishing Touches

Each element of the Earth, Ocean and Atmospheric Science building is designed to maximize the student and research experience, from interiors and furniture inspired by Silicon Valley's tech giants to large-scale paintings incorporating mineral pigments to capture nature's forces.

Eight artworks installed throughout the space are by the late Gabrielle Wu Lee, a medical doctor who also earned a Master of Fine Arts at Florida State and imbued her paintings with the essence of science, from physics to chemistry, from physiology to psychology, and from surgery to statistics.

The large-scale works reflect a type of painting called "Dynamic Expressionism" and are a gift from Lee's husband, Paul, an FSU alumnus with a doctorate in geology, with whom she shared a deep appreciation and respect for science and the arts.



Dynamic Duo

Assistant professors Rachel Yohay and Ted Kolberg are partners in research and life

By Amy Robinson

On the border between France and Switzerland, nestled in a massive tunnel 300 feet underground, lies an astonishing piece of physics technology. Stretching more than 16 miles, the Large Hadron Collider at the European Organization for Nuclear Research, or CERN, is the world's largest and most powerful particle accelerator.

Physicists from around the world travel to the LHC in Geneva to conduct research and study the remarkable results that occur when beams of high-energy protons or ions cross paths and particles collide at colossal speeds.

For Florida State University assistant professors Rachel Yohay and Ted Kolberg, CERN was where their own paths first crossed more than a decade ago. Today, the two are husband and wife, and a force in the Department of Physics.

First loves

Long before falling for each other, Rachel and Ted were already head over heels for physics.

"I got interested in particle physics reading Leon Lederman's book 'The God Particle' in grade school," Ted said. "Discovering the fundamental laws of nature sounded like a great adventure."

For Rachel, an unforgettable teacher brought the subject to life.

"AP Physics was my favorite class. I loved learning how systems in nature could be understood with physical models, then using math — another beloved subject — to solve problems," Rachel said.

After high school, Rachel earned her B.S. in physics from Caltech and pursued her Ph.D. at the University of Virginia. Ted earned his physics degree from Stanford University and completed a doctorate at Notre Dame.

Graduate school sweethearts

During graduate school, Ted and Rachel were each presented the opportunity to travel to

Geneva to conduct research at CERN's Compact Muon Solenoid, CMS, a particle detector that allows physicists to see phenomena produced during LHC collisions. Both jumped at the chance.

"We met 13 years ago in a small mountain chalet rented for U.S. researchers working on the CMS experiment," Ted said.

Overlapping projects and shared office space at CERN led Rachel and Ted to bond quickly over their mutual passion for physics.



Rachel Yohay, Ted Kolberg and their son, Nathan.

Tallahassee twosome

Things accelerated and 2016 was a milestone year — Rachel and Ted got engaged and landed assistant professorships in FSU's Department of Physics.

"I worked alongside FSU physicists for over a decade, going back to my graduate school days," Ted said. "FSU has been active in the CMS experiment since the late 1990s during initial planning. When a job opened, we agreed FSU would be a good place to continue our careers."

For Rachel, Florida State felt right from the start.

"The biggest draw for me was the camaraderie and collegiality I witnessed among the physics

faculty," Rachel said. "This university is extraordinarily supportive of dual-career couples."

Harrison Prosper, Kirby W. Kemper Endowed Professor of Physics at FSU and chair of the CMS Collaboration Board, met Ted and Rachel when they first arrived.

"Their stellar reputations preceded them. I was eager to have them join the FSU High Energy Physics group, which I led at the time," Prosper said.

As first-rate experimental physicists, Ted and Rachel bring energy, talent and a can-do spirit to the FSU HEP group, he continued. The couple bolstered the group's ability to engage with state-of-the-art technology through ongoing involvement with CERN.

"Because of Ted and Rachel, the physics department is plugged into an ambitious project by the CMS Collaboration to build the most sophisticated particle detector ever constructed," Prosper said.

Colleagues and confidantes

The pair married in 2017 and welcomed son Nathan the following year. While Florida State has been their home for the past four years, Ted and Rachel find new joy in their work every day.

"My job is new and exciting to me, and I sense my older colleagues look to me to carry our shared research field forward. It makes the work feel worthwhile," Rachel said.

Ted added, "It's fun to take on new challenges. Working with the students at FSU is a real privilege."

Aside from shared enthusiasm for the work, Ted and Rachel's colleagues say they are well matched because of their complementary expertise.

"Each nudges the other to do better through gentle competition, but their commitment to helping each other is evident," Prosper said. <



Courtesy photos

Dedicated Service

Florida State's
behavior analysis
master's program
serves generations
coast to coast

By Audrey Post

Sometimes you just have to seize the moment. In the late 1990s, a movement in the field of psychology aimed to serve people with developmental disabilities and autism. Around the same time, Florida State University's Department of Psychology ended its Panama City-based graduate program in applied psychology.

Jon Bailey, FSU Tallahassee faculty since 1970, had served on the initial board certifying behavior analysts and wondered who was going to train practitioners to support these newly identified patients.

He found his answer on the Panama City campus: The master's program in Applied Behavior Analysis launched in 1999 — the first of its kind at a public university in Florida — with just under a dozen students and Bailey at the helm.

Chart topper

Randy Hanna, FSU Panama City dean, said the program is vital, locally and nationally: More than 300 graduates practice evidence-based behavior analysis therapy across the U.S.

"The best part," Hanna said, "is our graduates are able to meet the needs of the children."

FSU's ABA program was ranked No. 1 in the country twice in the past five years and three times in the past six years, 100 percent of graduates passed the national certification test.

Team effort

Through his research and certification board service, Bailey knew the coursework and field training needed for an ABA program. Ellen Berler, then psychology associate chair, provided feedback and shepherded the plan through necessary channels. Their combined skills helped gain approval.

"I couldn't have done it without her," Bailey said.

As a clinical psychologist with a behavioral background, Berler, now retired, was intrigued by the proposal.

"He designed it based on students' needs, and people saw how it would benefit the campus and community," she said.

Advertising generated interest locally, and Bailey touted the program to faculty from other universities during academic conferences, so they could then recommend FSU's program to their graduates.

Elevated education

FSU's ABA program was unique: It met all certification requirements, and every student could secure an assistantship and tuition waiver. Within five years, the program met academic accreditation and professional certification standards.

"What Doctor Bailey has delivered is aspirational," said FSU psychology department chair Frank Johnson, who also described Bailey as a mentor. "It gives a new point of contact between the general public and the discipline of psychology."

The ABA program accepts 16-18 students a year and only in the fall because of the order classes must be taken. Practica are woven deeply into the curriculum, and the cohort is usually split between Panama City and Tallahassee. Classes are taught via live interactive television, and faculty commute to ensure personal contact with all students. Bailey, now semi-retired, teaches one class a semester.

"Doctor Bailey's vision for establishing Tallahassee and the Panhandle as a hub for ABA training is something we have continued to strive toward," said Amy Polick, FSU ABA alumna and current program faculty member. "Among our primary missions is to pay it forward by providing the same high-quality training we received from Doctor Bailey."

Perfect practice

Co-located with the ABA program is FSU's Early Childhood Autism Program, which serves as a practicum agency for ABA students. Since 2001, students working under the supervision of FSU ABA alumni have served autistic children ages 2 to 23 with behavior therapy through ECAP.

"ECAP functions like a training hospital for graduate students learning to conduct effective, evidence-based ABA therapy with children with autism," said Polick, who also serves as ECAP development director.

In the beginning, ECAP provided home-based behavioral services to children with autism, but the addition of an on-campus clinic in 2012 and a Parent Resource Center in 2015 have been integral to serving more than 100 families over the past two decades. ABA program alumna and current ECAP program director Nikki Dickens attributes her success to outstanding preparation.

"When I graduated in 2005, I used skills from the ABA program to start my career with the State of Florida. It was my dream to return and serve the program that gave me so much," Dickens said. "In 2013, I rejoined the ECAP team as program administrator. Now, we lead the country in training ABA graduate students and helping families affected by autism." <



Arts and Sciences on the coast

Florida State's College of Arts and Sciences maintains a strong presence on the Panama City campus, in required general studies courses and majors and minors offered.

In addition to the Applied Behavior Analysis master's program, students can earn bachelor's degrees in psychology, computer science, and computer programming and applications. FSU's online bachelor's in computer science is also based in Panama City. Minors are offered in computer science, English, history, mathematics, physics and psychology.

FSU Panama City's first on-campus student housing is scheduled to open in August 2021.



Excelling **Together**

Longstanding collaboration drives duo's diabetes research

By Kati Schardl

The islets of Langerhans sounds like an exotic destination — a South Sea archipelago with swaying palm trees, white sands and pristine waters.

Though they have nothing to do with geography, the islets of Langerhans are indeed exotic and mysterious, scientifically speaking. The term refers to clusters consisting of several types of cells in the pancreas — alpha, beta, delta and gamma. Beta, the most common cell type, produces and

releases insulin. Diabetes mellitus is caused when beta cells fail to secrete enough insulin into the blood or when a sizable fraction of beta cells die.

Florida State University researchers Michael Roper and Richard Bertram have combined the power of their individual disciplines in a collaboration that explores the complexities of the pancreas, the islets and how these interact with the liver. The pair's research could offer insights into how to reactivate malfunctioning or shutdown

beta cells and have far-reaching implications for the more than 34 million Americans living with diabetes.

Complementary colleagues

Roper, who earned his Ph.D. from the University of Florida in 2003 and came to FSU in 2006 after completing postdoc work at the University of Virginia, heads the Roper Lab, which has a particular focus on developing methods to measure the functions of the islets of Langerhans. Bertram, director of biomathematics in FSU's Department of Mathematics and a member of the Institute of Molecular Biophysics, has been developing predictive mathematical models to further islets research since 1993, when he earned his doctorate at FSU and went to work for the National Institutes of Health. He returned to FSU in 1999.

"Bertram and his colleagues are world leaders in developing mathematical models of how the pancreas releases insulin," Roper said. "I contacted him within a few weeks of starting at FSU. We had coffee and hit it off."

That first meeting launched both an ongoing scientific partnership and a friendship.

"I had an idea for a project based on work I'd done previously and wanted to test it but needed the perfect setting," Bertram said.

He found such a setting in Roper's lab, where Roper and his colleagues test signaling processes like the one that triggers the pancreas to release insulin.

"Insulin comes out in pulses every 5 minutes or so. How that happens is still unclear," Roper said. "We've spent the last 10 to 12 years trying to figure out how these impulses may be brought about. In diabetes, you lose these pulses."

Precision models

To test Bertram's theoretical models in the lab, Roper uses specially modified microfluidic devices — credit card-sized pieces of glass etched to produce microscopic channels that can house

biological material such as islet cells — to stimulate the cells with precise doses of glucose.

"The channels in the device act almost like blood vessels, like the environment in the pancreas," Roper said. "We can measure insulin more precisely and test Bertram's models."

When developing a biomathematical model such as those used in islets research, Bertram likes to start small and simple.

"My philosophy is to only put in the things you have to put in," he said. "The first model of the electrical activity of pancreatic beta cells was developed in the mid-1980s (not by me) and had four differential equations. That was sufficient to explain a lot.

"Over the years, the number of equations has fluctuated as models develop. Some of my simplest models have four equations, others have 12 to 14. The more complicated models have 70 to 80 parameters."

Collaborative catalyst

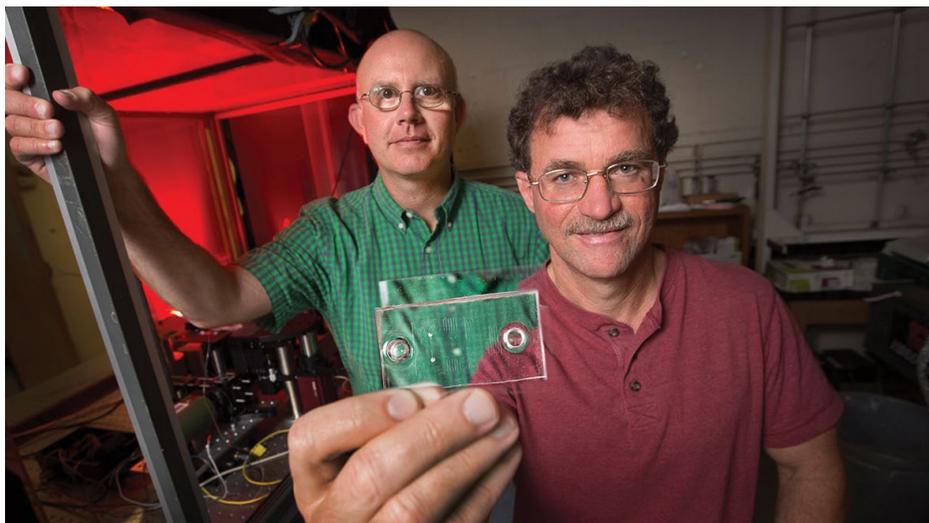
Computational models play an increasingly important role in physical and biological sciences, and developing a great computational model can aid scientists in hypothesis testing, finding

or predicting patterns in data or behavior, and spark new ideas or approaches for experiments, said Joel Adablah, a fifth-year graduate student in Roper's lab.

"Although pancreatic islet biology was the common research interest, the two research labs involved had very different expertise," he explained. "This is where the strength of the collaboration lies."

Existing computational studies may inspire the innovation of new analytical tools, which then allow for investigation of previously unexplored aspects of islet biology. Once experimental findings are developed, computer modeling can confirm results and help scientists extrapolate further understanding of how the pancreas functions.

"You can observe things with the model and come up with predictions and then test them experimentally. Science is about testing hypotheses," Bertram said. "When you do computer simulations, you often learn things intuition doesn't tell you. If you consider things long enough, you can generate good theories, but computer simulations sometimes yield totally unexpected results, and those counterintuitive things usually have the biggest impact." <



Michael Roper (left) and Richard Bertram (right) explore the complexities of the pancreas and how its islets of Langerhans interact with the liver. Photo by FSU Photography Services/Bruce Palmer.

Unconquered Spirits

In the face of fear and uncertainty, Florida State rises to the challenge

By Amy Robinson

When Florida State University President John Thrasher addressed the university family about the COVID-19 novel coronavirus Feb. 28, the disease already held a suffocating grip on portions of the globe, but still seemed a distant threat.

As a precaution, FSU suspended travel to China and South Korea and canceled classes at its Florence Study Center in Italy. Students remained hopeful for Spring Break vacation plans, but the days that followed brought concerning news, viral spread, and a cascade of international travel restrictions, closures and lockdowns.

Going remote

By mid-March, FSU announced classes would move online: The initial plan to keep classes remote for two weeks following Spring Break was later extended through the remainder of spring semester and, ultimately, through summer.

"These steps are necessary, and, as disappointing as they may be, are in the best interest of our entire community," Thrasher wrote. "All of the

university's immediate efforts continue to be focused on supporting our faculty, staff and students."

FSU faculty and staff moved all coursework online in a matter of days. Zoom meetings proliferated, with FSU logging over four million meeting minutes weekly on the platform by mid-April, FSU Information Technology Services confirms.

"The biggest challenge is losing hands-on, one-on-one instructional time," said Air Force Lt. Col. Scott Pohler, associate professor of aerospace studies and director of operations for FSU's Air Force Reserve Officer Training Corps Detachment 145.

Cadets were coached on resiliency, one of the Air Force ROTC's core pillars, and discussed the ups and downs they will face in the Air Force and life in general.

Photo by FSU Photography Services/Bruce Palmer.

"These unforeseen changes have allowed us to stress the significance of mentorship and teach the importance of taking the long view towards life, instead of focusing on immediate difficulties," Pohler said. "It has allowed us to apply a classroom lesson to real-life experience."

Semester, interrupted

Kayleigh Wilson, a mathematics major in the FSU-Teach program, was approaching the homestretch of her senior year when COVID-19 hit. Her student teaching internship at a local high school was cut short and replaced by Zoom seminars, but Wilson and her fellow students have done their best to remain optimistic.

"FSU has always had a strong sense of community, and we've upheld that tradition," Wilson said. "The university has been understanding and accommodating, and students support one another. We're in this together."

Raising funds and spirits

COVID-19 also altered plans for FSU's 9th annual Great Give crowdfunding campaign, originally scheduled for March 24-25, which provides opportunity for FSU's colleges and departments to raise funds for scholarships, among other needs. The FSU Foundation shifted gears to re-plan the 36-hour campaign into a single day of giving in support of students impacted by the pandemic. The "One Family. One Goal. One Day." effort netted more than \$430,000 April 7.

FSU has always had a strong sense of community, and we've upheld that tradition ... The university has been understanding and accommodating, and students support one another. We're in this together."

*– Kayleigh Wilson
Mathematics major*

"We heard an overwhelming response from our Florida State family asking how they could support our students, so that's exactly what we did," said Sarishni Patel, director of Annual Giving at the FSU Foundation. "...we couldn't be happier at the result."

The Class of 2020

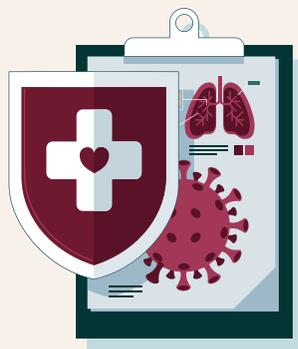
In mid-April, FSU announced spring commencement would be held virtually, and leaders immediately acknowledged graduates' landmark sacrifice. FSU Alumni Association President Julie Decker's letter to the Class of 2020 marked the stark new reality.

"... there are only a few like you — classes who have been called to war or entered a great economic recession. Like them, you will carry the torch into the world and make it a little brighter for those following in your footsteps."

The College of Arts and Sciences held two Zoom send-offs May 1 to celebrate its more than 1,800 spring graduates. The next day, thousands tuned in as FSU virtually conferred 6,957 degrees. Many graduates donned regalia and crowded with family around computer screens as commencement speaker and longtime FSU teaching professor Mark Zeigler and Thrasher spoke from Ruby Diamond Concert Hall.

"The Class of 2020 ... sacrificed so many of our cherished traditions so that we may all be safer," Thrasher said. "I hope you will look back upon this day with pride, knowing that you played a vital role in our response and eventual recovery." <

*Amy Farnum-Patronis, Kimi Wilcoxon
and Bill Wellock contributed to this story.*



Fighting for the future

In mid-May, FSU's Office of Research announced plans to allocate over \$400,000 to fund 26 interdisciplinary research projects related to COVID-19.

The research focuses on the health, social and economic impacts of the coronavirus pandemic: From exploring possible therapies for the virus and developing tools to

better track infections, to examining the effects of the pandemic on mental health, and more.

Stay up to date on COVID-19 research from FSU's biological science, chemistry and biochemistry, computer science, scientific computing, and psychology departments at artsandsciences.fsu.edu/news.



FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS & SCIENCES

National MagLab celebrates 25 years

For a quarter century, scientists from all 50 U.S. states and 54 countries have visited the National High Magnetic Field Laboratory to conduct research in physics and material science, biology, and chemistry using 17 of the world's most powerful magnets. College of Arts and Sciences physics and chemistry faculty often serve as MagLab leadership, and the facility is instrumental in supporting student research experiences. The Tallahassee-based facility is one of seven scientific facilities spread across three sites — FSU, University of Florida and Los Alamos National Lab — funded by the National Science Foundation and the State of Florida. Visit nationalmaglab.org to learn more.

Photo by Stephen Bilenky



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