

COLLEGE OF SCIENCES



Pursuit

YEAR IN REVIEW 2022-2023





UCF

NICHOLSON SCHOOL OF COMMUNICATION



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Follow our journey as

**WE TRAIN
FUTURE LEADERS**

who embody and demonstrate
excellence in the sciences.

COLLEGE PROFILE

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RESEARCH
CENTERS

58,600 LIVING ALUMNI

500 FACULTY

15,100 GRADUATE AND
UNDERGRADUATE
STUDENTS

600 STAFF

BY THE NUMBERS

2022-2023

\$8.49M

CHARITABLE
GIVING

\$43.6M

EXTERNAL
RESEARCH FUNDING
(No. 1 at UCF)

60%

FOUR-YEAR
GRADUATION RATE
(7% Increase Rate from
previous year)



DEVELOPING EXCELLENCE

The College of Sciences opened the '22-'23 school year determined to regain our momentum after the pandemic. I'm proud to say we achieved that — and more.

You'll find just a few examples on these pages of how the College of Sciences and UCF are preparing the next generation of leaders to unleash their potential and change the world.

For example:

- Study abroad scholarships take the learning out of the classroom and into real life for School of Politics, Security, and International Affairs students like Daniah Jarrah, who is studying Arabic in Jordan.
- Research pairing artificial intelligence and pottery sherd reconstruction is revolutionizing archaeology.
- The College of Sciences continues to attract some of the biggest industry names as partners, including NBCU Academy.
- UCF planetary scientists are taking lead on a \$35 million NASA-funded project to explore new areas of the Moon.

This is just a fraction of what we've accomplished over the past year through the hard work and talent of our faculty, staff and students. I'm also grateful for the generosity of college supporters who invest in the lives of our students through scholarships and advance our research. Both elements will carry us into a bright future.

Charge on!

A handwritten signature in black ink that reads "Tomova".

Maggy Tomova, Ph.D.
Dean of the College of Sciences

STUDENT EXCELLENCE

UNDERGRADUATE



DANIAH JARRAH

TAKING HER STUDIES ACROSS THE GLOBE

School of Politics, Security, and International Affairs student Daniah Jarrah has taken her studies to the other side of the world - in Amman, Jordan. Studying abroad allows her to fuse her interest in the Arab language and culture together with her interest in foreign service. She enjoys strengthening her Arabic roots and learning more about the cultural and linguistic nuances that will come in handy in her career.

“ I think that’s one of the biggest things study abroad provides is forcing yourself to go out there and use the language, rather than just experience it through a textbook.”



CHRISTIAN CABELLO

Bachelor of Science, Physics '23

Ph.D. Student at Institut Polytechnique de Paris

Recent physics graduate Christian Cabello '23 says *bonjour* to a new life in Paris come Fall 2023, where he'll take advantage of a full scholarship to pursue a doctorate degree at the Institut Polytechnique de Paris (IP).

The new adventure not only brings him to Europe for the first time but opens access to rare equipment in the field of extreme laser-plasma interactions. It's a dream come true for someone who considered IP before even starting as an undergraduate.

“ I learned so much along the way. I can't wait to see what the future holds.”

GRADUATE

CAMILLE COFFIE

BREAKING DOWN BOUNDARIES

Getting to where she is today as a physics Ph.D. student at UCF wasn't easy, but Camille Coffie is dedicated to giving back. She is part of the Bridge Program that provides support to under-represented minority students pursuing a physics graduate degree. Camille plans to continue mentoring Black women in physics after graduation through teaching at the post-secondary level.

“ In times where other people might feel like I shouldn't be here, I feel the opposite.”



ALUMNI

DANA SNYDER

Bachelor of Arts, Advertising/Public Relations '10
Founder and CEO, Positive Equation

Dana Snyder is no stranger to rolling up her sleeves and paving her own path. After living the agency life in New York City and then working for “American Idol” in Southern California, Dana opened her own agency called Positive Equation. She provides services to nonprofits to help them market themselves and make a real difference in the world. No matter where her career has taken her, she always remembers her UCF roots.

“UCF means far more to me than just education. It means family.”

TUESDAY PIPER

Bachelor of Arts, Human Communication '22
Sustainability Project Coordinator, City of Orlando

Sharing her passion with others and making Orlando more sustainable is all in a day's work for Tuesday Piper. Since her first experience beekeeping as an undergraduate at the Nicholson School of Communication and Media, Tuesday Piper was hooked. She is now making history as the City of Orlando's first beekeeper where she educates local children and contributes to sustainability initiatives. For Tuesday, there's nothing quite like seeing the joy on peoples' faces as they see a beehive for the first time.

“Discovering my passion for beekeeping has taught me to keep my eyes open — you never know where you'll find something new that you love.”





NEW STAFF AWARDS LAUNCHED

A renewed focus on recognizing the work of staff led to the debut of new staff awards in 2023. The Everyday Excellence Award recognizes outstanding service while the ACE Award lauds staff who “consistently take initiative to support COS.” The Pinnacle Award is for one annual ACE Award winner.

UCF SAYS GOODBYE TO ICONS



The College of Sciences and UCF family bid **MAGGIE LECLAIR** farewell this year as she headed into retirement after 49 years of service. LeClair started in the Department of Communication at the former Florida Technological

University and finished her career as executive assistant to the dean in COS. She touched the lives of thousands of faculty, staff and students through building scholarships, her empathetic ear and an unwavering commitment to the university’s success.



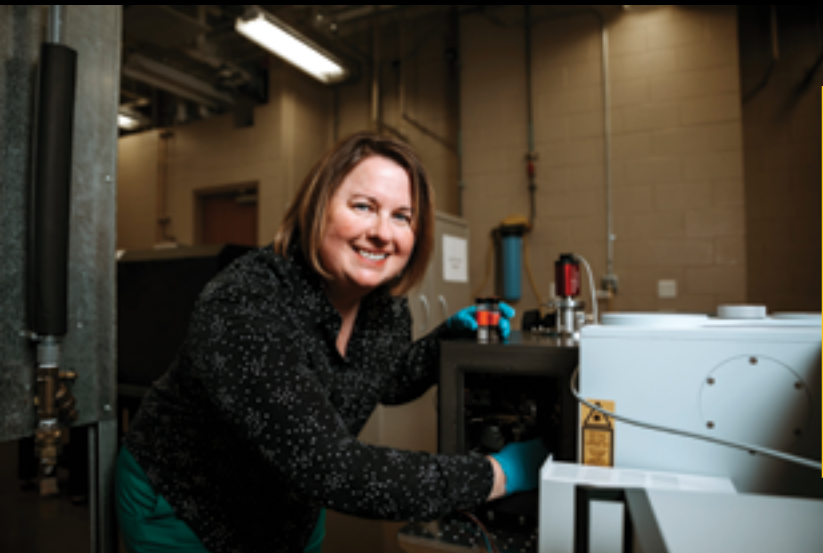
Also departing in 2023 was **PROFESSOR EMERITUS BOB BLEDSOE**, who founded the original Department of History and Political Science. Thousands of students passed through Bledsoe’s classroom to soak up his expertise in areas including

international law, environmental law, space law, world political geography and global perspectives.

MARIANNA PENSKY NAMED PEGASUS PROFESSOR



Professor of Mathematics Marianna Pensky was named Pegasus Professor in Spring 2023, the highest faculty honor at UCF. Her research focuses primarily on high-dimensional statistics. She has studied computer vision, statistical genetics and population biology and reliability.



EXPLORING THE UNKNOWN

Planetary scientists Kerri Donaldson Hanna and Adrienne Dove were tapped by NASA to lead a \$35 million science mission to land a spacecraft on a part of the moon never visited before — the Gruithuisen Domes. The robotic mission is planned for 2026 and will study the domes' chemical composition and how dust interacts with the spacecraft and a rover.

AI, MEET ARCHAEOLOGY

Artificial intelligence is causing a stir in the copywriting and art worlds, but archaeologists are also hoping to harness its power. A partnership between Anthropology Associate Professor Scott Branting and mathematicians and computer scientists at the Université du Québec à Trois-Rivières (UQTR) is developing artificial intelligence to improve the speed and accuracy of rebuilding ancient pottery from recovered pieces, called sherds.



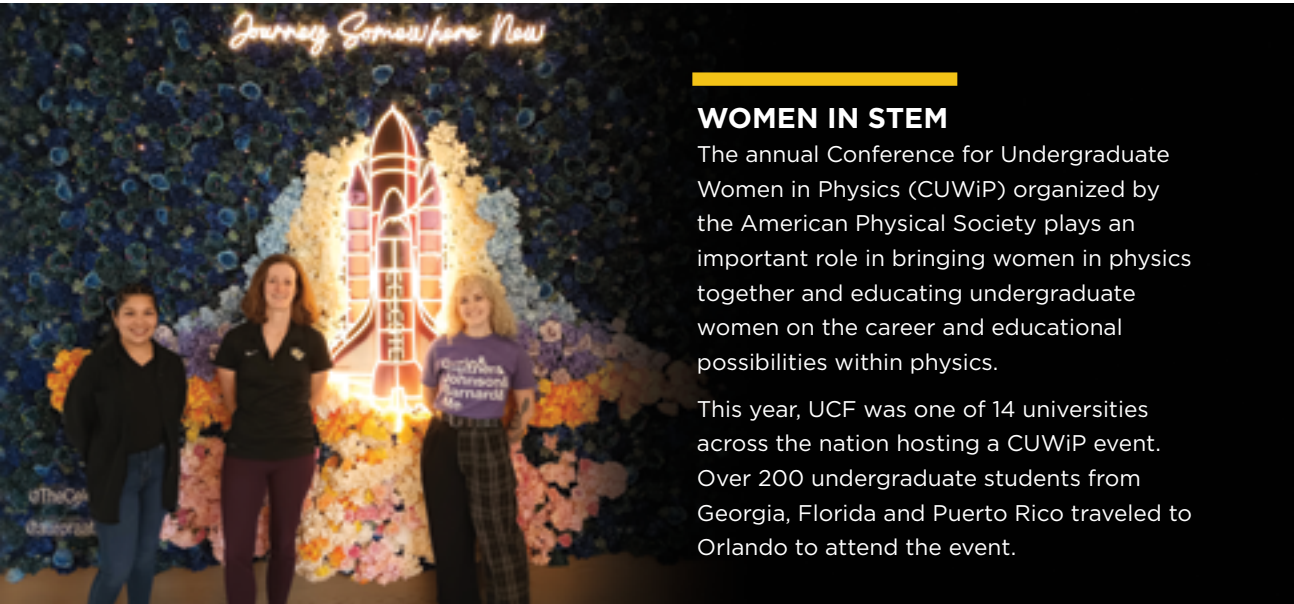
CATALYST FOR CHANGE

The precious metals in catalytic converters make the vehicle devices attractive to thieves, but University of Central Florida researchers are working to reduce the amount of precious metals needed in them — down to single atoms — while still maximizing their effectiveness.

In recent studies appearing in “Nature Communications” and the “Journal of the American Chemical Society,” UCF researchers showed that they could, respectively, use atomic platinum to control pollutants and operate the system at lower temperatures, which is crucial to removing harmful chemicals when a vehicle first starts.



PARTNERSHIPS



WOMEN IN STEM

The annual Conference for Undergraduate Women in Physics (CUWiP) organized by the American Physical Society plays an important role in bringing women in physics together and educating undergraduate women on the career and educational possibilities within physics.

This year, UCF was one of 14 universities across the nation hosting a CUWiP event. Over 200 undergraduate students from Georgia, Florida and Puerto Rico traveled to Orlando to attend the event.



CEELAB AND COASTAL PARTNERS

Community partnerships are at the heart of the Coastal and Estuarine Ecology Lab (CEELAB), which marked its 25-year anniversary in May 2023. Led by Pegasus Professor Linda Walters, the lab focuses on shoreline restoration and conservation by rebuilding oyster reefs and planting mangroves. A small army of UCF students and community volunteers make the work possible, along with cooperation and funding from Cape Canaveral National Seashore, Marine Discovery Center in New Smyrna Beach, Florida Coastal Conservation Association, the Indian River Lagoon National Estuary Program, Florida Fish and Wildlife Conservation Commission and the National Park Service.



THE INDIA CENTER AT UCF

One of the chief objectives of the India Center at UCF is to connect the community with ambassadors of the country's rich and vibrant culture. A highlight from Fall 2022 was bringing actor, writer, producer and public servant Kal Penn for a book reading and discussion. Penn read an excerpt from his national bestseller "You Can't Be Serious," in which he shared his experiences while pursuing a nontraditional career in the arts and battling the stereotypes that come with being the son of Indian immigrants.

In January 2023, India's Consul General in Atlanta, Dr. Swati Vijay Kulkarni, delivered a keynote address at the India Center's Republic Day celebration. A ribbon cutting ceremony was also held for the India Corner, a collection of books on India donated by the Consul General.

COMMUNITY PARTNERS PROVIDE CRITICAL SUPPORT for our people and programs, along with validation of our vision for the future of the College of Sciences.

— Anthony Pomonis
Executive Director for Advancement
College of Sciences



BREVARD COUNTY SCHOOLS AND GEOBUS

The impact of the nation's first GeoBus continues to grow, with a new partnership bringing the immersive educational experience to 18 Title I Brevard County schools this spring semester, with an additional set of schools to continue in the next school year.

The partnership ushers in the next phase for GeoBus from one-off school visits to a more formal relationship that opens fresh opportunities for elementary students to discover the value of geospatial technology for science and social studies. The partnership was launched in January with GeoBus Director and Associate Professor of Geographic Information Systems Timothy Hawthorne.

NSCM AND NBCU

NBCU Academy has selected UCF as one of 15 new partners nationwide in a program that will strengthen how the Nicholson School of Communication and Media supports and prepares students to succeed in the media industry.

Benefits of the partnership include scholarships; resources to help expand students' field reporting and internships; and more opportunities for students to interact with some of the nation's top journalists, including lectures on topics such as newsgathering and storytelling.



IN THE NEWS

College of Sciences faculty are regularly featured in national and international media to share their research and provide expert opinion.



WALL STREET JOURNAL:

“The Future of Everything Podcast”

How Smell is Helping Treat the Toughest Cases of Trauma

SHOWCASING: UCF RESTORES

UCF RESTORES Director Deborah Beidel: “One of the things we know is that you have to be able to have people get in contact with what we call the triggers, the sight, the sounds, the smells that are part of their trauma. ...Exposure therapy is the treatment that we know has the best effect for post-traumatic stress disorder.”



NATURE

Private companies are flocking to the Moon – what does that mean for science?

SHOWCASING: Department of Physics

NEWSWEEK

Real-World Origin of the Cordyceps Fungus Zombie From ‘The Last of Us’

SHOWCASING: Department of Biology



The consequences of climate change are numerous, but viewers of HBO’s “The Last of Us” might have been surprised to learn that it could lead to a post-apocalyptic world taken over by zombies that were infected because a fungus adapted to warmer temperatures.

PHYS.ORG

Research team uses 6-foot ‘test tubes’ to study red tide

SHOWCASING: Department of Biology

A potential treatment for Florida’s devastating red tides has taken another step toward widespread deployment after successful testing in Sarasota Bay.



BLOOMBERG

Why is UCF a Leading Producer of Aviation Talent in the U.S.?

SHOWCASING: Department of Psychology

The next time you see a plane flying overhead — any plane — consider this: There’s a strong possibility that a graduate or researcher from UCF had something to do with that plane being in the air.

The College of Sciences is also regularly featured on our internal UCF news channels.

UCF'S ROBINSON OBSERVATORY GETS A FUTURISTIC FACELIFT

The cutting-edge transformation returns one of UCF's most iconic features to full functionality after six years.



INNOVATIVE VR THERAPY HELPS PATIENTS OVERCOME PTSD CAUSED BY HOSPITAL STAYS

Assistant Professor of Nursing Brian Peach is leading the study, which uses exposure therapy featuring virtual reality with real sounds and smells, all mimicking the patients' intensive care experience.



ELECTRONIC ARTS AWARDS SCHOLARSHIPS TO UCF STUDENTS TO INCREASE DIVERSITY IN GAMING INDUSTRY

The inaugural Inclusion in Gaming Endowed Scholarships empower emerging electronic artists from underrepresented backgrounds.

UCF VIDEO GAME DESIGN PROGRAMS AMONG THE BEST IN THE WORLD FOR 2023

The Princeton Review ranks undergraduate and graduate programs in the top six, fueling a high-paying, tech-job workforce.

THE INDIA CENTER CELEBRATES DIWALI WITH ORANGE COUNTY COMMUNITY

On Oct. 17, 2022, the India Center celebrated Diwali with Orange County Mayor Jerry Demings at the Orange County Administration building in downtown Orlando. It was the second year the India Center collaborated with the Asian Cultural Association, the Orange County Asian Committee, FusionFest and Demings to present "Diwali: The Festival of Lights Celebration."



UNDERGRADUATE & GRADUATE PROGRAMS

UNDERGRADUATE DEGREES

Actuarial Science (B.S.)
Advertising/Public Relations (B.A.)
Anthropology (B.A.)
Biology (B.S.)
Chemistry (B.A./B.S.)
Chemistry, Biochemistry Track (B.S.)
Communication & Conflict (B.A.)
Data Science (B.S.)
Digital Media (B.A.)
Film (B.A.)
Film (B.F.A.)
Forensic Science, Biochemistry Track (B.S.)
Forensic Science, Chemistry Track (B.S.)
Human Communication (B.A.)
International and Global Studies (B.A.)
Journalism (B.A.)
Mathematics (B.S.)
Physics (B.A./B.S.)
Media Production and Management (B.A.)
Political Science (B.A.)
Political Science, Intelligence and
National Security Track (B.A.)
Political Science, Prelaw Track (B.A.)
Psychology (B.S.)
Social Sciences (B.S.)
Sociology (B.A./ B.S.)
Statistics (B.S.)

MINORS

Actuarial Science Minor
American Indian Studies Minor
Anthropological Archaeology Minor
Anthropology in Multicultural Studies Minor
Anthropology Minor
Astronomy Minor
Biological Anthropology Minor
Biology Minor
Chemistry Minor
Crime, Law, and Deviance Minor
Cultural Anthropology Minor
Digital Media Minor
Diplomacy Minor
Diversity and Social Inequality Minor
European Studies Minor
Film, Cinema Studies Minor
Geosciences Minor
Global Peace and Security Studies Minor
Global Sociology Minor
Human Communication Minor
Intelligence and National Security Minor
Intercultural Communication Minor
International and Global Studies Minor
Journalism Studies Minor
Kurdish Studies Certificate
Magazine Journalism Minor
Mass Culture and Collective Behavior Minor
Mass Media Minor
Mathematical Biology Minor

Mathematics Minor
Medical Anthropology Minor
Medical Sociology Minor
Physics Minor
Political Science Minor
Political Science, Prelaw Minor
Psychology Minor
Sociology Minor
Statistics Minor
Strategic Communication Minor
Terrorism Studies Minor

CERTIFICATES

Anthropology of Global Health Certificate
Behavioral Forensics Certificate
Civics Teaching Certificate
Diplomacy Certificate
Health Communication Certificate
Hispanic/Latino Media Certificate
Human Biology Certificate
Intelligence and National Security Certificate
Native American Studies Certificate
Politics of Race, Ethnicity, Gender, and
Identity Certificate
Public Relations in Sport Certificate
Strategic Communication Certificate

GRADUATE DEGREES

Anthropology MA
Big Data Analytics PhD
Big Data Analytics PhD, Statistics Track
Biology MS
Chemistry MS
Chemistry PhD
Clinical Psychology MA
Clinical Psychology PhD
Communication MA
Digital Media MA
Feature Film Production MFA
Forensic Science MS
Human Factors and Cognitive Psychology PhD
Industrial and Organizational Psychology MS
Industrial and Organizational Psychology PhD
Integrative and Conservation Biology PhD
Integrative Anthropological Sciences PhD
Interactive Entertainment MS
Mathematical Science MS
Mathematics PhD
Physics MS
Physics PhD
Political Science MA
Security Studies PhD
Sociology PhD
Sociology, Applied MA
Statistics and Data Science MS
Strategic Communication PhD

ADMINISTRATION

Associate Deans

Enrique del Barco
Kerstin Hamann
Teresa Dorman

Chairs/Directors

Madeline Byrne
Human Resources Director

Seresa Cruz
Budget Director

Kyle Martin
*Interim Director, Marketing
and Communications*

Anthony Pomonis
Executive Director, Advancement

Lee Anne Kirkpatrick
Director, Undergraduate Services

Robert Littlefield
*Nicholson School of
Communication and Media*

Bruce Wilson
*Interim Director, School of
Politics, Security, and
International Affairs*

John Schultz
Department of Anthropology

Graham Worthy
Department of Biology

Michael Hampton
Department of Chemistry

Xin Li
Department of Mathematics

Joshua Colwell
Department of Physics

Florian Jentsch
Department of Psychology

Elizabeth Mustaine
Department of Sociology

Shunpu Zhang
*Department of Statistics
and Data Science*

James Bacchus
*Director of the Center
for Global Economic and
Environmental Opportunity*

Melissa Dagley
Director, iSTEM

Stephen Masyada
Director, Lou Frey Institute

Michael Sigman
*Director, National Center
for Forensic Science*

Deborah Beidel
Director, RESTORES

Kerstin Hamann
Interim Director, India Center





College of Sciences

12716 Pegasus Dr.
Orlando, FL 32816



Spring 2023 doctoral graduates pose for a photo outside the Student Union's mural.