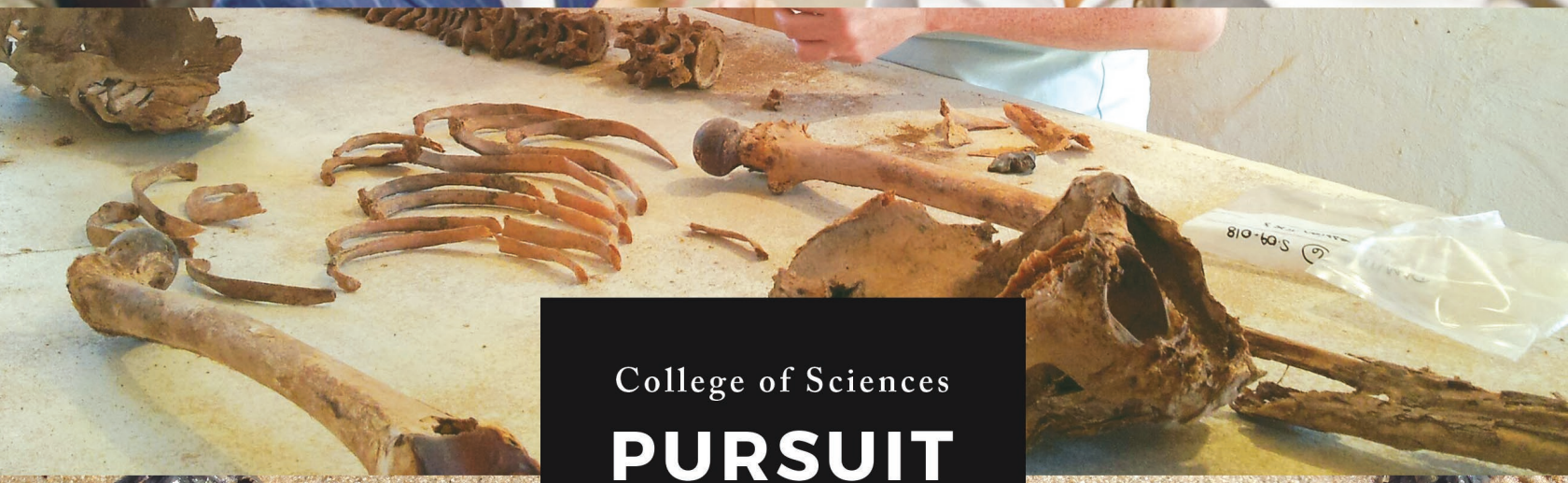
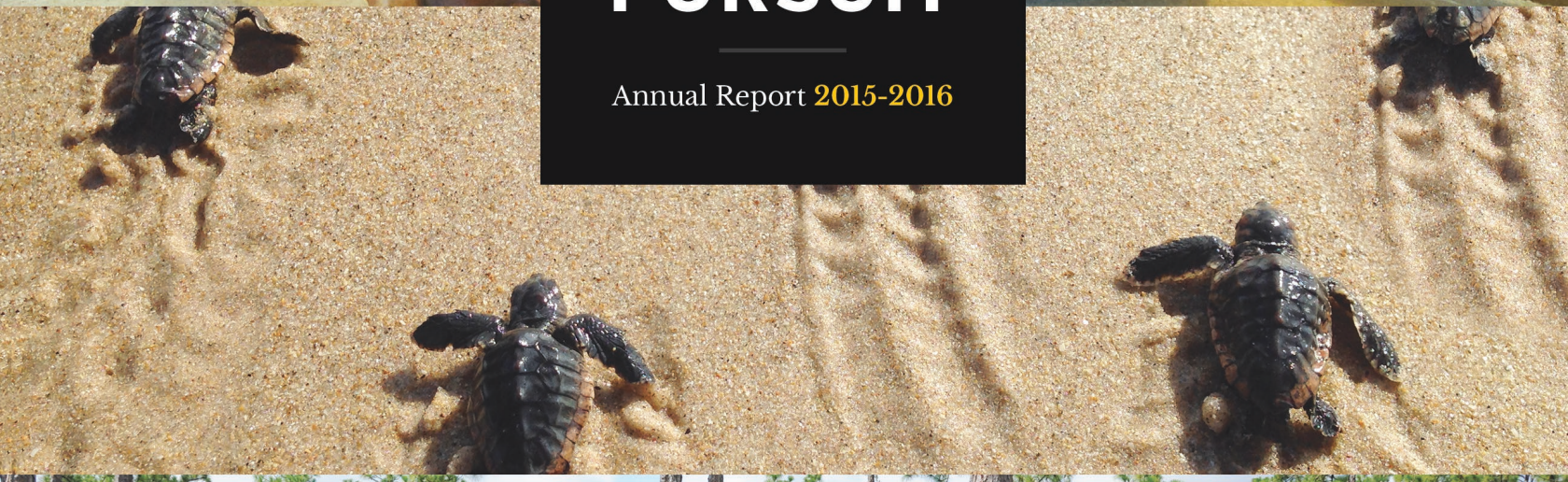


College of Sciences

PURSUIT

Annual Report 2015-2016



UCF

ACHIEVE • DISCOVER • PRESERVE • CONNECT

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PURSUIT is an annual publication of the UCF College of Sciences. Issues can be viewed at www.cos.ucf.edu/pursuit

UCF COLLEGE OF SCIENCES
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Orlando, FL 32816
www.cos.ucf.edu
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COLLEGE OF SCIENCES
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Arlen F. Chase, Ph.D., Associate Dean and Pegasus Professor
Teresa Dorman, Ph.D., Associate Dean
Florian Jentsch, Ph.D., Associate Dean

PUBLICATION PRODUCTION
Judy Froehlich, MBA, Assistant Director, Marketing & Communications
Julia Anderson, Marketing & Communications Coordinator
Nick Roman, Marketing & Communications Intern
Kristen Basco, Graphic Designer
Joshua Sweet, Graphic Designer

A MESSAGE FROM THE DEAN

Michael D. Johnson

The College of Sciences is comprised of programs that span the physical and social sciences, with topics from uncovering the mysteries of the natural world to understanding humans and the societies we form. As the largest college at the University of Central Florida, we are represented by our 11,000 students, 52,000 alumni, and 435 faculty and staff — people whose collective achievements make an impact throughout the university, community, nation and world. Our alumni have used their studies of the physical, biological, social, behavioral and computational sciences to let them enter every possible walk of life in every part of the world. The students we see today are embarking on this same adventure, and our goal is to continue providing them with the foundations needed for success in life.

The college emphasizes exploration, innovation and learning. We pursue research that is important for scientific understanding and for the common good. We engage students in making these new discoveries, and we bring the new knowledge into the classroom. Our goals for coming years are shaped by the needs of our students and the opportunities and obligations we see as one of America's leading research universities. Among our goals are improved academic and career success of students in all fields, offering more and better international experiences for students, recruitment of students from underrepresented groups into the sciences, expansion and strengthening of Ph.D. programs, recruitment and success of world-class faculty, and an increased national recognition of our quality and impact. Achieving these goals will take hard work from many people. Another key component will be increased fundraising, both annual giving and major gifts — support that very often determines whether we will be excellent and not merely adequate.

Throughout this report you will see examples of the wonderful work that results from pursuing the goals mentioned above. I invite you to explore the accomplishments and impact of our students, alumni and faculty throughout this year in review.

Michael D. Johnson, Ph.D.
Dean of the College of Sciences

2015-2016 DEAN'S ADVISORY BOARD
COLLEGE OF SCIENCES

University of Central Florida

The College of Sciences Dean's Advisory Board provides advice to the dean, helps connect the college to potential partners, and provides advocacy and support.

Ray Allen, *Director of Development, UCF College of Sciences*
Randy Berridge, *President, The Corridor*
Douglas Dew, *M.D., MBA '79, Co-Founder and CEO, Automated Clinical Guidelines, LLC*
Rober M. Easton Jr., *O.D., F.A.A.O., Optometric Physician, Easton Eye Care*
Andre Garcia, *Ph.D. '08, Northrop Grumman Corporation*
Steve Goldman, *CEO (retired), Distributed Processing Technology*
Gwen Griffin, *CEO, Griffin Communications Group*
Michael Griffin, *Vice President of Public Affairs at Adventist Health System, Florida Division*
George Gordon, *Executive Director, Healthbox*
Erik Halleus, *Director, Florida FIRST Robotics Education Foundation; Director, Marine Discovery Center; Siemens Retired*
Phil Inderwiesen, *Ph.D., Chevron Energy Technology Company, Retired*
Michael Johnson, *Ph.D., Dean of the UCF College of Sciences*
Les Kramer, *Ph.D., Vice President of Engineering and Manufacturing at TaiLor Made, LLC*
Roy Lassiter, *Retired Chairman of American Pioneer Title Insurance Company and current Chairman of the Lou Frey Institute at UCF.*
Anthony Nicholson, *Board Chairman, Florida Hospital Nicholson Center for Surgical Advancement*
Roger Pynn, *APR, CPRC; President and CEO, Curley & Pynn Public Relations & Marketing Communications*
James L. Rosengren, *Chairman of the Board and Executive Chairman, Heritage Health Solutions*
Marni Spence, *Tax Principal and CPA, Clifton Larson Allen, LLC*
Karen Thompson, *Center Chief Technologist, Kennedy Space Center*

New Professors

SCOTT BRANTING, Ph.D.
Assistant Professor

Specializations in the ancient Near East, geospatial science; directs the Kerkenes Dag Project in central Turkey

Anthropology

MICHAEL CALLAGHAN, Ph.D.
Assistant Professor

Mesoamerican complex societies; ancient Maya with emphasis on ceramic analysis

Anthropology

NEIL DUNCAN, Ph.D.
Assistant Professor

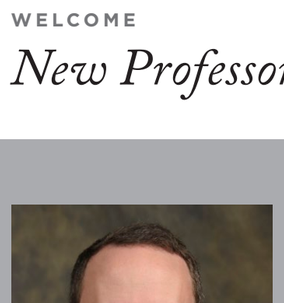
Interrelationships of humans and plants in prehistory

Anthropology

BRIGITTE KOVACEVICH, Ph.D.
Assistant Professor

Mesoamerican and household archaeology, stone tool analysis, gender roles and social identity in the past

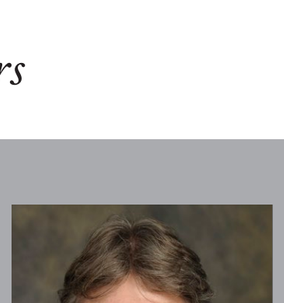
Anthropology



JOHN STARBUCK, Ph.D.
Assistant Professor

Human variation, anatomy and health

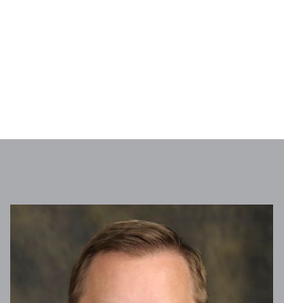
Anthropology



LISA CHAMBERS, Ph.D.
Assistant Professor

Biogeochemical cycling of elements in the environment that are vital for life

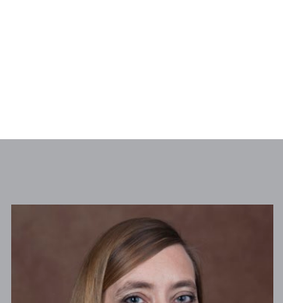
Biology



GEOFFREY COOK, Ph.D
Assistant Professor

Understanding factors influencing species inhabiting coastal marine ecosystems

Biology



BARBARA SHARANOWSKI, Ph.D.
Associate Professor

Understanding the phylogenetic and evolutionary history of parasitic wasps, particularly Braconidae

Biology

MELANIE BEAZLEY, Ph.D.
Assistant Professor

Fate and transport of contaminants in the environment to develop new methods for sustainable bioremediation

Chemistry

MATTHIEU BAUDELET, Ph.D.
Assistant Professor

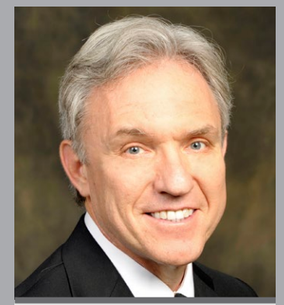
Laser-based spectroscopy for forensic analysis

Chemistry

DEANNA SELLNOW, Ph.D.
Professor

Instructional communication, including risk, crisis, health and education

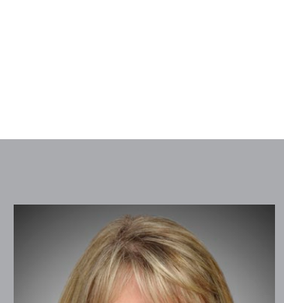
Communication



TIMOTHY SELLNOW, Ph.D.
Professor

Bioterrorism, pre-crisis planning and strategic communication for risk management in organizational and health settings

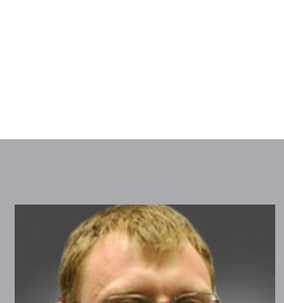
Communication



TENG ZHANG, Ph.D.
Assistant Professor

Applied and computational mathematics

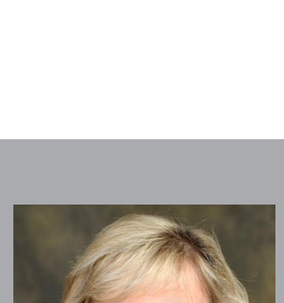
Math



LUCA ARGENTI, Ph.D.
Assistant Professor

Theoretical description of the electronic continuum of atoms and molecules

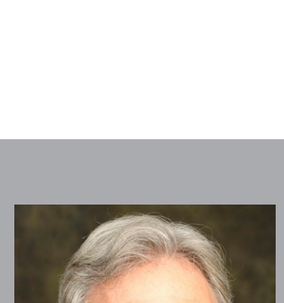
Physics



JACQUELYN CHINI, Ph.D.
Assistant Professor

Physics education research using scientific investigations to improve the teaching of physics

Physics



MICHAEL CHINI, Ph.D.
Assistant Professor

Ultrafast and strong-field laser interactions with solids, attosecond physics, coherent control

Physics

New Professors

JOSEPH DONOGHUE, Ph.D.
Associate Professor

Geology and geomorphology of coastal environments, climate change and sea-level change, and sedimentary processes

Physics

ADRIENNE DOVE, Ph.D.
Assistant Professor

Microgravity and laboratory research on dusty plasmas, collisions and planet formation

Physics

MADHAB NEUPANE, Ph.D.
Assistant Professor

Electronic and spin properties of new quantum materials

Physics

ANDREW BOUTTON, Ph.D.
Assistant Professor

Politics of counterterrorism, as well as the effects of foreign aid on the politics of the recipient country

Political Science

JOSEPH SCHMIDT, Ph.D.
Assistant Professor

Interaction of memory and attentional systems and how they affect our broader cognitive functions

Psychology

MINDY SHOSS, Ph.D.
Associate Professor

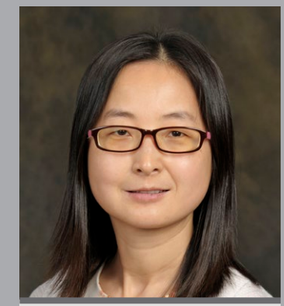
Industrial-Organizational Psychology: work stress, counterproductive work behavior and interpersonal interactions at work

Psychology

TIMOTHY HAWTHORNE, Ph.D.
Assistant Professor

Geographic information systems such as critical GIS, community geography, qualitative GIS, social inequalities, health geographies and drones

Sociology



YINGRU LI, Ph.D.
Assistant Professor

Socioeconomic inequality, health and health care disparities, childhood obesity and spatial temporal modeling

Sociology

GÜNEŞ MURAT TEZCÜR, Ph.D.
Jalal Talabani Kurdish Political Studies Endowed Chair, Associate Professor

Shaping political behavior in violent settings, the politics of Islamic movements and the geopolitics of the Middle East with a focus on the Kurdish question

Political Science

CERISSA BLANEY, Ph.D.
Clinical Assistant Professor

Integration of behavioral health into medical settings; training of medical and behavioral health providers for integrated care

Psychology

BRIAN FISAK, Ph.D
Associate Professor

Study of anxiety disorders; child anxiety prevention and cognitive variables related to anxiety in preschool-aged children

Psychology

NICHOLE LIGHTHALL, Ph.D.
Assistant Professor

Uses of behavioral experiments and functional brain imaging (fMRI) to determine how aging impacts decision making

Psychology

HSIN-HSIUNG HUANG, Ph.D.
Assistant Professor

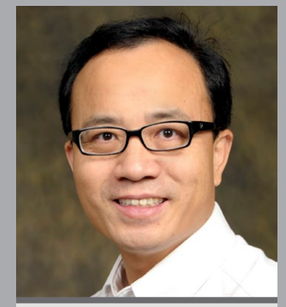
Variable selection, Bayesian cluster process, dimension reduction, statistical learning and biostatistics

Statistics

DAOJI LI, Ph.D.
Assistant Professor

Big data analytics, data mining, machine learning, and high dimensional statistical inference with applications to public health, business and engineering

Statistics



SHUNPU ZHANG, Ph.D.
Professor

Bayes and Empirical Bayes method for contaminated data, statistics ecology, bioinformatics, health informatics and big data analytics

Statistics

New Instructors, Lecturers & Visiting Faculty

SHANA HARRIS, Ph.D.
Visiting Lecturer

Health-related issues and policies within Latin America and United States

Anthropology

TIFFANY DOAN, Ph.D.
Lecturer

Study of reptiles, particularly lizards from Latin America

Biology

YULIA GERASIMOVA, Ph.D.
Visiting Assistant Professor

Biochemistry of catalytic nucleic acids; nucleic acid aptamers and applications for use

Chemistry

EMILY HEIDER, Ph.D.
Visiting Lecturer

Chemical education research; connections between abstract concepts and hands-on applications

Chemistry

TAMRA LEGRON-RODRIGUEZ, Ph.D.
Lecturer, Forensic Science Undergraduate Coordinator

Teaching focus includes forensic analysis of controlled substances

Chemistry

ERIN SAITTA, Ph.D.
Lecturer

Teaching focus includes chemistry fundamentals

Chemistry

DOUG BLEMKER
Instructor

Teaching focus includes advertising and public relations

Communication

JONATHAN CONWAY
Instructor and Director of Forensics

Organizational communications, communication in a team environment, speech and debate

Communication

ERICA RODRIGUEZ KIGHT, Ph.D.
Lecturer

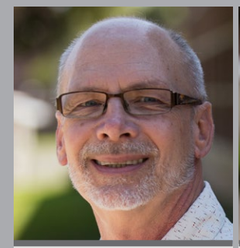
Media framing, news coverage of Hispanics in the U.S., health communication, and controversial news coverage

Communication

RENATA KOLODZIEJ-SMITH
Instructor

Organizational, small group and intercultural communication

Communication



JEFF KUNERTH
Visiting Instructor

Journalism, writing and reporting

Communication

ANDREA SCOTT, Ph.D.
Visting Lecturer

Human communication, family communication, research methods and public speaking

Communication

KEVIN SMITH, MFA
Lecturer

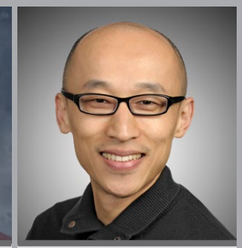
Teaching focus includes radio-television

Communication

ADAM LAMEE
Instructional Specialist

Formative assessment strategies and alternatives to large-scale, high-stakes science tests

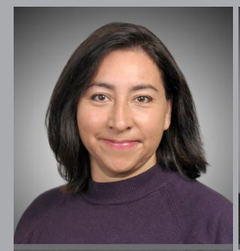
Physics



YUEHAI YANG, Ph.D.
Lecturer

Developing research-validated physics learning activities to involve students in scientific method training and practices

Physics



ANNABELLE CONROY, Ph.D.
Visiting Lecturer

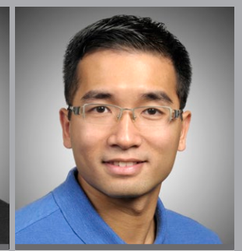
Latin American politics, rainforest conservation and its impact on indigenous people, comparative public policy

Political Science

CHRISTOPHER OLDS, Ph.D.
Visiting Assistant Professor

The causes and consequences of change in multiple characteristics of public remarks from the American president

Political Science



VU NGUYEN, Ph.D.
Instructor

Teaching focus includes basic statistics and statistical methods

Statistics

SUSTAINABLE

COASTAL SYSTEMS

Coastal regions are home to a large and growing proportion of the world's population and as a result are undergoing serious environmental decline. Pollution from industry, agriculture and urban areas is degrading the quality of much of the world's fresh water. The threats and challenges Florida faces are the same that coastal communities around the world face.

The Sustainable Coastal Systems Cluster at UCF will be one of the first in the nation to incorporate an interdisciplinary approach to ocean and coastal research by pairing faculty members across disciplines. This will provide science-based guidance to governments and developers on how to best manage the full range of biological and human impacts related to coastal development.

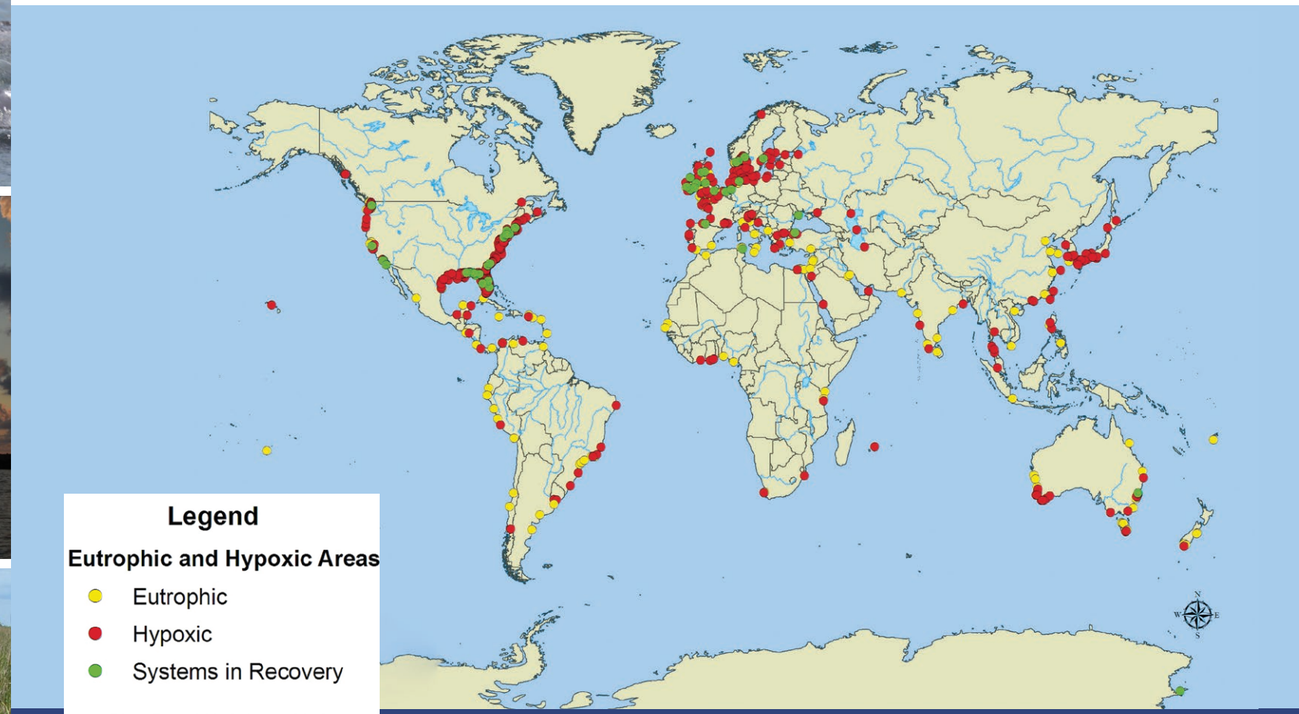
BIOLOGISTS,
BIOMEDICAL SCIENCES
CHEMISTS AND
ENGINEERS

⟷

ANTHROPOLOGISTS
ECONOMISTS
EMERGENCY MANAGERS
POLITICAL SCIENTISTS
PLANNERS
SOCIOLOGISTS

The solutions developed at UCF will have immediate application to other geographic locations, with the potential to be statewide and national models for how coastal states should address future environmental and economic challenges.

More information can be found at:
http://www.ucf.edu/faculty/cluster/sustainable-coastal-systems/



EUTROPHIC - Body of water supports a dense plant population, which kills animal life by depriving it of oxygen

HYPOXIC - Body of water is deprived of oxygen, and everything is dead

SYSTEMS IN RECOVERY - Steps are being taken to recover these areas

Deborah Beidel, Ph.D., poses with the C-SPAN mobile newsroom.

UCF

RESTORES

C-SPAN network's Campaign 2016 mobile newsroom visited UCF in November to broadcast an interview with psychology professor Deborah Beidel, Ph.D. The interview focused on her studies of anxiety, trauma and post-traumatic stress disorder (PTSD) and helped to promote UCF RESTORES clinic to an international audience. The visit by the 45-foot customized mobile studio was part of C-SPAN's Sunshine State Tour of Florida universities.

Dr. Beidel has been studying anxiety disorders for more than 30 years and opened UCF RESTORES clinic to help with the treatment of anxiety disorders and PTSD. The clinic operates in part through a grant with the Department of Defense, specifically the Army's Military Medicine Research Program.

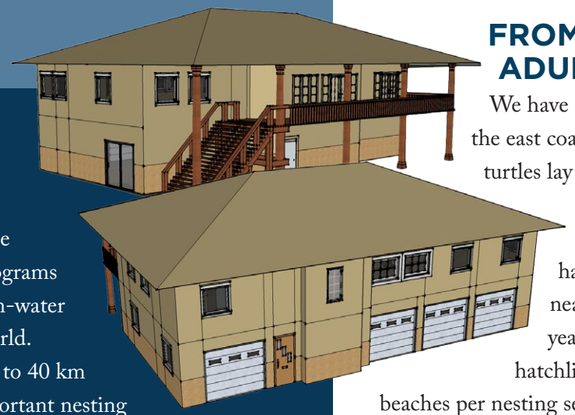
UCF RESTORES clinic is the only 3-week comprehensive treatment program in the nation. The program utilizes exposure therapy, through virtual reality, to place people back in the situation that caused their anxiety and teaches them how to deal with these situations in a positive manner.

Beidel, director of the university's doctoral program in clinical psychology and director of UCF RESTORES clinical research center, participated in the network's morning call-in program, "Washington Journal." During the segment, she discussed her studies and fielded questions from viewers around the country. UCF RESTORES is part of the Department of Psychology and stands for RESearch and Treatment On Response to Extreme Stressors.

UCF MARINE TURTLE RESEARCH GROUP

WHO WE ARE

The UCF Marine Turtle Research Group (MTRG) is a hardworking team of students and researchers, currently under the direction of Kate Mansfield, Ph.D. Their research guides managers in all levels of government and provides invaluable hands-on research opportunities for UCF students. The work of the MTRG led to the establishment of the Archie Carr National Wildlife Refuge in 1991.



HIGHLIGHTS

- UCF's Marine Turtle Research Group is one of the oldest sea turtle research programs and has one of the longest in-water research programs in the world.
- The MTRG monitors up to 40 km of coastline of the most important nesting beaches in the Western Hemisphere.
- Dr. Mansfield's innovative tracking work provided the first satellite tracks of baby turtles in the open ocean and contributed to post oil spill assessments of sea turtles in the Gulf of Mexico establishing UCF as a RESTORE Act Center of Excellence.

FUTURE INITIATIVES

NEW FACILITIES

- Construction of coastal research center
- Upgrading dormitory and training space
- Renovation of existing research facility

EDUCATIONAL ENDOWMENT

- Endowed chair for marine turtle research
- Post-doctoral fellowship support
- Graduate student scholarships
- Marine turtle education programing

LONG-TERM STABILITY

- Modernization of critical equipment
- Continuous support for field research

OUR RESEARCH

Our goal is to understand each stage of the sea turtle life cycle by conducting research across multiple life stages and study sites.

FROM EGG TO ADULTHOOD

We have studied sea turtle nesting along the east coast of Florida since 1982. Sea turtles lay more than 20,000 nests annually at our study site in southern Brevard County. As the program has grown, our researchers now tag nearly 1,000 nesting females each year. We estimate that millions of hatchlings reach the ocean from our beaches per nesting season.

THE LOST YEARS

After entering the ocean, young sea turtles swim far offshore and begin a life stage often called the "lost years." Dr. Kate Mansfield was the first to use satellite tags to track the movements of these mysterious young turtles, but much is still unknown. The MTRG continues this cutting edge research to answer where oceanic juveniles live during the lost years with ongoing offshore research efforts to track little turtles in the Gulf of Mexico, South Atlantic and Indian Ocean.

COASTAL JUVENILES

Several years into their lives, young sea turtles migrate to coastal habitats. We capture and collect data on these larger "teenage" juvenile turtles at multiple shallow-water locations to learn more about these turtles' foraging behavior and health.

UCF EXPERIMENT

Makes History

IMAGE COURTESY OF BLUE ORIGIN

From left to right: Julie Brisset, Ph.D. (post-doctoral research associate); William Santos; Alexandra Yates; Professor Joshua Colwell, Ph.D.

IMAGE COURTESY OF BLUE ORIGIN

After six years of planning, building and fine-tuning, Professor Joshua Colwell, Ph.D., celebrated with fellow scientists at Blue Origin's West Texas Launch Site this April after they watched the launch and return of Blue Origin's New Shepard space vehicle eleven minutes later (https://www.blueorigin.com).

Colwell was competitively selected in 2009 to be among the first researchers worldwide to build experiments for flight aboard the commercial space company's new spacecraft. Since then, Colwell has worked with Addie Dove, Ph.D.; Julie Brisset, Ph.D.; and a team of students on a project aimed at shedding light on how small particles build up to form the building blocks of planets.

This payload was part of Blue Origin's Pathfinder Payloads program, demonstrating the integration and operation of scientific experiments during untended test flights of the New Shepard system to high altitudes.

In November, Blue Origin's New Shepard rocket became the first to fly to space and return to Earth via vertical landing. Less than two months later, the very same rocket launched and landed again, demonstrating reuse — a key enabler to a future in which millions of people are living and working in space.

"We have been waiting for this day for a long time," Colwell said. "A lot of talented students have helped make this happen. I'm just thrilled that we're going to get data back immediately after flight and get a look at the strange behavior of dust in a microgravity space environment."

INTELLIGENCE COMMUNITY

Center For Academic Excellence

Following a grant from the Defense Intelligence Agency, UCF was selected to be one of only a handful of universities to host a dedicated Intelligence Community Center for Academic Excellence (IC CAE). The University is currently a top choice for students seeking opportunities in fields related to intelligence, and the Center now offers an undergraduate minor and a graduate certificate while also supporting UCF's unique Ph.D. in security studies.

In its second year, UCF's IC CAE has solidified its place as an excellent resource for students from all majors to engage with the intelligence, cyber-security and national defense agencies. It attracts students looking to experience the world via study-abroad scholarships, such as those to China, Morocco, Austria and Spain. For active students, the IC CAE is a constant source of speakers and workshops, and this year's events ranged from informative panels on career opportunities to a hands-on data analysis simulation arranged by the CIA.

Life and Careers in the Intelligence Community was hosted in November with a panel of experts from five branches of the Intelligence Community — each speaking about their agency's objectives as well as how they found their individual careers. Approximately 120 students attended this seminar and a follow-up Q&A.

In April 2016, the IC CAE and its partners in the Central Intelligence Agency hosted a simulation event for a select group of students. In this scenario, four teams of student analysts were presented with raw data in a hypothetical national security situation to experience the challenges involved in analyzing and presenting key intelligence. In conjunction, the CIA held another event in which students were given the opportunity to receive one-on-one counseling from a CIA analyst ahead of a career event.

Many of the panels and speaker series events hosted by the IC CAE are open to all students, and its website encourages applications for its study-abroad program. www.politicalscience.cos.ucf.edu/iccae

THE DAWN OF

Big Data

BIG DATA WIN

UCF Mathematics lecturer and SAS Data Mining Certificate student Aaron Smith, Ph.D., was awarded first place in the 2016 EverBank Cup Contest. Dr. Smith received his award at the Big Data Analytics Symposium at UCF in March.

The 4th annual EverBank Cup Contest recognizes outstanding achievement in data mining and analytics made by Florida higher education students. This year, more than 30 students from Florida colleges and universities submitted entries. Kimberly Cooper, EverBank Assistant Vice President of Marketing and Client Analytics, presented the award to the winners.

Dr. Smith's project was "Using Word Stems to Categorize Websites." He used web crawl software and text mining techniques as an efficient way to simultaneously find multiple desirable clients, and to determine which type of financial ventures they would be receptive to.

" The future of data science is in unstructured data. The EverBank competition is a good example of how innovative solutions require strong math skills. "

- Aaron Smith, Ph.D.

STATISTICS AND BIG DATA

In March, the UCF Statistics Department hosted their 6th annual Big Data Analytics Symposium, in which professionals within the field spoke to students about analytics, statistics and more. The symposium is held every year to give students the opportunity to meet local business partners and have the chance to network, find full-time jobs and summer internships.

More than 20 business partners were in attendance at this year's symposium, including: Florida Blue, CitiGroup, JISC Inc., ICube, SAS, Johnson & Johnson, Orange County Public Schools, Acer Innovation, Electronic Arts, Equifax, JM Family Family Enterprises Inc., Disney, Universal Studios, UnitedHealth Group, Valencia College and Florida Atlantic University, to name a few.

Statistics professor and Director of Data Mining Morgan Wang, Ph.D., was in charge of organizing the symposium and was very pleased with the outcome of the event.

KURDISH

Political Studies

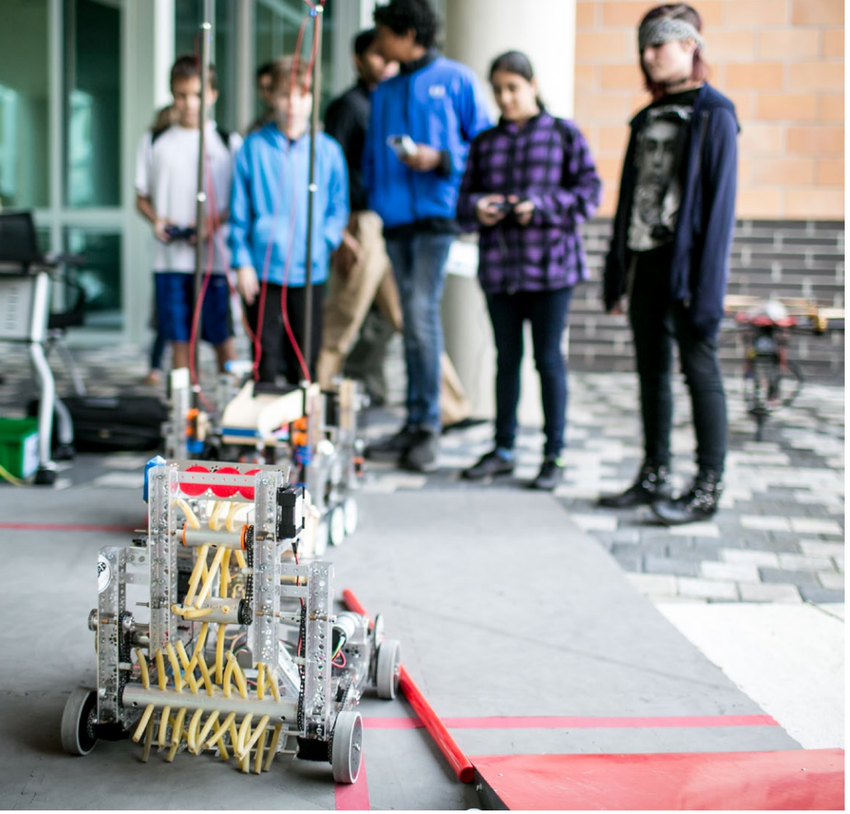
PROGRAM

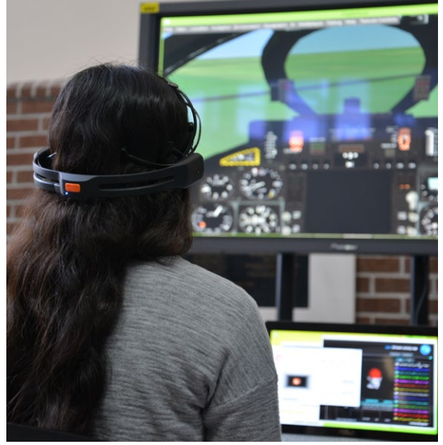
The Kurdish Political Studies Program is supported by the Jalal Talabani Endowed Chair of Kurdish Political Studies, the only position of its kind in the country. The program is the first academic program dedicated to the study of politics of Kurds and Kurdistan in the United States. The program promotes academic studies and public awareness of Kurdish politics, organizes events addressing contemporary issues affecting Kurdish people, facilitates exchanges and collaborations between UCF and Kurdish universities, and develops curricula focusing on themes related to the Kurdish experience

The endowed chair was established by a donation led by Najmaldin Karim, M.D., a neurosurgeon, who is also the Governor of Kirkuk, Republic of Iraq, and president of the Washington Kurdish Institute, a nonprofit center dedicated to research and education of Kurdish people worldwide.

The first and current chair of the program, Güneş Murat Tezcür, Ph.D., was inaugurated in October, 2015. The mission of the chair includes teaching, research and scholarly pursuits centering on Kurdish Political Studies, and further developing recognized excellence in that field. The chair is also responsible for facilitating fellowships, distinguished visitors, public forums, courses, workshops and other offerings that objectively present and discuss policies and conditions affecting the security, peace and democratic governance of the Kurdish people.

From left to right: Michael Johnson, Ph.D. (right), Dean of the UCF College of Sciences; Güneş Murat Tezcür, Ph.D.





INITIATIVES IN STEM

STEM DAY 2015

The Center for Initiatives in STEM (iSTEM) hosted more than 3,000 students for UCF's bi-annual STEM Day. STEM Day is a free outreach event for K-12 students interested in learning more about the study of science, technology, engineering and mathematics.

The fall event, co-hosted by the Astronaut Scholarship Foundation, began with three separate opening sessions led by former astronauts.

The spring STEM Day, held in conjunction with the Burnett Honors College, included participation from NASA and Lockheed Martin. This time, the event focused on bringing in Title I students for a day of science exploration. Title I students come from low-income and underprivileged areas within the Orlando area.

STEM SUMMER INSTITUTE

The summer institute, co-sponsored by the UCF Arboretum, consists of intensive programs for gifted and high-achieving students who have an interest in learning the foundations of computer science, biology, physics or advancing skills in competitive programming.

Biology Field Institute

The Biology Field Institute, sponsored by the UCF Arboretum, is a one-week program for high school juniors and seniors interested in seeking further understanding of Central Florida's diverse ecosystems.

Summer 2015 was the first time a science program of this type was offered for students, and a total of 14 students participated. The program introduced students to field techniques and provided great hands-on experience with professional biologists. It culminated in an overnight coastal field trip alongside an experienced biologist to learn about nesting sea turtles.

The Summer 2016's Biology Field Institute will run from July 18-22.

Physics Program

Summer 2016 will be the first time that UCF iSTEM hosts a physics program. The program will run for one week, July 25-29, and will focus on middle school aged students. Students will explore the subject of water from the perspective of physics, chemistry, biology, engineering, mathematics and other disciplines.

GIS CLUSTER

Initiative

SCOTT BRANTING, Ph.D.
Department of Anthropology

TIMOTHY HAWTHORNE, Ph.D.
Department of Sociology

YINGRU LI, Ph.D.
Department of Sociology

In the fall of 2015, Scott Branting, Ph.D.;Timothy Hawthorne, Ph.D.; and Yingru Li, Ph.D. , joined UCF's Geographical Informational Systems (GIS) Cluster. GIS is a powerful information system that improves our ability to collect, store, retrieve, manage, analyze and report information on the earth's surface, and to integrate it with economic, social, environmental and ecological information.

Geographic Information Systems are the most prominent form of geospatial technology.

GIS technology offers a gateway for students and the general public to delve more deeply into the most complex social and environmental issues of our time while understanding connections across multiple geographic scales.

A new research experience is being offered to undergraduate students through the GIS Cluster Initiative. It is led by Timothy Hawthorne, Ph.D., REU Principal Investigator, working together with Christy Visaggi, Ph.D., REU Co-Principal Investigator and Lecturer of Geosciences at Georgia State University.

This paid research experience will host eight outstanding undergraduate students from across the country in summer 2016. The students will spend two weeks in Orlando, Florida, and five weeks in Belize. Students will collaborate on two research tracks, studying mapping disparities in flooding and disaster management and mapping marine debris and mitigating impacts on coastal communities.

The REU will emphasize community-based research while also preparing students for future academic and non-academic careers in GIS, geospatial technologies, geography, geosciences, sociology, education, community development, public health and land use planning.

COLLEGE OF SCIENCES

TURNS 10

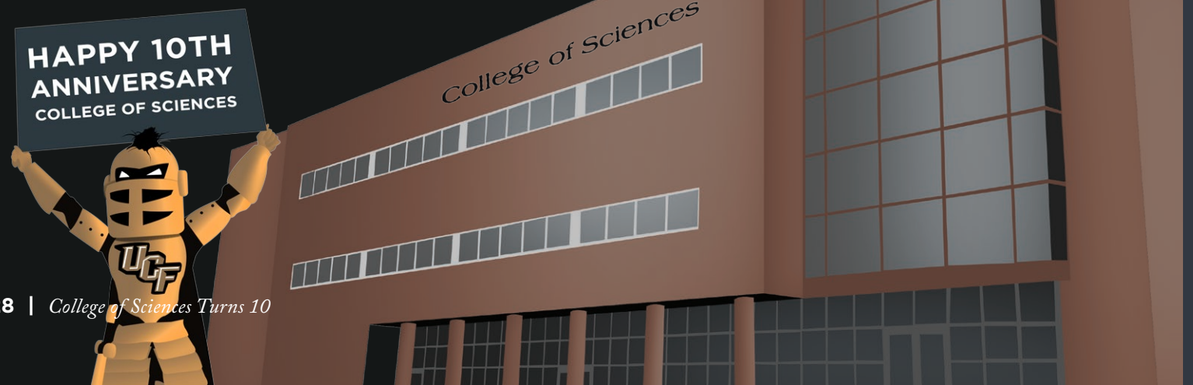
Ten years is not a long time compared to the University of Central Florida's 53 years. However, in the past ten years the College of Sciences has grown significantly in enrollment; undergraduate and graduate programs; majors; partnerships; and overall opportunities for students, alumni and faculty.

The UCF College of Sciences is the largest college on campus with more than 11,000 students. The college is very diverse, with nine departments and one school spanning the natural and physical sciences. College of Sciences students study everything from anthropology to communication to physics and all in between.

This past October marked 10 years since the UCF College of Arts and Sciences was divided into the College of Arts and Humanities and the College of Sciences.

In honor of its anniversary, the UCF College of Sciences celebrated with the #COSTurns10 social media campaign, which encouraged online engagement utilizing the hashtag #COSTurns10.

On October 30, 2015, the UCF College of Sciences hosted an on-campus event, bringing together its faculty and staff to celebrate the accomplishments and unity of the college.



Distinguished SPEAKER SERIES

Each year, the College of Sciences presents a Distinguished Speaker Series. The series brings renowned speakers from across the country to enrich the lives of students, faculty, alumni and the community. Our speakers address topics relevant to the natural, computational, social or behavioral sciences and to the societal implication of developments in these fields.

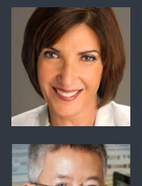
This year's series included seven talks, beginning in September 2015 and concluding in April 2016. The talks were held at a new venue, Cevíche Tapas Orlando, located in downtown Orlando. Prior to the start of each talk, guests had the opportunity to mingle with the speaker and other attendees, and order food and drink.

The 2016-17 Distinguished Speaker Series will be announced soon.

Check back at **www.sciences.ucf.edu/dss** for updated information on the upcoming series.

2015-2016 DSS SERIES

A Digital Revolution: Archeology from Space
Dr. Sarah Parcak
Associate Professor of Anthropology, University of Alabama at Birmingham

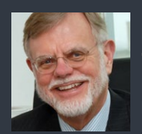


Examining Post-Traumatic Stress Disorder
Dr. Deborah Beidel
Pegasus Professor of Psychology & Medical Evaluation, University of Central Florida

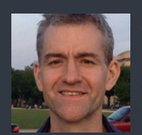
Mathematics for Continuum Phenomena
Dr. Qiang Du
Fu Foundation Professor of Applied Mathematics, Columbia University

Earth Abundant Materials for Solar Energy Conservation
Dr. Giulia Galli
Liew Family Professor, Institute for Molecular Engineering, University of Chicago

Understanding Violence Against Women in Rural Communities
Dr. Walter DeKeseredy
Professor of Sociology and Anna Deane Carlson, Endowed Chair of Social Sciences, University of West Virginia



Is America Heading Again Toward Isolationism?
Dr. Henry Nau
Professor of Political Science and International Affairs, George Washington University



The Electric Amazon
Dr. Will Crampton
Associate Professor of Biology, University of Central Florida

COS ALUMNI

U-Knight

The College of Sciences aims to better connect with its vast alumni network. As the largest college at the University of Central Florida, the college's 52,000 alumni are a diverse set of individuals spread throughout the globe. The 2015-16 year provided several opportunities to reconnect some of the college's alumni with their alma mater.

KNIGHT AT THE MUSEUM

In the fall of 2015, UCF alumni and friends reconnected with their alma mater for a "Knight at the Museum" in San Diego, California. Dean of the UCF College of Sciences Michael Johnson, Ph.D., was in attendance along with UCF Pegasus Professors and ancient Maya experts Arlen and Diane Chase, Ph.D., who led the group of alumni through the exhibit, Maya: Hidden Worlds Revealed, at the San Diego Natural History Museum.

Arlen and Diane heavily consulted on the exhibit and continue to lead excavations in Caracol, Belize.

CHICAGO ALUMKNIGHTS

Joan McCain of the UCF Nicholson School of Communication led a group of Ad/PR students to Chicago for a spring break trip. During their tour of PR opportunities in the area, they met up with UCF alumni living in the area for a night of networking and mentorship.

BUSINESS, ENGINEERING AND SCIENCES ALUMNI NETWORKING KNIGHT

The College of Sciences, College of Business, and College of Engineering and Computer Science kicked off 2016 with a joint alumni networking event in downtown Orlando. The black and gold pride energized the room during this successful networking event.

UCF College of Sciences

OUTSTANDING *AlumKnights* 2016

The College of Sciences alumni chapter hosted the second annual Outstanding AlumKnights awards reception.

Ten alumni, one representing each department and school within the college, are nominated based on distinguished professional achievement, exceptional community service in support of the university and a reflection of the college's mission.

THE 2016 ALUMNI HONOREES INCLUDE:

Anthropology | **Amanda Groff,** Ph.D., '03, '05, '07, lecturer, UCF Department of Anthropology

Biology | **David Breininger**, Ph.D., '09, wildlife biologist, Kennedy Space Center Ecology Program

Chemistry | **Robert DeVor**, Ph.D., '03, '08, principal investigator, Vencore Inc.

Nicholson School of Communication | **Marci Gonzalez**, '05, reporter, ABC Affiliate in New York

Mathematics | **Robert Muise**, Ph.D., '88, '90, '03, senior staff systems engineer, Lockheed Martin

Physics | **Howard Bender III**, Ph.D., '97, '98, R&D program manager, National Security Technologies, LLC

Political Science | **Carol Lawrence**, J.D., '71, attorney at law, Carolyn J. B. Lawrence, P.A.

Psychology | **Diane Robinson**, Ph.D., '06, '10, program director, UF Health Cancer Center

Sociology | **Monica Mendez**, Ph.D., '02, '08, executive director, Dress for Success Pittsburgh

Statistics | **Tiffany Wills**, '06, assistant vice president, actuary, Hannover Life Reassurance Company

Thank You!

TO OUR COS DONORS

CAROLYN EULIANO ENDOWED SCHOLARSHIP IN MATHEMATICS

Women are vastly underrepresented in STEM jobs and among STEM degree holders, despite making up nearly half of the U.S. workforce and half of the college-educated workforce. Carolyn Euliano recognizes this crisis and is an advocate for change.

Carolyn and her husband Neil Euliano, Ph.D., believe it is important for women to be present in the STEM field and have created an Endowed Scholarship at UCF to make it happen.

The Euliano's entered an agreement with UCF, making a charitable gift for $250,000 to create the Carolyn Euliano endowed scholarship in Mathematics. This scholarship will help fund education expenses for women majoring in Mathematics at UCF.

Carolyn wants this endowed scholarship to encourage women to stay in the math department and continue with their mathematical studies.

Teachers inspired me to continue on my path in Mathematics, and I want to inspire other girls to reach for their goals ... [and] let them know that they can do math too." explained Carolyn, who majored in mathematics at Mercy Hurst University in Erie, Pennsylvania.

Carolyn Euliano poses with Xin Li, Ph.D. (left), Chair of the Mathematics Department and Michael Johnson, Ph.D. (right), Dean of the UCF College of Sciences.

Carolyn Euliano poses with members of her family.

From left to right: *James Euliano (son), Julie Euliano (daughter in-law) and John Euliano (son).*

From left to right: Juliann Hickey, Clay Scherer

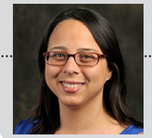
PROFESSOR WALTER K. TAYLOR ENDOWED SCHOLARSHIP IN NATURAL HISTORY

In 2015, Clay Scherer, '94, and Juliann Hickey, '95, made a charitable gift to the UCF Department of Biology in the form of an endowed scholarship fund. The scholarship will provide annual awards to students enrolled in the College of Sciences majoring in biology. The scholarship endowment, in the amount of $26,000, is established in honor of emeritus biology professor Walter K. Taylor, Ph.D.

Emeritus Professor Taylor's early research focused on avian biology, specifically studying the great crested flycatcher. More recently, his studies have focused on Florida wildflowers, especially their distributions, identifications and conservation. He is also an advocate in the conservation of Florida's ecosystems, including the land, water and inhabitants of all natural communities.

JOHN STARBUCK, Ph.D.
Central Florida

JOHN SCHULTZ, Ph.D.
Central Florida



BEATRIZ REYES-FOSTER, Ph.D.
Central Florida, Yucatán, Mexico

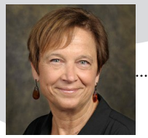
SARAH BARBER, Ph.D.
Oaxaca, Mexico

MICHAEL CALLAGHAN, Ph.D.
Guatemala (site of Holtun)

BRIGITTE KOVACEVICH, Ph.D.
Guatemala (site of Holtun)

J. MARLA TOYNE, Ph.D.
Peru (site of Chachapoya)

ARLEN CHASE, Ph.D.
Belize (site of Caracol)



DIANE CHASE, Ph.D.
Belize (site of Caracol)

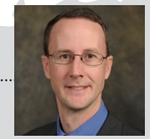
PETER SINELLI, Ph.D.
Bahamas, Greater Antilles

NEIL DUNCAN, Ph.D.
Columbia, Ecuador, Peru, China

JOHN WALKER, Ph.D.
Bolivian Amazon
(site of Llanos de Mojos)

SHANA HARRIS, Ph.D.
Argentina

JOANNA MISHTAL, Ph.D.
Poland, Ireland

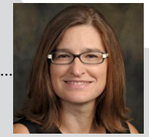


SCOTT BRANTING, Ph.D.
Central Turkey (site of Kerkenes Dag)

AMANDA GROFF, Ph.D.
Egypt (sites of Dakhleh Oasis and El Hesa)

LANA WILLIAMS, Ph.D.
Egypt (sites of Dakhleh Oasis and Barsha),
Belize, Mongolia

TOSHA DUPRAS, Ph.D.
Egypt (sites of Dakhleh Oasis and Barsha), Sudan (Sai Island)



SANDRA WHEELER, Ph.D.
Egypt (site of Dakhleh Oasis), Belize

TY MATEJOWSKY, Ph.D.
Philippines

VANCE GEIGER, Ph.D.
Southeast Asia, Cambodia,
Papua New Guinea

WHERE IN THE **WORLD** ARE **UCF** *Anthropologists?*

ANTHROPOLOGY

ARCHEOLOGISTS DIG UP SUPPORT FOR AUTISM

The UCF Department of Anthropology took part in the second annual Archeologists for Autism event held at the historic Sam's House on Pine Island in Merritt Island, Florida. Faculty and graduate students spent a fun-filled day with autistic children and their families, providing them with hands-on archeological experiences.

Archaeologists for Autism is a nonprofit organization that allows children on the autism spectrum to participate with and engage in archaeology in a safe, fun and experiential manner. Archeologists for Autism's mission is to unlock the potential of children with developmental disabilities. They work to provide children with autism spectrum disorders a chance to experience archeology in a fun, low-stress environment, all at no cost to the families.

Leading the group were four faculty members, Sandra Wheeler, Ph.D.; Stacy Barber, Ph.D.; Marla Toyne, Ph.D.; John Starbuck, Ph.D.; sixteen graduate students; four undergraduate students; and several UCF alumni.

Tom Penders, an archeologist for Cape Canaveral and founder of Archeologists for Autism, stated, "In my 31 years of doing archaeology, the graduate students are some of the finest young men and women I have worked with. I couldn't do what I do without them."

DEPLOYING TECHNOLOGY TO RESCUE THE PAST

Dr. Branting and fellow scholars Kirk Johnson, Ph.D., and Salam Al Kuntar, Ph.D., are utilizing technology such as satellites, drones and 3D imaging to help minimize the impact of plans that ISIS and groups like them have to eradicate aspects of built cultural heritage throughout the world.

During the past year, Dr. Branting was the Director of Geospatial Initiatives for the American Schools of Oriental Research (ASOR), working on the Cultural Heritage Initiatives collaborative agreement between the U.S. Department of State and ASOR.

The ongoing project is designed to monitor and eventually help mitigate and, where possible, assist in repairing damage to cultural heritage monuments, sites and infrastructure in Syria and Islamic State controlled portions of Iraq. Portions of this project are being undertaken within GIS facilities and servers here at UCF.

BIOLOGY

ELEPHANTS AND BEES

For the past 6 months, UCF Biology student Matthew Rudolph has been working in Kenya, Africa, with elephants and beehives. He has been learning how to construct a beehive fence, which is being used as a natural method to deter crop raiding elephants from entering the farms.

The project Matthew has been working on is the "Elephants and Bees" project, which is overseen by NGO Save the Elephants. His specific project deals with the human-elephant conflict and ensuring that people and elephants can coexist when pressured with habitat loss.

Some of their daily activities include tracking elephants through the bush for long-term monitoring, collecting data on the beehive fences, harvesting and production of elephant-friendly honey, building camera trap databases to identify individual animals, and supporting the local school through environmental education classes and implementation of a one-acre permaculture display garden.

"This is also the only project I found where scientists were living on the front lines of Human-Wildlife-Conflict. Our community participants are not numbers on a page, they are co-workers, friends, family out here."

- Matthew Rudolph

SAVAGE WORLD FOR FROGS

Anna Savage, Ph.D., has had a fascination with frogs since she began catching them in her backyard as a child. She has taken her fascination to the next level as a UCF biologist trying to figure out why they are dying at an unprecedented rate around the world.

In her most recent research publication, published in the journal Proceedings of the Royal Society B, she suggests that natural selection and other evolutionary forces have shaped the evolution of immune genes in leopard frog populations, helping them survive a deadly fungus.

"Our focus is trying to understand how the frog genome interacts with environmental variables like temperature that lead to either susceptibility or resistance to the Bd fungus," she said. Bd has been linked to the decline and even extinction of various frog species throughout the world. Through her field-based work in Florida, she will tty to establish a pattern because she is certain that the pathogen is there. Her team is trying to establish if there are seasonal patterns of the infection as well.

IMAGE BG COURTESY OF DENNIS CALDWELL

CHEMISTRY

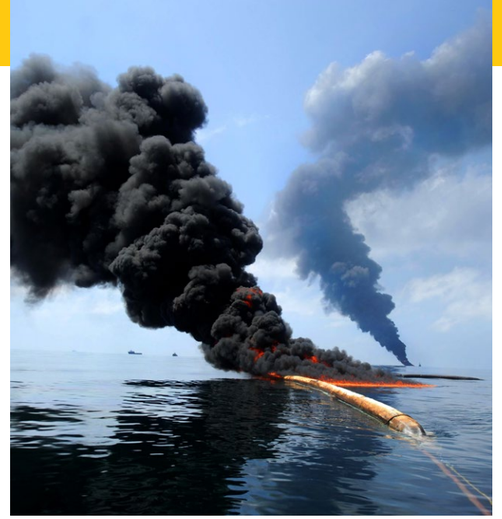
RESEARCH SHEDS NEW LIGHT ON BP OIL SPILL

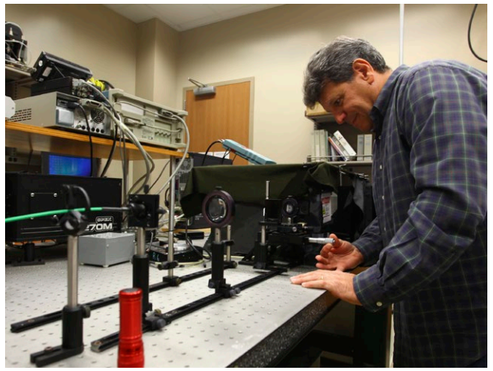
The Gulf of Mexico Research Initiative awarded Andres Campiglia, Ph.D., and his fellow department of chemistry faculty members, James Harper, Ph.D., and Fernando Uribe-Romo, Ph.D., a $1.5 million grant.

The grant will help to shed new light on undetected pollution lurking beneath the seafloor caused by the effects of the Deepwater Horizon oil spill on the Gulf of Mexico six years ago.

While the visible evidence of the spill is largely gone, some of the chemicals released in the spill still linger. These chemicals are known as polycyclic aromatic hydrocarbons (PAHs), and they are classified as hazardous because they can cause genetic mutations and cancer in organisms that come into contact with them.

Thanks to research he began a decade ago, Campiglia now has the ability to detect these "forgotten PAHs."





AN OUTSTANDING FOUR YEARS

Lauren Gandy, majoring in Forensic Science on the Biochemistry track, was honored as the Outstanding Four-Year College Student by the Orlando Section of the American Chemical Society in December.

She was nominated by Candice Bridge, Ph.D., with whom she conducts independent research, and Stephen M. Keubler, Ph.D., for her dynamic and productive personality, as well as her outstanding work as a scholar serving UCF and the community through extensive education outreach.

The award recognizes undergraduate students within the Brevard, Lake, Orange, Osceola, Seminole, Sumter and Volusia counties who excelled in their chemistry courses, research and extracurricular activities.

NICHOLSON SCHOOL OF COMMUNICATION

NSC APPOINTS NEW DIRECTOR

Robert S. Littlefield, Ph.D., will become the next director of the UCF Nicholson School of Communication (NSC) in August 2016. Dr. Littlefield comes to UCF from North Dakota State University.

Dr. Littlefield is a highly regarded scholar of crisis and risk communication, having published more than 100 articles and six books. Littlefield's professional service includes offices in organizations as Central States Communication Association, American Forensic Association and National Speech and Debate Association. He served as editor and on editorial boards of Communication Studies, Journal of Applied Communication Research and many others.

"I am very excited about joining the amazing faculty and staff in the Nicholson School of Communication ... when I arrived for the interview process, I felt right at home."

-Robert L. Littlefield

NICHOLSON STUDENT MEDIA

The Nicholson School of Communication recently launched the news website NSM.today. The website is operated solely by radio-television and journalism students and provides current UCF news by UCF students. As part of the Senior Capstone class, journalism students will serve as editors, managing, creating and publishing content.

The launch of the site took more than a year but was made possible through the efforts of journalism instructor Lance Speere, who served as adviser for the project. This new innovative site will create a more converged atmosphere for students and allow for a newsroom environment to take place via the news operation sharing content generated from the reporting classes.

"NSM Today is a tremendous step forward for the journalism program in that it turns all our students into members of a working newsroom, " said Nicholson's Journalism Area Coordinator, Steve J. Collins, Ph.D.

NSM.today
NICHOLSON STUDENT MEDIA

MATHEMATICS

EXCELLENCE IN STUDENT TEACHING

Arielle Guadiello, UCF Mathematics Graduate Teaching Assistant, was chosen to receive the 2015-2016 university award for Excellence in Graduate Student Teaching. This award recognizes Arielle's teaching ability and her exceptional academic contribution.

Arielle started graduate school in fall 2013, where she worked in the Mathematics Assistance and Learning Lab (MALL), and in fall 2014, she began working for the EXCEL and COMPASS programs. She has been teaching her own courses for a year now, in subjects including Calculus II, College Algebra and Mathematics for Calculus.

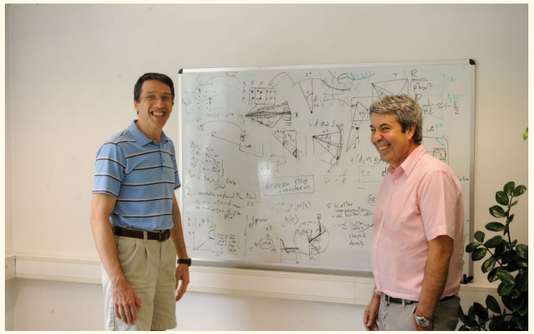
Arielle also won a Teaching Excellence Award in the fall and was selected to be a mentor for the L.E.A.R.N. Program through the Office of Undergraduate Research. She is currently enrolled in the Mathematics Ph.D. Program and plans to graduate summer 2018. "After graduation I would like to become a professor at a college or university. I absolutely want to focus on teaching and then continue researching on the side."

"I'm truly honored to be receiving this award. Mathematics is such a beautiful subject, and I love having the opportunity to reveal that beauty to the next generation."

- Arielle Guadiello

WORLD RENOWNED PRIZE

UCF professor of mathematics Alexander Katsevich, Ph.D., recently won the highest prize in the world in the field of forestry, the 2016 Marcus Wallenberg Prize. The main focus of the prize is cultivating the sustainable use of renewable forest resources to serve society. The award recognizes path-breaking scientific achievements that contribute to broadening knowledge and technical development within the fields of forestry, such as efficiency, cost improvements and the underlying research.



Dr. Alexander Katsevich, who also serves as the Chief Technology Officer of iTomography Corp., a company he co-founded, and his co-laureate Dr. Federico Giudiceandrea, the CEO of Microtec (Italy), developed a high-speed X-ray based computed tomography (CT) scanner for whole tree logs. The scanner is used to identify knots, cracks and rot in tree logs and can increase the value of the sawn products by at least 10 percent. Wood industries in the U.S., Chile, Germany and France have invested in the Microtec CT Log scanner to make the most of the resource.

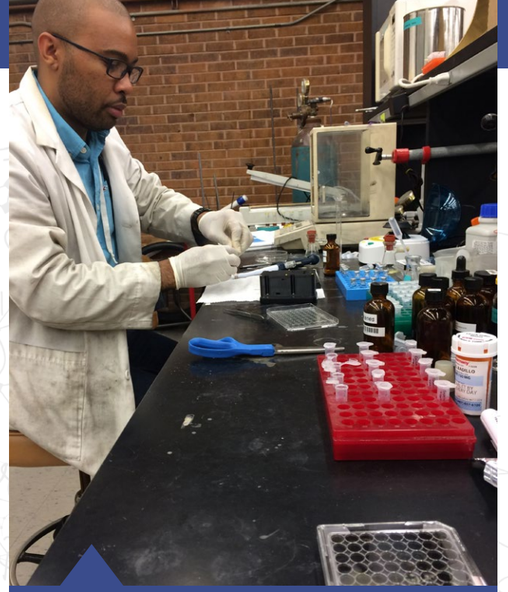
Dr. Katsevich and Dr. Giudiceandrea will receive the award from the King of Sweden at the Marcus Wallenberg Prize Event in October 2016.

PHYSICS

INNOVATIVE SUBSTANCE ABUSE TEST

Ph.D. student David Nash recently received the National Institute of Justice graduate Research Fellowship award. David Nash is the first UCF student to receive such an award and currently works in the research lab of Richard Blair, Ph.D., a research professor in the department of physics.

This project involves developing a new field drug testing method for law enforcement and forensic analysis that is quicker and safer than what is currently in use. The test will utilize a handheld spectrometer that, through an app, will match unknown substances with a cloud database of standards for known substances.



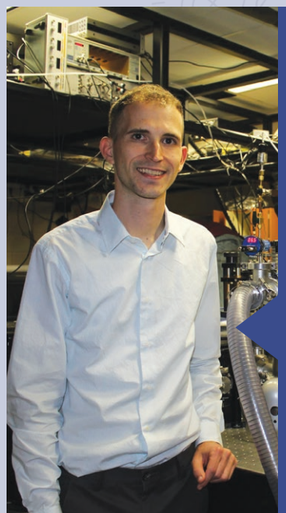
"We've made a lot of progress, and it's great to see that people are interested in the research that we are doing to help the law enforcement and forensic communities."

- David Nash

AIR FORCE GRANT HELPS UCF SOAR

Assistant professor Michael Chini, Ph.D., from the UCF Physics Department was awarded $480,000 in grants from the Air Force Office of Scientific Research.

Chini is researching the use of ultrashort pulses to measure and control electron motion in solid materials, which could aid in the development of high-speed electronics.



"We hope to use broad-bandwidth laser light to achieve some of the fastest speeds in electronics"

- Michael Chini

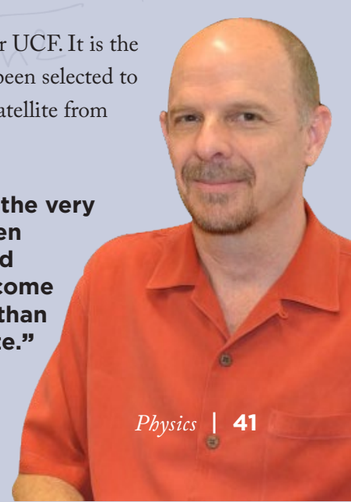
THINKING SMALL WINS BIG

UCF was one of only two universities selected to prepare an experiment for a miniaturized satellite mission as part of NASA's Small Innovative Missions for Planetary Exploration (SIMPLEx) program. The Q-PACE project aims to gather scientific knowledge about the formation of planets, including Earth and extending to the growing number of "exoplanets" discovered orbiting other stars.

The project is a milestone for UCF. It is the first time the university has been selected to design, build and operate a satellite from start to finish.

"Q-PACE will simulate the very early solar system, when the particles that would eventually grow to become planets were no more than a few millimeters in size."

- Joshua Colwell



POLITICAL SCIENCE

PH.D. STUDENTS SOAR

Since its inception in 2013, the students in the Security Studies Ph.D. program have had tremendous success. The Security Studies doctoral program is designed to produce specialists capable of analyzing and communicating security issues to policy makers, government officials and the general public. The program also prepares students for academic jobs.

Two second-year Ph.D. candidates in Security Studies took home awards at the International Studies Association South Annual Conference.

Chris Faulkner won the Grand Prize Jim Winkates Graduate Student Paper Award for his paper on "Money and Control: Rebel Groups and the Forcible Recruitment of Child Soldiers." His paper investigates why certain groups choose to forcibly recruit children as soldiers and why other groups refrain from doing so.

"I am very thankful to our faculty for their guidance, encouragement and dedication to student success."

-Chris Faulkner

Rebecca Schiel won second place for her paper, "Ungoverned Spaces: A Subnational Study of India." Her paper examines ungoverned space from a public goods provision standpoint, specifically the provision of security through the presence of police.

"The data gathering process was incredibly time consuming but ultimately afforded me the opportunity to examine the issues of interest at a much lower, and thus more detailed, level."

-Rebecca Schiel

Ph.D. student Gary Smith recently co-authored an article with professor Kerstin Hamann, Philip Pollock, and Bruce Wilson, "Online Teaching and Assessment" in the journal *PS: Political Science & Politics*. In the article, the authors explore what the scholarship of teaching and learning reveals about the effectiveness of online education in political science.

"I am incredibly grateful that I was able to be part of a contribution to our discipline."

-Gary Smith

Marcos Degaut, Ph.D. candidate, recently published in several international journals, including "Do the BRICS Still Matter" in the Center for Strategic and International Affairs. BRICS accounts for Brazil, Russia, India, China and South Africa as an analytical category providing a critical explanation to the future of the global economic powers.

"The BRICS have become relevant actors in the international arena and cannot be ignored any longer."

-Marcos Degaut, Ph.D. Candidate

NEW GRADUATE CERTIFICATE AND MINOR

The political science department is offering a new graduate certificate and a minor in intelligence and national security. The graduate certificate provides an interdisciplinary graduate education for people engaged in or seeking professional careers in intelligence policy.

The minor introduces students to the fundamentals of intelligence and national security, and it allows for students to specialize in one or more different areas that are appropriate for a career in these fields.

PSYCHOLOGY

NEW INVENTION IMPROVES PARKINSON'S SYMPTOMS

UCF Professor Emeritus Richard Gilson, Ph.D., along with a team of neurological experts, created a new tool to battle the effects of Parkinson's disease.

Gilson received a patent for the invention that will help Parkinson's patients and those struggling with epilepsy, essential tremor and mood disorders.

Gilson was diagnosed with the disease in 2003. He relied on a brain-stimulation device that featured a battery the size of a pack of cards that bulged from under his skin to keep the symptoms repressed. However, in order to keep the device working, Gilson had to undergo potentially life-threatening surgery every two or three years to replace the battery.

The invention consists of a quarter-sized apparatus, which would be implanted in the skull. It includes a nickel-sized rechargeable battery that lasts about nine years, and would eliminate the lump created by the current battery. Gilson has also been working on a version that does not require surgery.

CARING FOR THE CAREGIVERS

Dementia is the most common reason that older adults need support for basic day-to-day tasks. Parkinson's disease and strokes can also cause a loss of independence. Currently, there is no cure for many of these diseases, but there are many ways to express love and support for aging family members.

The UCF Orlando Later-Life Development (OLDeR) Lab in the UCF Department of Psychology is partnering with UCF Health to offer a Caregiver Support Group. This six-week support group is based on multidisciplinary research with caregivers of people with Alzheimer's, dementia and cognitive impairment.

The UCF Caregiver Support Group is a tool to help caregivers better manage the stresses, better understand the challenges and take better care of those they love. Support groups provide an opportunity to speak openly about all aspects of caregiving in a supportive environment. Assistant Professor Daniel Paulson, Ph.D., is the head researcher at the OLDeR Lab. His clinical interests include caregiving and dementia evaluation with older adults.

For more information, please visit
www.psychology.cos.ucf.edu/older

SOCIOLOGY

PARTNERS IN CRIME

The UCF Department of Sociology and the Brevard County Sheriff's Office have been partners in crime for the past three years. Together, they have undertaken a number of projects that have served both the university and the community.

In 2012, they collaborated on a program in which a therapy dog was used to help comfort sexually abused children during interviews. Sociology students and faculty, including Elizabeth Mustaine, Ph.D.; Lin Huff-Corzine, Ph.D.; and Jay Corzine, Ph.D., have also evaluated programs that are designed to decrease crime and increase convictions in Brevard County. Recently, similar agreements have been made with the Seminole County Sheriff's Office, the Greater Orlando Human Trafficking Task Force, and the Florida Abolitionists. Their Memorandum of Understanding was recently reviewed by the FBI and is now one of only four such agreements in the country.

NEW COURSE OFFERINGS

Five new undergraduate courses were added in the 2015-16 academic year.

- **Spatial Sociology** – teaching students how to map social phenomena and complete basic analyses
- **Careers in Sociology** – helping students to gain a better understanding about their discipline and career options available to them upon graduation
- **Consumer Society** – exploring primary trends and processes related to life
- **Video Games in Society** – an online course to examine the effects of gaming on individuals in society, as well as the history of the development of video games in the U.S.

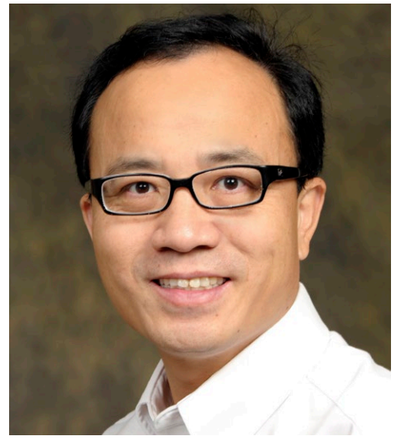
- **Food and Society, Families and Aging –** teaching students about the importance of race, ethnicity, nationality, gender, age, religion and social class on behavior as they relate to food production and consumption

STATISTICS

STATISTICS WELCOMES NEW CHAIR

In August 2015, the UCF Statistics Department welcomed Shunpu Zhang, Ph.D., as the new chair for the department. Dr. Zhang comes to UCF from the University of Nebraska, Lincoln. During his tenure there, Dr. Zhang led the development of UNL's Ph.D. program and played a key role in supervising doctoral students and teaching.

He also served as a mathematical statistician for the National Cancer Institute and has a strong publication record that includes broad research interests such as empirical Bayes data analysis, bioinformatics, health informatics and big data analytics.



SHEWEL AWARD FOR EXCELLENCE

Mark Johnson, Ph.D., professor of Statistics, is a recipient of the Shewell Award. This award is sponsored by the American Society of Quality Chemical and Process Industries Division. Dr. Johnson received this award at the 2015 Fall Technical Conference (FTC) held in Houston, Texas. This award was shared with Christine-Anderson Cook, Ph.D., Project Leader at Los Alamos National Laboratory; and Lu Lu, Ph.D., visiting assistant professor at the University of South Florida.

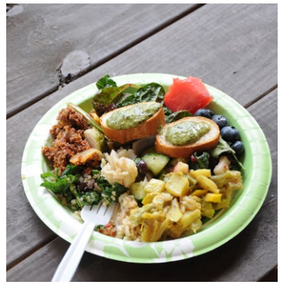
The Shewell Award, which is presented annually at FTC, is given to the top speakers who excel in presentation, scientific quality and applicability. The presentation was based on their 2014 joint paper "Selecting a Best Two-Level 16-Run Screening Design from the Catalog of Non-Isomorphic Regular and Non-Regular Designs for Six to Eight Factors," published in Quality Engineering Journal. Dr. Anderson-Cook presented the paper at the conference, and it was originally researched and written while Dr. Lu was a post-doctoral fellow under the mentorship of Dr. Johnson.

This is the second time that Johnson has received the Shewell Award; the first time was in 1985 for "Generalized Simulated Annealing for Function Optimization," which later appeared in the journal Technometrics. Johnson is a Fellow of the American Statistical Association and has received several other awards for his research.

ARBORETUM

ARBORETUM HARVEST FEASTS

The UCF Arboretum seeks to increase community cohesion, education, nutrition and appreciation through its Spring and Fall Harvest feasts. UCF students, faculty, staff and community members have the opportunity to collect in-season vegetable ingredients from the arboretum's garden and bring their cooked dishes back the next day for a community feast. Following the dinner, Patrick Bohlen, Ph.D., UCF Arboretum Director, recognized arboretum volunteers with certificates of appreciation.



UCF PRESCRIBED BURN PROGRAM

Prescribed burns are an important land management tool, and the UCF Arboretum, in conjunction with the UCF Department of Landscape and Natural Resources, held two successful burns this year. Most ecosystems in Florida, including many on the UCF campus, are adapted to fire. Intentional prescribed burns can reduce the threat and severity of wildfires by reducing fuel loads and improve habitat for fire-dependent species in our natural lands, including the threatened Gopher tortoise, *Gopherus polyphemus*. Although prescribed burns do not fully mimic natural fires, our burn program helps maintain selected natural areas on campus for educational and recreational purposes, and reflects UCF's commitment to being good stewards of the natural resources.

ARBOR DAY AT UCF

The UCF Arboretum partners with the UCF Landscape and Natural Resources (LNR) to host several events on campus in recognition of national Arbor Day. In the spring, UCF volunteers were led through a planting and learning experience at UCF. The event featured a campus tree tour and the planting of 18 trees of two beautiful native Florida species: red maple, *Acer rubrum*; and bald cypress, *Taxodium distichum*.

The UCF Arboretum was also awarded a grant by the Arbor Day Foundation and Megabus.com to host an Arbor Day service project at UCF. UCF Arboretum and LNR staff led local high school students an educational tree planting experience, followed by a guided hike throughout the campus' natural lands to emphasis the values of urban trees and natural resource conservation.

NEW UCF GREENHOUSE INTRODUCED

The UCF Arboretum celebrated the completion of the new campus greenhouse that will support UCF educational and research efforts. The new greenhouse is a 1,000-square-foot glass-enclosed facility with actuators controlling ventilation to maintain optimal temperatures. The plants will be grown for education and research projects and for use in campus landscapes, natural areas and the volunteer-run community garden.

From left to right: Patrick Bohlen, Ph.D. (left); Michael Johnson, Ph.D. (right), Dean of the UCF College of Sciences

INTERACTIVE

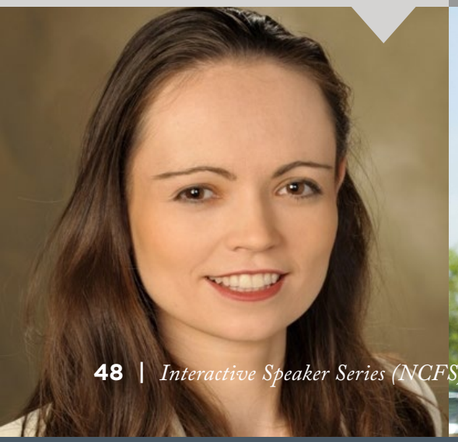
Speaker Series

This year, the National Center for Forensic Science (NCFS) launched a new speaker series on science, statistics and law. The series brought together attorneys, forensic scientists and academics to discuss the future of forensic science in America. In this first year, the goal of the speaker series was to educate the audience on evidentiary value and the use of science and statistics in criminal litigation.

Speakers presented talks addressing the challenges of introducing modern-day interpretation of scientific results in the courtroom. The long-term objective of the series is to open a dialogue among the fields of science, statistics and law by examining the topic of evidentiary value through the lens of each area of expertise.

Through mutual education and understanding, the series strives to promote collaboration to solve the challenges of modern-day interpretation of scientific results and how best to address and mitigate these issues in the US.

"What do the DNA results mean?"
SIMONE GITTELSON, Ph.D.



"Evidence, Probability and Error: Three Cases"
PROFESSOR DAVID H. KAYE, Ph.D.

"What Does It Mean for Forensic Evidence to Be 'Statistical'? A Historical Perspective"
SIMON A. COLE, Ph.D.

ROAD TO THE

White House

In October 2015, the Lou Frey Institute of Politics and Government hosted its annual Fall Symposium in the Pegasus Ballroom of the UCF Student Union. The symposium, "2016 Road to the White House," educated the students on the various political issues surrounding the presidential campaigns heading into the November 2016 election.

The keynote address was given by James Thurber, Ph.D., distinguished professor of government and founder and director of the Center for Congressional and Presidential Studies, American University. His address, titled 2016 Election: Process, Politics, Polarization and How We Vote, explored the path to the presidential nomination of both parties and the potential impact of the lack of consensus on major issues.

Several moderated panel sessions took place during the symposium, including "Advertising Strategies Throughout the Years," "Why You Should Be Engaged," and "Where's Campaigning in America Heading?" Panel members included Dick Batchelor, Dick Batchelor Management Group President and former member of the Florida House of Representatives; Brian Kirchberg, former state house campaign manager and field operative; and Ryan Houck, Communications Strategist and Media Consultant, Consensus Communications.

LOU FREY INSTITUTE of Politics & Government at the University of Central Florida

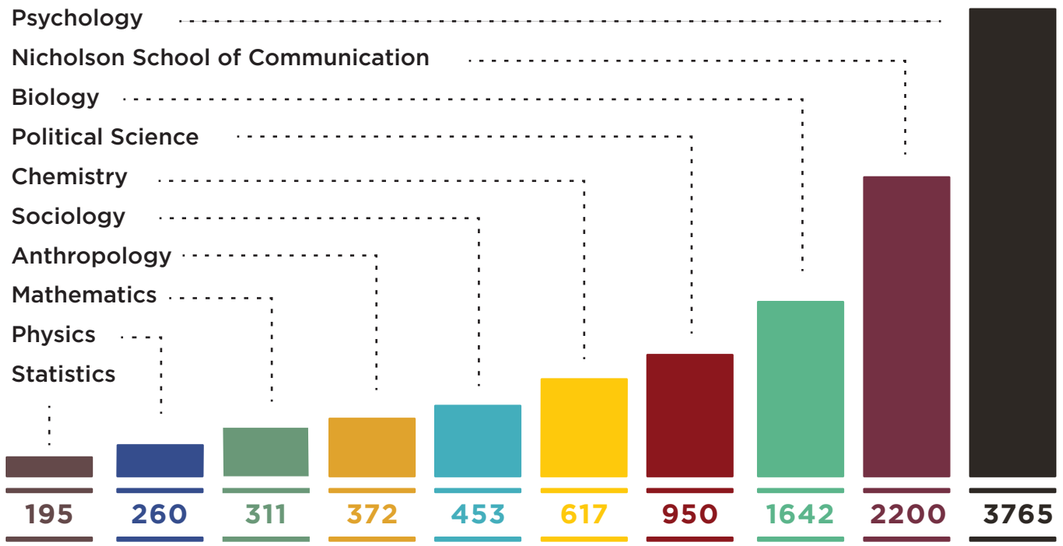
College *of* Sciences Overview

2015-2016

18%

UCF UNDERGRADS PURSUING COLLEGE OF SCIENCES DEGREES

ENROLLMENT **PER DEPARTMENT**



FACULTY & STAFF

Professors	**80**
Associate Professors	**80**
Assistant Professors	**66**
Instructors/Lecturers	**105**
Staff	**104**
Total	**435**

RANKINGS

TheBestSchools.org

- **#5** Online Bachelor of **Anthropology**
- **#6** Online Bachelor of **Sociology**
- **#8** Online Bachelor of **Political Science**
- **#14** Online Bachelor of **Psychology**

GraduatePrograms.com

- **#12** Graduate Psychology Program

TWO MAJORS IN THE **TOP 10** BY ENROLLMENT AT **UCF**

#1

PSYCHOLOGY

3,765 students

#10

BIOLOGY

1,642 students

46 SCHOLARSHIPS **AWARDED**

$96K$ TOTAL IN **AWARDS**

UCF College of Sciences

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