

# Showcase of Undergraduate Research Excellence

CELEBRATING UNDERGRADUATE  
RESEARCH AND CREATIVITY  
ACROSS THE CURRICULUM



2017

PRESENTED BY THE DIVISION  
OF TEACHING AND LEARNING

THURSDAY, APRIL 6, 2017

## **WELCOME TO THE 14<sup>TH</sup> ANNUAL SHOWCASE OF UNDERGRADUATE RESEARCH EXCELLENCE**

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The Showcase is a poster-based forum for University of Central Florida undergraduates to present their research and creative projects to the university community. Undergraduates from all disciplines are encouraged to present current or recently completed academic projects showcasing the diversity of topics, approaches, and interests at UCF. The Showcase serves as a resource for undergraduates not yet engaged in research and creative pursuits to learn how fellow students have developed their intellectual interests, current projects, and faculty connections. The Showcase also demonstrates to students, faculty, staff, alumni, and the Central Florida community that student research builds upon and enriches the UCF undergraduate experience. The Showcase is sponsored by the Office of Undergraduate Research, which is a unit of the Division of Teaching and Learning. For more information about undergraduate research, please visit **[www.our.ucf.edu](http://www.our.ucf.edu)**.

The Showcase is part of the 2017 Research Week at UCF.

**[www.showcase.ucf.edu](http://www.showcase.ucf.edu)**

UNIVERSITY OF CENTRAL FLORIDA | ORLANDO, FLORIDA

**SHOWCASE OF  
UNDERGRADUATE RESEARCH EXCELLENCE**

Celebrating undergraduate research and creativity across the curriculum.

OFFICE OF UNDERGRADUATE RESEARCH  
DIVISION OF TEACHING AND LEARNING

**ORDER OF EVENTS**

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**POSTER SESSION I**

*(Pegasus Ballroom)* ..... 12 - 1:30 P.M.

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**AWARDS**

*(Cape Florida Ballroom)* ..... 4:30 - 5 P.M.

**John C. Hitt**  
President

**Elizabeth Dooley**  
Vice Provost of Teaching and Learning  
Dean of Undergraduate Studies

**2017 UCF STUDENT RESEARCH WEEK**

## SHOWCASE JUDGES

The Office of Undergraduate Research is indebted to the following faculty for devoting a substantial amount of their time serving as Showcase judges.

Ahlam Al-Rawi	Elana Flitsiyan	Bridget Rubenking
Salvador Almagro-Moreno	Susan Jardaneh	A H M Anwar Sadmani
Thomas Andl	Joo Kim	Zhisheng Shuai
Claudia Andl	Viatcheslav Kokoouline	Valerie Sims
Cynthia Bayer	Dmitry Kolpashchikov	Walter Sotero
Bill Blank	Anthony Pak-Hin Kong	Amber Southwell
Robert Borgon	Stephen Kuebler	Matt Stock
Joseph Brennan	Woo Hyoungh Lee	Jacqueline Towson
Lisa Chambers	Tamra Legron-Rodriguez	Rani Vajravelu
Matthew Chin	Vicki Loerzel	John Venecek
Karin Chumbimuni-Torres	Amanda Major	Lei Wei
Kristopher Davis	Stacey Malaret	Kerry Welch
Charissa de Bekker	Elizabeth Mustaine	Chrysalis Wright
Aimee Denoyelles	Tom Owens	Shelly Wyatt
Christa Dierksen	Jonathan Powell	Qun Zhou
Steven Duranceau	Silvia Pulido	
Joseph Fanfarelli	Shawn Putnam	
Ken Fedorka	Michael Rovito	

## SHOWCASE BENEFACTORS

Through the generosity of the following organizations and individuals, substantial scholarships will be awarded to students judged to have the best projects presented at the Showcase. The Office of Undergraduate Research and the planners of 2017 Student Research Week are grateful to these benefactors for their encouragement and support of student research at UCF.

We are especially appreciative to the **UCF Student Government Association** for their generous contribution.

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Kimberly Schneider and Kenneth Fedorka

## FACULTY MENTORS

The faculty is a university's paramount asset, and the Office of Undergraduate Research recognizes the following UCF faculty mentors who have advised, counseled, tutored, and encouraged students presenting at today's showcase.

Kareem Ahmed	Denise Gammonley	Artem Masunov	Alisa Smith
Jared Allen	Barbara Gannon	Pamela McCauley	Janan Smither
Kelly Allred	Martha García	Daniel McConnell	Yongho Sohn
Deborah Altomare	Ivan Garibay	Kai McKinstry	Sang-eun Song
Georgios Anagnostopoulos	Andrea Gelfuso	Stephen Medeiros	Zi-Xia Song
Claudia Andl	Noah Goodman	Armando Mendez	Julia Soulakova
Uluc Aysun	Ali Gordon	Lisa Mills	Sybil St. Claire
Alexander Balaeff	Donita Grissom	Doan Modianos	Kenneth Stanley
Jack Ballantyne	Francisco Guido-Sanz	Ram Mohapatra	Robert Steward
Sarah Barber	Ismail Guvenc	Olga Molina	Matt Stock
Stacy Barber	Kerstin Hamann	Sean Moore	Cherrill Stockmann
Melanie Beazley	Michael Hampton	Mustapha Mouloua	Kiminobu Sugaya
Aniket Bhattacharya	Peter Hancock	Saleh Naser	Huaixiang Tan
Christopher Blackwell	Joseph Harrington	Mark Neider	Marisol Parra Tatge
Richard Blair	Alicia Hawthorne	Megan Nickels	Suren Tatulian
Patrick Bohlen	James Hickman	Reed Noss	Laurene Tetard
Julia Bowsher	Melanie Hinojosa	Elsie Olan	Kenneth Teter
Candice Bridge	Elizabeth Hoffman	Nina Orlovskaya	Jayan Thomas
Daniel Britt	Eric Hoffman	Anthony Pak-Hin Kong	Jacqueline Towson
Anne Bubriski-McKenzie	Kathleen Hohenleitner	Christopher Parkinson	Marla Toyne
Michael Callaghan	Helen Huang	Griffith Parks	Charlotte Trinquet
Shannon Carter	Qun Huo	Marisol Parra-Tatge	Nizam Uddin
Robert Cassanello	Woo Hyoung Lee	Melissa Pompos	Natalie Underberg-Goode
Debopam Chakrabarti	Lucas Izquierdo	Jonathan Powell	Fernando Uribe-Romo
Ratna Chakrabarti	Peter Jacques	Guo-Jun Qi	Rani Vajravelu
Lisa Chambers	Travis Jewett	Susan Quelly	Anna Valdes
Debashis Chanda	Yeonwoong Jung	Seetha Raghavan	Subith Vasu
Reshawna Chapple	William Kaden	Wanda Raimundi-Ortiz	Christos Velissaris
Jason Chesnut	Karl Kai McKinstry	Swaminathan Rajaraman	Konstantin Vodopyanov
Matthew Chin	Hyeran Kang	Amy Reckdenwald	Laurence von Kalm
Latarsha Chisholm	Jeffrey Kauffman	Debra Reinhart	Ezekiel Walker
Hyoung Cho	Saiful Khondaker	Beatriz Reyes-Foster	Linda Walters
Karin Chumbimuni-Torres	Brian Kim	Fernando Rivera	Joseph Wang
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Joshua Colwell	Barbara Kinsey	Kevin Roozen	Shannon Whitten
Geoffrey Cook	Jonathan Knuckey	Linda Rosa-Lugo	Emily Wille
Alicja Copik	Dmitry Kolpashchikov	James Rosser	Lana Williams
Leslee D'Amato-Kubiet	Alice Korosky	Carey Rothschild	Bruce Wilson
Tuhin Das	Alla Kourova	Michael Rovito	Pamela Wisniewski
Andrew Dickerson	Lanlan Kuang	Herve Roy	Chrysalis Wright
Donovan Dixon	Stephen Kuebler	Tania Roy	Chia-Yuan Yu
Aristide Dogariu	Stephen Lambert	Houman Sadri	Margaret Zaho
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Elena Flitsiyan	Matthew Marino	Peter Sinelli	
Stephen Florczyk	R. Mark Hall	Arvind Singh	
Marcy Galbreath	Carolyn Massiah	Dinender Singla	



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### Annual Award for Excellence in Undergraduate Research Publishing in the *University of Central Florida Undergraduate Research Journal*

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The University of Central Florida Libraries is pleased to announce **Casey Craig, Courtney Buck, Chelsea Landau, and Jordan Filipponi**, “The Impact of Crown Conch on Intertidal Oyster Populations in Mosquito Lagoon” have won the 2017 Award for Excellence in Undergraduate Research Publishing.

Congratulations to the authors and their mentor **Dr. Linda Walters!**

## 2016 UNDERGRADUATE RESEARCH JOURNAL PUBLICATIONS

The *University of Central Florida Undergraduate Research Journal (UCF URJ)* encourages, recognizes, and rewards the intellectual scholarship of undergraduate students by providing a peer-reviewed forum to share their research. The journal accepts student articles, essays, and adapted thesis projects from all majors. Students who publish their work gain valuable academic experience, preparing them for future success. Collaborative research is always welcomed.

The *UCF URJ* showcases articles of exemplary works from a wide range of student scholarship in all fields. The journal seeks outstanding research submitted by undergraduate students who have been involved in faculty-mentored research projects and activities related to scholarship.

The *UCF URJ* is on display at [www.urj.ucf.edu](http://www.urj.ucf.edu).

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Brianna Bishop**

**When Moms Say Bad Words: Family and Peer  
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*Mentor:* Dr. Chrysalis Wright

**Melissa Ariella Paduani**

**Small Mammal Response to the Gunnison's Prairie  
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*Mentor:* Stephanie Baker, University of New Mexico

**Ryan Hammond**

**Parks as Places of Public Solace: The Perception of  
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*Mentor:* Dr. Peter Jacques

**William Butler**

**Mathematical Modeling in Law and Political  
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*Mentor:* Dr. Zhisheng Shuai

**Jared Muha**

**Mexico in 1999: Taking back the UNAM**

*Mentor:* Dr. Ezekiel Walker

**Rebekah Kanefsky**

**Perceived Locus of Control in the Children  
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**Analise McGreal**

**The Self-Reference Effect, Emotion, and Self  
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*Mentor:* Dr. Wei Wang

**Martin Coleman**

**Determining Tidal Elevations in Dry Elements  
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*Mentor:* Dr. Stephen Medeiros

**Emily Thomson**

**"Not to Die, but to Survive": The Construction of  
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*Mentor:* Dr. Cecilia Rodríguez-Milanés

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**The Effect of Misogynistic Humor on Millennials'  
Perception of Women**

*Mentor:* Dr. Chrysalis Wright

**Naomi Ringer**

**The Use of Mobile Applications in Preventive Care  
and Health-Related Conditions: A Review of the  
Literature**

*Mentor:* Dr. Leslee D'Amato-Kubiet



## DISTINGUISHED UNDERGRADUATE RESEARCHER AWARD (DURA)

In January 2010, the Student Undergraduate Research Council, in collaboration with the Office of Undergraduate Research, developed DURA, formerly known as the Undergraduate Research of the Month program. Each month a new student is honored with the award. The following students were recognized in 2016.

**Brach Champion**

**Research Project:** Correcting Medicaid Enrollment Underreporting: A Stochastic Frontier Analysis

**Mentor:** Dr. Richard Hofler (Economics)

**Lacie Anderson**

**Research Project:** Quantifying the Success of Eastern Oysters in Brevard County

**Mentor:** Dr. Linda Walters (Biology)

**Melissa Paduani**

**Research Project:** How “Natural” are Shoreline Plant Communities in Constructed Storm-Water Ponds?

**Mentor:** Dr. Patrick Bohlen (Biology)

**Jessica Chambers**

**Research Project:** Flame Turbulence Interaction for Deflagration to Detonation

**Mentor:** Dr. Kareem Ahmed (Mechanical Engineering)

**Kathryn Cline**

**Research Project:** Microenvironment Changes in the Pancreatic Stroma Induced by Inflammation

**Mentor:** Dr. Deborah Altomare (Biomedical Sciences)

**Jessica Whitman**

**Research Project:** Gender and Genre Madness in Samuel Richardson’s “Sir Charles Grandison”

**Mentor:** Dr. Kathleen Oliver (English)

**Michelle Schaffer**

**Research Project:** Effects of Black Mangrove Range Expansion on Shoreline Bird Communities

**Mentor(s):** Dr. Linda Walters, Dr. Melinda Donnelly (Biology)

**Joey Valez-Ginorio**

**Research Project:** Deep Learning Methods for Dynamic Brain Connectome Prediction

**Mentor:** Dr. Guo-Jun Qu (Computer Science)

**Michael Lopez-Brau**

**Research Project:** Mining Collective Intelligence in Cognitive Radio Networks

**Mentor:** Dr. Nazanin Rahnavard (Electrical and Computer Engineering)

**Baggio Evangelista**

**Research Project:** Alpha-Synuclein: Insight to the Potential Biomarker for Theranostics Involved in Parkinson’s Disease

**Mentor:** Dr. Yoon-Seong Kim (Biomedical Sciences)

**Christy Box**

**Research Project:** The Effects of Hegemonic Support of Endangered Languages on Language Ideologies

**Mentor:** Dr. Beatriz Reyes-Foster (Anthropology)

**Ashelyn Sidders**

**Research Project:** Expanding the genetic toolbox for Mycobacteria: Constructing the PheS Counterselection marker

**Mentor:** Dr. Kyle Rohde (Biomedical Sciences)

Applications are available at [www.our.ucf.edu/accomplishments](http://www.our.ucf.edu/accomplishments).

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The Undergraduate Research Council promotes the involvement of undergraduates in the ongoing activities of the UCF research community and advises the Office of Undergraduate Research about policies and programs that pertain to undergraduate research at UCF.

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SURC promotes awareness about undergraduate research for students at the University of Central Florida. Students actively engaged in research are selected each year to serve on this council. Through their support, the Office of Undergraduate Research has greater exposure on campus and gets continuous feedback on undergraduate research programs. Their help in promoting and running the Showcase of Undergraduate Research Excellence is greatly appreciated.

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## SPECIAL THANKS

The Office of Undergraduate Research thanks the following individuals and entities for their time, expertise, and support in the planning of today's event.

Michael Aldarondo-Jeffries	Luke Hogue
Morgan Casavant	Valerie Kessler
Tinessa Callinan	Vanessa McRae
Sandra Cherepow	Christine Rivera
Dwight Davis	Ricky Rodriguez
Elizabeth Dooley	Adam Smajstrla
Jack Christensen Fedora	Barbara Smith
Ryland DeGregory	Colleen Smith
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