

### WELCOME TO STUDENT RESEARCH WEEK

UCF's Student Research Week celebrates the work of our students at all stages of their research journey. Hundreds of undergraduate and graduate students will demonstrate their work through poster presentations all accessible via a UCF Webcourse. The best projects are recognized with scholarships.

A university contributes to the very fiber of our society in many ways from educating our next generation of doctors and artists to solving big challenges facing the human race. The research UCF's faculty and students conduct, the discoveries that turn into technology and the creative works that illuminate the human condition are all key to creating communities we all want to live in.

This is the first year the celebration is virtual. We didn't want our students or the UCF community to miss out on the opportunity to see all their work. We invite you to join us and see for yourself how our students' research and creative scholarship enrich their learning experience and impact the world.

To learn more and for a full schedule of events visit researchweek.ucf.edu.

The Division of Student Learning and Academic Success, the College of Graduate Studies, and the Office of Undergraduate Research

UNIVERSITY OF CENTRAL FLORIDA | ORLANDO, FLORIDA

## STUDENT RESEARCH WEEK

### **SCHEDULE OF EVENTS**

To see a full list of Student Research Week events, please visit **researchweek.ucf.edu** 

Monday, March 29 Student Research Week Kickoff:	. 10:00 - 11:30 a.m.
Tuesday, March 30	
Poster Session I:	. 11:30 a.m 12:30 p.m.
Poster Session II:	. 2:30 - 3:30 p.m.
Wednesday, March 31	
Poster Session III:	10:30 - 11:30 a.m.
Poster Session IV:	. 12:30 - 1:30 p.m.
Thursday, April 1	
Poster Session V:	11:30 a.m 12:30 p.m.
Poster Session VI:	. 2:30 - 3:30 p.m.
Friday, April 2	
Awards Ceremony:	2:00 - 3:30 p.m.

### SPONSORS

Through the generosity of the following organizations and individuals, substantial scholarships will be awarded to students judged to have the best projects presented. The Division of Student Learning and Academic Success, the College of Graduate Studies, and the Office of Undergraduate Research are grateful to those benefactors for their encouragement and support of student research at UCF.

Student Government Association College of Medicine
Burnett Honors College College of Nursing
College of Arts & Humanities Richard Harrison II

College of Community Innovation and Education

### STUDENT RESEARCH WEEK PLANNING TEAM

Michael Aldarondo-Jeffries Zenaida Kotala Jennifer Parham
Nathalia Bauer Carreen Krapf Simone Rousseau
Tyler Campbell Aubrey Kuperman Kimberly Schneider
Wendy Cartier Kelli Marini Barbara Smith

### SPECIAL THANKS

The Division of Student Learning and Academic Success, the College of Graduate Studies, and the Office of Undergraduate Research thank the student presenters for sharing their scholarly work and demonstrating the outstanding research conducted at UCF. The events of Student Research Week would not be possible without the support of the entire UCF community.

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Monday, March 29, 2021 | 10:00 - 11:30 a.m.

Virtually via Zoom

### WELCOME AND AWARDS

Dr. Michael Johnson

Interim Provost and Vice President for Academic Affairs

Dr. Elizabeth A. Klonoff

Vice President for Research and Dean of the College of Graduate Studies

Dr. Theodorea Regina Berry

Vice Provost for the Division of Student Learning and Academic Success and Dean of the College of Undergraduate Studies

### **KEYNOTE SPEAKER**

Dr. Joshua Colwell

Planetary Scientist and Pegasus Professor of Physics

### KEYNOTE SPEAKER: DR. JOSHUA COLWELL



Dr. Joshua Colwell is a Planetary Scientist and Pegasus Professor of Physics at the University of Central Florida. He came to UCF in 2006 from the Laboratory for Atmospheric and Space Physics at the University of Colorado where he earned his Ph.D. in Astrophysical, Planetary and Atmospheric Sciences. Since 2011 he has held the positions of Associate Chair of the Department of Physics, Assistant Director of the Florida Space Institute, and Director of the Center for Microgravity Research.

His research interests are in the origin and evolution of the solar system with a particular emphasis on planet formation, asteroids, planetary rings, comets, and interplanetary dust. As a Co-Investigator on the international Cassini mission to Saturn that orbited the ringed planet from 2004–2017 he designed and analyzed observations of Saturn's rings. He studies the structure and dynamics of Saturn's rings with data from Cassini. He has led experiments that have flown on the Space Shuttle, the International Space Station, suborbital rockets, parabolic airplane flights, and is the Principal Investigator of a CubeSat that launched in 2021.

### GRADUATE AWARDS OF EXCELLENCE

### Award for Excellence in Graduate Student Teaching

Anshare Antoine

Texts and Technology PhD College of Arts and

Humanities

Humanities

Tutku Ayhan

Security Studies PhD

College of Sciences

David Boffey\*

Education PhD, Exercise

Physiology Track

College of Health Professions

and Sciences

Daniel Edelen

Elementary Education PhD

College of Community
Innovation and Education

Kelli Dauphinais

Applied Sociology MA

College of Sciences

Brandy King\*

Computer Science MS

College of Engineering and

Computer Science

Nicholas Kostakis

Teaching English to Speakers of Other Languages, TESOL

MΑ

Award for Excellence by a Graduate Teaching Assistant

College of Arts and

Humanities

Olga Pysmenna

Sahar Hooshmand
Computer Science PhD

Computer Science

College of Engineering and

Public Affairs PhD

College of Community

Innovation and Education

<sup>\*</sup>University-level awardee

## UNDERGRADUATE RESEARCH AWARDS Distinguished Undergraduate Research Award

Ezat El-Said Meeti Mehta Michael Greenberg

Dr. Gang Chen Dr. Steven Ebert Dr. Yulia Gerasimova

Teddy DuncanMariana KellisAlyssa ChurchDr. William FogartyDr. Barbara GannonDr. Michael Rovito

Zachary SteinAmy LebanoffCesar Lopez-ZelayaDr. Seetha RaghavanDr. Andrew DickersonDr. C. Kyle Renshaw

Gary Hoppenworth Salim Mouloua

Dr. Sharma Thankachan Dr. Daniel McConnell

### Undergraduate Research Faculty Mentor of the Year

Dr. Damla Turgut

Computer Science

Nominated by: Nafisa Mostofa

### Champion of Undergraduate Research Faculty Award

Dr. Aubrey Jewett School of Politics, Security, and International Affairs

Dr. Seetha Raghavan Mechanical and Aerospace Engineering

## BUSINESS ADMINISTRATION AND HOSPITALITY MANAGEMENT

#### **Graduate Presentations**

## Facial Prominence and Its Impact on Effectiveness of Marketing Communications

Lam An Business Administration PhD, Marketing Track

### Efficient Practices of Training, Technology, Goal and Consequence Interventions in Warehouse Management

Mia Cleary Management MSM

### The Impacts of Tourism

Maksim Godovykh Hospitality Management PhD

### For Goodness' Sake? Integrating Sustainability Performance into Management Control Systems

Jacob Lennard Business Administration PhD, Accounting Track

### Customers' Behavioral Immune System Responses to the COVID-19 Pandemic

Julia Marquez Hospitality and Tourism Management MS

### Balancing Trade-offs in Designing the CMO Job: A Financial Accountability Perspective

Ashutosh Singh Business Administration PhD, Marketing Track

### Service Robots in Food and Beverage Settings: The Impact of Automation on Consumer Experiences in Traditionally High-Contact Environments

Sydney Tefft Hospitality and Tourism Management MS

### Adopting Gamification to Access Hotel Guests' Environmental Sustainability Perception

Aili Wu

Hospitality and Tourism Management MS

### ENGINEERING, COMPUTER SCIENCE, MODELING AND SIMULATION

#### **Graduate Presentations**

### Transport Layer Security, TLS Encryption Protocol in IoT Systems: A Critical Design Review Nidal Alsayyed

Digital Forensics MS

### IoT Augmented Physical Scale Model of a Suburban Home

Salih Safa Bacanli Computer Science PhD

### An Online Reinforcement Learning Approach for Cable-Driven Upper Body Exosuit, CUBE

Jirui Fu Mechanical Engineering PhD

## Dependence Between Drivers of Compound Flooding Around the Contiguous United States Coastline

Ahmed Nasr Civil Engineering PhD

### Short-Term Load Forecasting for Smart Home Appliances With Sequence to Sequence Learning

Mina Razghandi Computer Science PhD

### Coalition Formation of Directional Radios in Adversarial Presence

Sayanta Seth Electrical Engineering PhD

### Sequence Patterning of Peptides with Increased Hydrophobic Content for Therapeutic Encapsulation

Sara Tabandeh Materials Science and Engineering PhD

## A Database of Global Storm Surge Reconstructions, GSSR

Michael Tadesse Civil Engineering PhD

### How Gelsolin-Mediated Actin Filament Severing and Mechanics Respond to Crowding and Changes in pH

Claire Toland Nanotechnology MS

### Effects of Various Speed Management Countermeasures on Bicycle Crashes for Urban Roads in Central Florida

Jorge Ugan Civil Engineering MS, Transportation Systems Engineering Track

# What Are You Trying to Tell Me? The Influence of Individual Differences of Perceived Emotion Utility on Attention Towards Shared Metacognition Between Humans and Agents in a Multimedia Learning Environment Megan Wiedbusch

Education PhD, Learning Sciences Track

### Viscoelastic Modeling of High Strain Thin Ply Composites

Milinda Madhusanka Yapa Yapa Hamillage Mechanical Engineering PhD

## Improving AR/VR Experiences with Deep Learning

Sharare Zehtabian Computer Science PhD

## Undergraduate Presentations

### Teen as Research-Apprentice: Creating a Participatory Action Research Program for the Design and Development of Adolescent Online Safety Solutions

Arianna Davis Mentor: Dr. Pamela Wisniewski, Computer Science, Dr. Elizabeth Marie Bonsignore, University of Maryland

### Characterization of Contact Resistance Properties of Different TLM Structure Designs

Nicole Karam Mentor: Dr. Kristopher Davis, Dr. Mengjie Li, Materials Science and Engineering

### Matrix Decompositions and Applications to Digital Ownership Protection

David Melendez Mentor: Dr. Minah Oh, James Madison University, Dr. Akil Narayan, Mathematics

### Finite Element Analysis of Thermal Strain in Multi-Layered Ceramic Composite for Hypersonic Applications

Felix Morales Mentor: Dr. Seetha Raghavan, Mechanical and Aerospace Engineering

## Investigation of Tablet LiDAR and Its Application to Structural Health Monitoring

Kaile'a Moseley Mentor: Dr. F. Necati Catbas, Civil, Environmental, and Construction Engineering

## Carebit: A Mobile App for Remote Informal Caregiving via Fitbit API

Huy Pham, Ann Binus, Joseph Kocis, Kensal Ramos

Mentor: Dr. Pamela Wisniewski, Computer Science

### Family Communication: Examining the Differing Perceptions of Parents and Teens Regarding Online Safety Communication

Tara Rutkowski

Mentor: Dr. Pamela Wisniewski, Computer Science

## Models for AP Composite Propellant Combustion

Emma Shafer

Mentor: Dr. Subith Vasu, Mechanical and Aerospace Engineering

### De-occluding Faces Using Novel Deep Learning Techniques for Increased Performance of Facial Expression Recognition Networks

Sachin Shah

Mentor: Dr. Charles Hughes, Computer Science

### Adolescent Online Safety: Expanding the Knowledge Base and Developing Machine Learning Algorithms

Carlson Sharpless, Avery Reyna, Christian Loanzo, Komila Khamidova, Pallavi Dacre, Abdulrahman Al Sumaih Mentor: Dr. Pamela Wisniewski, Computer Science

### Using Simulation and Brainwave Equipment to Test Leadership Among Engineers

Paul Stuckey

Mentor: Dr. Luis Rabelo, Industrial Engineering and Management Systems

### Designing Social Media Interventions with Youth

Alice Zhang, Fabrizio Martins, Luke Shirley

Mentor: Dr. Pamela Wisniewski, Computer Science

### FINE ARTS AND HUMANITIES

## Undergraduate Presentations

### **Gaudi's Perfected Gothic**

Dena Bader

Mentor: Dr. Ilenia Colón Mendoza, School of Visual Arts and Design

### French Imperial Politics and Anglo-French Relations During the Third Republic and Vichy Regime

Brandon Kirk

Mentor: Dr. Amelia Lyons, Dr. Barbara Gannon, History

## James Joyce's Ulysses and the Avoidance of the Reality Principle

Jack Scheidhauer

Mentor: Dr. Louise Kane, English

### Making a Queer Game Informed by Queer Games Research

Amy Schwinge

Mentor: Dr. Emily Johnson, English

### Dramatic Form and Narratives of Abuse

Taylor Wikoff

Mentor: Dr. Chloe Edmonson, School of Performing Arts

### HEALTH SCIENCES

### **Graduate Presentations**

### Chemotoxic Effect of AICAR on Lung Cancer Cell Lines

Fareesa Aftab Biotechnology MS

## Influence of Surface on the Prone Bridge Plank Exercise

Luk Devorski

Exercise Physiology, Education PhD

### Healthcare Needs of U.S. Rural Latinos: A Growing, Multicultural Population

Cristina Figueroa Nondegree or Transient

## High Intensity Gait Training in Anoxic Brain Injury: A Case Study

Ashley Gadelha Nondegree or Transient

The Use of Tensiomyography in Evaluating the Effectiveness of Sequential Quadriceps Contractions for Neuromuscular Activation of the Rectus Femoris 0-5 Weeks Post Anterior Cruciate Ligament Construction

Jesse Gaudin Physical Therapy DPT

### Chaperonin-Containing TCP1 Complex, CCT Promotes Breast Cancer Growth Through Correlations With Key Cell Cycle Regulators

Heba Ghozlan Biomedical Sciences PhD

### Single Squat and Single Leg Squat Jump Assessment in Elite Figure Skaters

Jessica Harris Athletic Training MAT

### The Impact of Skeletal Muscle Disuse on Distinct Echo Intensity Bands: A Retrospective Analysis

Zachary Logeson Physical Therapy DPT

### Is There a Correlation Between Rate of Handgrip Force Production and Comfortable Gait Speed?

Emily Montecalvo Physical Therapy DPT

### School Participation and Physical Activity in Children with JIA: A Review of the Literature

Alexis Myers Physical Therapy DPT

## Effectiveness of Novel Therapeutics Targeting Polyamine Biosynthesis and Transport in Pancreatic Tumor Progression and Anti-Tumor Immune Modulation

Sai Preethi Nakkina Biomedical Sciences PhD

### Four Methods for Detecting Outliers: Applications in Animal Study

Albert Osom Statistics and Data Science MS

### Investigating Key Molecular Events Underlying Early Neoplastic Progression of Colorectal Cancer Using Integrative Meta-Transcriptomics

Michael Rohr Biomedical Sciences MD/PhD Track

### Effects of Pain Neuroscience Education on Healthcare Students' Understanding and Attitudes About Chronic Pain

Kimberly Singh Physical Therapy DPT

## MATHEMATICS, OPTICS, AND PHYSICAL SCIENCES

## **Undergraduate Presentations**

## Can the Presence of Water Ice Explain Cometary Activity on Asteroids?

Olivia Bitcon

Mentor: Dr. Julie Brisset, Physics

### Deterministic Compartmental Model for Herpes Simplex Virus Type-2 and the Effect of a Possible Prevention Method to Protect Women

Jacob Braun

Mentor: Dr. Zhisheng Shuai, Mathematics

### **Exogenous Material on Asteroids**

Remington Cantelas

Mentor: Dr. Humberto Campins, Physics

## Are Fine Grains Responsible for Asteroids Shedding Surface Material?

Christopher Cox

Mentor: Dr. Julie Brisset, Physics

### Quantum Charge Migration in Light-Harvesting Chromophores

Ruben Fernandez Carbon Mentor: Dr. Luca Argenti, Optics and

### Photonics

### Theoretical Calculations of Measurable Properties of Astrochemically Relevant Molecules

Riley Havel

Mentor: Dr. Christopher Bennett, Physics

### DRIVE: Dropping Regolith in a Vacuum Environment

Konrad Krol

Mentor: Dr. Julie Brisset, Physics

### Designing a Label-Free Light-Up Aptasensor for Thrombin

Pedro Madalozzo

Mentor: Dr. Yulia V. Gerasimova,

Chemistry

### OSIRIS-REx Boulder Hazard Campaign

Jennifer Nolau, Daniela McCarty, Alicia Allen

Mentor: Dr. Humberto Campins, Physics

### Active Asteroids: Role of Grain Size and Surface Properties on the Regolith Strength

Aracelis Partida

Mentor: Dr. Julie Brisset, Physics

### SOCIAL SCIENCES

## Undergraduate Presentations

## Examining the Archaeology of Native American Boarding Schools: A Story of Childhood Agency

Adriana Almonte

Mentor: Dr. Brigitte Kovacevich,

Anthropology

### Politics and Parenting: How Parenting Style Can Affect Ideology

Oljunie Antoine, Amber Wuorio, Claudia Urbina

Claudia Orbina

Mentor: Dr. Jason Chesnut, Psychology

## Aviation Unexpected Event Card Sort for Judgment Expertise

Hannah Arias

Mentor: Dr. Jessica Cruit, School of Modeling, Simulation and Training

### COVID Couples: How the Pandemic has Impacted Couples

Victor Blocker

Mentor: Dr. Grace White, Psychology

### Effects of Media Literacy on Perceptions of Skepticism and Realism in Popular Music Among Undergraduate Students

Reilly Branch

Mentor: Dr. Chrysalis Wright, Psychology

### Misinformation in the Media and Its Influence on Racism

Jared Champa

Mentor: Dr. Chrysalis Wright, Dr. Daniel

Mcconnell, Psychology

## Exploring Factors of Acceptance of Chip Implants in the Human Body

Radha Chebolu

Mentor: Dr. Daniel McConnell, Dr. Janan

Smither, Psychology

## Conflicts and Communication in Virtual Education for Gifted Students

Sarah Finley

Mentor: Dr. James McCafferty, Dr. Adam Parrish, Nicholson School of Communication and Media

### Impact of Stigma and Stigma-Focused Interventions on Screening and Treatment Outcomes in Cancer Patients

Anisah Husman

Mentor: Dr. Elizabeth Akin-Odanye, Ibadan University College Hospital

### Birthing While Black

Jahleya Lindo

Mentor: Dr. Beatriz Reyes-Foster, Dr. Nessette Falu, Anthropology

## Differences in Racial Disparities for Childbirth Mortality Rates: Why are Black Women Dying?

Pavia Quamina

Mentor: Dr. Angela Vergara, Sociology

#### The Impact of COVID-19 Quarantine Measures on Familial Closeness

Devin Reardon

Mentor: Dr. Grace White, Psychology

## An Examination of the Impact of COVID-19 on Courts Across The United States

Glennal Verbois, Jasey Brooks Mentor: Dr. Jill Viglione, Criminal Justice

### ENGINEERING, COMPUTER SCIENCE, MODELING AND SIMULATION

### **Graduate Presentations**

### Proportional Power Sharing Control of Distributed Generators in Microgirds

Farzad Aalipour Mechanical Engineering PhD

## A Micro Impinging Jet with Supercritical Carbon Dioxide

Stephen Adeoye Mechanical Engineering PhD

## Deposited Drops Damp Freely Vibrating Substrates

MD Erfanul Alam Mechanical Engineering PhD

### Case Study: Privacy Analysis in Ubports, Ubuntu Touch vs. iPhone and Android

Abdulmajeed Alghamdi Computer Engineering PhD

### Global Analysis on Seasonal Sea Level Cycle Variability

Amanda Barroso Civil Engineering PhD

### Multi Dimensional Evaluation of E-quality Services and Its Relation With Consumer Satisfaction, A Case Study in a Small E-Business

Erica Castilho Grao Industrial Engineering PhD

### A Real-Time Fall Prevention System Using Closed-Loop Functional Electrical Stimulation, FES

Renoa Choudhury Mechanical Engineering PhD

### Hotspot Cooling Performance of Two Phase Jet Impingement

Tanvir Ahmed Chowdhury Mechanical Engineering PhD

### A Real-World Biomechanics Measurement and Analysis Suit

Surendar Devasundaram Electrical Engineering MSEE

### Detection of Faulty Sensors in a Network

Iyanuoluwa Emiola Electrical Engineering PhD

### Evaluation of the Near-Zero Temperature Coefficient of Resistivity, NZ-TCR of ALD TiSixN Films

Corbin Feit Materials Science and Engineering PhD

### Highly Integrated Grid-Tied Multi-Port Power Module for PV and Storage With Advanced Control Algorithm

Sumana Ghosh Electrical Engineering PhD

### Exchangeable Bayesian Matrix-Variate Hierarchical Clustering With Parallel Computation

Charles Harrison Big Data Analytics PhD

### Variability of Seismocardiographic Signals During Regular Breathing and Breath Holding

Tanvir Hassan Mechanical Engineering PhD

### TRMM Microwave Imager Emissive Reflector Correction for GPM V07 Reprocessing

Alamgir Hossan Electrical Engineering PhD

### Simulation Repurposing for Law Enforcement

Julie Kent Modeling and Simulation PhD

### Parameter Calibration and Optimization in Smart Grid for Synchronous Generators and Converters

Seyyed Rashid Khazeiynasab Electrical Engineering PhD

## Viral Inactivation Using Localized UV Emission and Application in Self-Cleaning PPE

Udit Kumar Materials Science and Engineering PhD

### Nanoindentation and Photoluminescence Studies of Hydrogenated Boron Carbon Nitride Thin Films

Shraddha Nehate Electrical Engineering PhD

## Cation Interactions Modulate $\alpha$ -actinin-crosslinked Bundle Formation by Stabilizing $\alpha$ -actinin Binding to Actin Filaments

Jinho Park

Materials Science and Engineering PhD

### Keep It Cool: A Flexible Cooling Device

Khan Mohammad Rabbi Mechanical Engineering PhD

### A Novel Concept for Cryogenic Hydrogen Energy Storage

Adil Riahi

Mechanical Engineering PhD

## Climatic And Landscape Controls on Long-Term Baseflow

Lili Yao Civil Engineering PhD

## Undergraduate Presentations

### Understanding the Challenges Child Welfare Workers Encounter Related to Promoting the Online Safety of Foster Youth

Denielle Abaquita

Mentor: Dr. Pamela Wisniewski, Computer Science

### Developing a Surrogate Model for Optimizing Number of HEC-RAS Simulations Required for Flood Risk Assessment

Lauren Doebele

Mentor: Dr. Mamunur Rashid, Dr. Thomas Wahl, Civil, Environmental, and Construction Engineering

### Adding Insult to Injury: How Reddit Users Shame People Who Participate in Harmful Social Media Challenges

Amy Godfrey, Maria Lopez Mentor: Dr. Pamela Wisniewski, Computer Science

### From Parental Control to Family Oversight: A Case Study of Parents and Teens Co-Monitoring Mobile Online Safety

Amy Godfrey

Mentor: Dr. Pamela Wisniewski, Computer Science

### GRIT: Gesture Recognition in Technology

Seth Horwitz, Robin Perlman Mentor: Dr. Joon-Hyuk Park, Mechanical and Aerospace Engineering

### 30 Days: Understanding Teens' Digital Lives and Online Relationships

Max Huebler, Julia Silva, Aime Yelvington, Nafisa Chowdhury Mentor: Dr. Karla Badillo-Urquiola, Dr. Pamela Wisniewski, Computer Science

## Encapsulating Doxorubicin Using Polyelectrolyte Complexes

Cristina Lemus Mentor: Dr. Lorraine Leon, Materials Science and Engineering

## Using Dual miRNA Delivery Using Cerium Oxide Nanoparticles to Enhance the Diabetic Wound Healing

Aadith Menon Mentor: Dr. Elayaraja Kolanthai, Dr. Sudipta Seal, Materials Science and Engineering

## Exploring Online Risk Exposure of Adolescents in USA

Zachary Miller, Gabriela Rivera Mentor: Dr. Pamela Wisniewski, Computer Science

### Planning a Long-Term Participatory Design Program for Adolescent Online Safety

Quynh Nguyen, Naulsberry Jean Baptiste, Timothy Golio, Nicholas Kershaw

Mentor: Dr. Pamela Wisniewski, Computer Science

### The Utility of Sonospectrography for Detection of Developmental Dysplasia of the Hip

Pinak Raodeo, Lauren Brown, Maya Hartig

Mentor: Dr. Hansen Mansy, Mechanical and Aerospace Engineering

### Heart Rate Variability in Terms of Demographic Information and Activity Being Conducted

Ankur Ravikanth Mentor: Dr. Hansen Mansy, Mechanical and Aerospace Engineering

### Examining Suicide Prevention Safety Apps for the Online Safety of Teens

Marcus Seigman, Sairam Nalla Mentor: Dr. Pamela Wisniewski, Computer Science

### Investigation in Engineering Leadership Using Systems Engineering and Virtual Reality

Whitney Stuckey Mentor: Dr. Luis Rabelo, Industrial Engineering and Management Systems

### FINE ARTS AND HUMANITIES

### **Graduate Presentations**

## The Role of Social Media in Globalizing K-Pop Music

Erika Clippinger Music MA

### Just Wear the Damn Mask: Insights into the Influence of Political Events on the Hashtag #WearTheDamnMask During the COVID-19 Pandemic

Bonnie Cross Texts and Technology PhD

### Star Keeper

Kayla Etienne Emerging Media MFA, Animation and Visual Effects Track

#### **Spaced Out**

Alyssa Klapka Emerging Media MFA, Animation and Visual Effects Track

### Civil War Performance, the Confederate Flag, and Patriotic Ideology in the American South: A Cultural Studies Approach

John Lancaster English MA, Literary, Cultural, and Textual Studies Track

#### The Spoon Theory

Sanne Methorst Emerging Media MFA, Animation and Visual Effects Track

#### **Easy Prey**

Annika Norris Emerging Media MFA, Animation and Visual Effects Track

### The Visual Bridge of Fargo's the Law of Vacant Spaces: A Non-Linguistic Analysis

Marissa Salas Texts and Technology PhD

### **HEALTH SCIENCES**

## Undergraduate Presentations

### The Relationship Between Parent and Child Health Behaviors in Youth with Autism Spectrum Disorder

Elise Arnold Mentor: Dr. Jeanette Garcia, Health Sciences

### Facilitation of Environmental Factors to Reduce Sound Decibels in the Neonatal Intensive Care Unit: A Literature Review

Cassandra Hanlon Mentor: Dr. Leslee D'Amato-Kubiet, Dr. Angeline Bushy, College of Nursing

### Literature Review: Sociodemographic Factors of Phytoestrogen Levels in Breast Cancer Survivors

Jongeon Kim Mentor: Dr. Eunkyung Lee, Health Sciences

### Schizophrenia and the Pineal Gland: a Literature Review

Kathryn Margretta Mentor: Dr. Angeline Bushy, Dr. Leslee Damato-Kubiet, College of Nursing

## Impact of Systemic Pathologies on Increased Risk of Endodontic Disorders

Jayla Mercer

Mentor: Dr. Suha Saleh, Health Sciences

### Optimizing Transcranial Magnetic Stimulation Research Methodology: How Many Pulses are Necessary to Minimize Interpulse Variability in Corticospinal Excitability?

Jason Pagan Mentor: Dr. Matt S. Stock, School of Kinesiology and Physical Therapy

### Exploring the Effects Service Dogs Have on Veterans With PTSD

Shelby Reeves Mentor: Dr. Jean Davis, Dr. Victoria Loerzel, College of Nursing

### Racial Disparities Among Black Women in Maternal Health: A Literature Review

Tatiyana Rich Mentor: Dr. Leslee D'Amato-Kubiet, Dr. Angeline Bushy, College of Nursing

#### Rapid Grip Strength Predicts Reaction Time

Gabriela Rodriguez Mentor: Dr. Matt S. Stock, Dr. Nicole Dawson, Dr. Colby Mangum, School of Kinesiology and Physical Therapy

### Feasibility and Acceptability of a Remote-Based Wellness Program in Young Adults With Autism Spectrum Disorder, ASD During COVID-19

Riley Shurack Mentor: Dr. Jeanette Garcia, Health Sciences

### STUDENT SCHOLAR SYMPOSIUM | TUESDAY, MARCH 30 | SESSION II: 2:30 - 3:30 p.m.

Studying Effects of Career Termination on the Collegiate Athletes' Self-Identity With the **Transition Out of Sport Through** the Grief and Loss Cycle

Dvlan Street

Mentor: Dr. Thomas Fisher, Health

Sciences

**Interim Nurse Management Roles:** An Integrative Literature Review

Leah Utt

Mentor: Dr. Sandra Galura, College of

Nursina

### LIFE SCIENCES

### Undergraduate **Presentations**

The Perception, Usage, and Knowledge of *Moringa oleifera* in Mare-Brignol, Haiti after Increased **Education and Access** 

Preethashree Anbukkarasu. Archi Patel, Nichika Holdrum, Brandon Kaye, Leticia Ebihara

Mentor: Dr. Mary Schmidt-Owens, Dr. Michael Deichen, Burnett School of

**Biomedical Sciences** 

### Hollow Ceria Nanoparticle **Synthesis and Biomedical** Applications

Balaashwin Babu Mentor: Dr. Sudipta Seal, Dr. Tamil S Sakthivel, Dr. Elayaraja Kolanthai, Materials Science and Engineering

Clay and Copper Algaecide Impacts on Freshwater Wetland Biogeochemistry

Ashley Boggs

Mentor: Dr. Lisa Chambers, Biology

Long-Term Responses of Infaunal **Communities to Oyster Reef** Restoration

Lyndsey Chute

Mentor: Dr. Linda Walters, Biology

Ruffled Feathers: Influences of Restoration and Motorized **Boating Activities on Wading Bird** Biodiversity and Behaviors on **Intertidal Oyster Reefs** 

Melanie Dalla Valle

Mentor: Dr. Linda Walters, Biology

Consequences of Stress-Induced Trait Plasticity on Fitness Within **Cultivated Sunflower** 

Gillian Gomer Mentor: Dr. Chase Mason, Dr. Eric Goolsby, Biology

Natural History and Ecological Underpinnings of Zombie Ant Gravevards in Central Florida

Sara Linehan

Mentor: Dr. Charissa de Bekker, Biology

Do Ranavirus Infections Impact Disease Dynamics in Juvenile Marine Turtles?

Sydney Morton

Mentor: Dr. Anna Savage, Biology

Convalescent Plasma Therapy Uses. Indications, and Contraindications

Anh Nguyen

Mentor: Dr. Kyle Riding, Burnett School of

Biomedical Sciences

The Effects of Redox Potential on the Gas Production in Clostridioides difficile

Mansi Patel

Mentor: Dr. William Self. Burnett School of Biomedical Sciences

Is the Zombie Ant Phenomenon in Part a Product of a More Generalized Stress Response?

Zaynah Shahab

Mentor: Dr. Charissa de Bekker, Biology

Effects of Vaping Additive: Determining Impact of Vitamin E on Cell Growth and Death Patterns

Valorie Smith, Brian Brady Mentor: Ms. Nicole Verity, Dr. Robert Borgon, Burnett School of Biomedical Sciences

**Factors Affecting Tree Productivity** 

Alvssa Uebele

Mentor: Dr. Sasha Hararuk, Biology

### MATHEMATICS, OPTICS AND PHYSICAL SCIENCES

### **Graduate Presentations**

From Field to Failure: Toward Extreme Solar Photovoltaic Module Durability

Dylan Colvin

Materials Science and Engineering PhD

Characterizing Self-Gravity Wake Parameters in Density Waves in Saturn's Rings Using Cassini UVIS Stellar Occultation Statistics

Stephanie Eckert

Physics PhD, Planetary Sciences Track

Controlling the Hemiwicking of Gold Microstructures Using **Photoreactive Compounds** Ali Haghighat Mesbahi Chemistry PhD

Machine Learning Surrogate Models for Fast Bavesian Inference: Application to **Exoplanet Atmospheric Retrieval** Michael Himes

Physics PhD, Planetary Sciences Track

Mathematical Models for Animal Population Persistence on Symmetrical and Asymmetrical **Fragmented Landscapes** 

Allyson Jones Mathematical Science MS

Holographic Phase Masks -Versatile Beam Shaping Optical **Elements for High and Low Power Laser Applications** 

Nafiseh Mohammadian Optics and Photonics PhD

Nodal Line to Weyl Fermion **Transition Across the Magnetic** Phase of EuB6

Christopher Sims Physics PhD

**Investigation of Cloud** Condensation Nuclei Activity of Maleic Acid Aerosol Particles and Its Atmospheric Ageing Products Brett Young Chemistry PhD

### SOCIAL SCIENCES

#### **Graduate Presentations**

**Individual Characteristics and** Organizational Factors: A **Hierarchical Analysis of Probation** Officer Burnout and Turnover Intent

Lucas Alward Criminal Justice PhD

Paleoethnobotanical Analysis of Maya Ceramic Residues from Holtun, Guatemala

Kimberly Batres Anthropology MA

"I Am A Human": Reducing the Stigma Associated With the **Correctional System** 

April Chase Criminal Justice PhD

### STUDENT SCHOLAR SYMPOSIUM | TUESDAY, MARCH 30 | SESSION II: 2:30 - 3:30 p.m.

Investigating the Spatial Relationship Between Sense of Place and Community-Based Organizations: Do Community-Based Organizations Influence Volunteering in the Indian River Lagoon, Florida?

Erica Edmonston Sociology, Applied MA

## Identity Development Among Disadvantaged Students

Emalee Kerr Clinical Psychology MA, Research Thesis Track

Forensic Implications for Diagenetic Alteration of the Stable Isotopic Composition of Pig Ribs Following Exposure to Aqueous Conditions

Erin Martin Anthropology MA

## The Construction and Validation of a New Measure of Collective Effervescence

Christopher Nelson Clinical Psychology MA, Applied Pre-Licensure Non-Thesis Track

### Pandemic Related Identity Distress In College Students With Health Conditions

Bailey Wagaman Clinical Psychology MA, Research Thesis Track

Couples with Infertility: The Influence of Quality of Life, Relationship Satisfaction, Resilience, Depression and Shame Niko Wilson

Education PhD, Counselor Education Track

## **Undergraduate Presentations**

### The Effects of Evangelical Religion on Latin America: A Case Study on Brazil and Venezuela

Isabella Castro Mentor: Dr. Bruce Wilson, Dr. Barbara Kinsey, School of Politics, Security, and International Affairs

### "To Love or To Loathe": The Impact of Childhood Bullying on The Quality of Adult Romantic Relationships

Richelle Cruz Quetell Mentor: Dr. Grace White, Dr. Karen Mottarella, Psychology

### Training Resilience in Aviation Systems: A Literature Review

Yazmin Diaz Mentor: Dr. Peter Hancock, Dr. Jessica Cruit, Psychology

### News on Social Media and Attitudes among Consumers

Hang Duong Mentor: Dr. Chrysalis Wright, Psychology

### Capacity and Change in Climate Migrant-Receiving Communities in Central Florida

Maria Grisales, Veronica Arroyo, Sophia Chapdelaine, Katina Negron

Mentor: Dr. Fernando Rivera, Sociology

### Effects of Death Anxiety on Learning Performance

Umaima Haseeb Mentor: Dr. Corey Bohil, Psychology

### Floxed: Case Studies in the Lived Experiences of Individuals with Fluoroquinolone Poisoning

Luciana Jones

Mentor: Dr. Janan Smither, Dr. Daniel McConnell, Psychology

### Fake News and Women: Fake and Real Media's Impact on Sexism in Consumer Attitudes

Alexandra Oropallo Mentor: Dr. Chrysalis Wright, Dr. Jason Chesnut, Psychology

## Hemispheric Positionality: Body, Race, and Disposition

Micah Parker Mentor: Dr. Nessette Falu, Anthropology, Dr. Paul Joseph López Oro, Smith College

### The Effect of Relaxation on Employee Well-Being After Experiencing Job Stressors

Zoe Politis, Angela Le, James Lai Mentor: Dr. Mindy Shoss, Psychology

## Fake News: The Impact of Misinformation on Prejudice

Stephania Restrepo Mentor: Dr. Chrysalis Wright, Psychology

### Compounding Harm: Climate Justice, Hurricane Harvey, and Urban Planning in Houston

Sarah Royer

Mentor: Dr. Peter Jacques, School of Politics, Security, and International Affairs

### **EDUCATION**

## Undergraduate Presentations

Investigating the Effects of Alternative Assignments on Student Attitudes in a Remote Teaching Environment

Cameron Bechard

Mentor: Dr. Nicole Lapeyrouse, Chemistry

Exploring the Variation in COVID-19 Response Strategies in Community Corrections Agencies Across the United States

Nicole Niego, Priscilla Louis Mentor: Dr. Jill Viglione, Criminal Justice

BIPOC Communities and COVID-19: An Analysis of 2020's Growing Civil Unrest

Alexia Parra Tineo Mentor: Dr. Jill Viglione, Criminal Justice

An Exploration of the PedsAcademy Internship's Influence on Aspiring Educators' Preparation to Teach Children with Chronic Illnesses

Karla Sanabria

Mentor: Dr. Michelle Kelley, Dr. Rebeca Grysko, School of Teacher Education, Dr. Haiyan Bai, Learning Sciences and Educational Research

### ENGINEERING, COMPUTER SCIENCE, MODELING AND SIMULATION

## Undergraduate Presentations

A Comparative Study on Reliability of Heart Rate, Blood Oxygen Saturation, and Respiration Rate using Photoplethysmography at Lower and Upper limbs

Sonia Alvarez, Rachael Sak, Carlos Acosta

Mentor: Dr. Joon-Hyuk Park, Electrical and Computer Engineering

Development Of A Computationally Inexpensive Method Of Simulating Primary Droplet Breakup

Brendon Cavainolo Mentor: Dr. Michael Kinzel, Dr. Andrew Dickerson, Mechanical and Aerospace Engineering

## Elucidation of the Role of an Anti-Epileptic Drug on Astrocyte Mechanics

Priyanka Chandrashekar Mentor: Dr. Robert Steward, Mechanical and Aerospace Engineering

Effects of CMAS Infiltration on Thermal Barrier Coatings Analyzed by Confocal Raman Spectroscopy and Synchrotron High-Energy X-Rays

Vanessa D'Esposito

Mentor: Dr. Seetha Raghavan, Mechanical and Aerospace Engineering

Developing a 3D Printing Method to Print Stress Sensing Sensors for Structural Health Monitoring

Perla Latorre-Suarez, Rohan Madathil, Vanessa D'Esposito, Nya Segura-Watson, Felix Morales Mentor: Dr. Seetha Raghavan, Mechanical and Aerospace Engineering

Laser Powder Bed Fusion of Stainless Steel 15-5PH: Microstructure Analysis and Process Optimization

Cameron Lucas

Mentor: Dr. Yongho Sohn, Materials Science and Engineering

Pitch Representations Emerge in Artificial Neural Networks Optimized for Everyday Auditory Tasks

Bryan Medina

Mentor: Dr. Josh McDermott, Massachusetts Institute of Technology

How Adolescents in the Child Welfare System Seek Support Online

Taylor Moraguez Mentor: Dr. Pamela Wisniewski, Computer Science

IoT-Enabled Smart Mobility Devices for Aging and Rehabilitation

Nafisa Mostofa

Mentor: Dr. Damla Turgut, Computer Science

Multi-Modal Sensory Feedback for Enhanced Rowing Motor Learning

Magdalena Pasternak, Megan Contte

Mentor: Dr. Joon-Hyuk Park, Mechanical and Aerospace Engineering

Left Ventricular Strains During Late Filling in a Preclinical Model

Saar Peles, Sarah Villamil Mentor: Dr. Luigi Perotti, Mechanical and Aerospace Engineering Ambient-Assisted Living Framework for Generalized Anxiety Disorder Staging and Real-Time Monitoring

Geela Margo Ramos

Mentor: Dr. Joon-Hyuk Park, Mechanical and Aerospace Engineering, Dr. Daniel Paulson, Psychology

Laser Powder Bed Fusion of White Cast Iron: A Study with a Vision for 3D Printing of Regolith Derived Metallic Alloys

Brynn Reph

Mentor: Dr. Yongho Sohn, Materials Science and Engineering

Using Agarose to Deliver miRNA 146-a Conjugated Cerium Oxide Nanoparticles

Architha Venkatesan

Mentor: Dr. Elayaraja Kolanthai, Materials Science and Engineering

Perspectives on Young Children's Autonomy and Privacy on Social Media

Aneka Williams, Madeline Alverez Mentor: Dr. Mary Jean Amon, School of Modeling, Simulation and Training

### FINE ARTS AND HUMANITIES

### **Graduate Presentations**

An Examination of the Visual and Textual Rhetoric Uses in the #Block\_famous\_campaign in Saudi Arabia

Ream Al-ghamdi Texts and Technology PhD

Nursing Narratives: Mapping Nurses' Convalescent Homes and Rest Clubs from the First World War

Kayla Campana History MA

The Damage We Do: A 3D Exhibit on Looted Artifacts

Trevor Colaneri History MA, Public History Track

The Study of Free Will in the East and the West

Nicholas Colecio English MA, Literary, Cultural, and Textual Studies Track

How Twitter Exposes Daily Whiteness Practices in Mexico and Argentina

Erika Heredia Texts and Technology PhD

### STUDENT SCHOLAR SYMPOSIUM | WEDNESDAY, MARCH 31 | SESSION III: 10:30 - 11:30 a.m.

### The Queer Ringmaster: Chick Austin and the Circus Museum

David Matteson Texts and Technology PhD

## Music Concréte, Italian Futurism, and Visual Music Animation

Daniel McCabe Emerging Media MFA, Animation and Visual Effects Track

Between Socialism and Empire: The Social Democratic Party of Germany and the Herero Wars

Taylor Rayfield History MA

### **HEALTH SCIENCES**

### **Graduate Presentations**

### Florida Court Staff Perceptions Regarding Barriers to Medications for Opioid Use Disorder

Fatema Ahmed Public Affairs PhD, Health Services Management and Research Track

### Force/Load-Velocity Profiling Methods and Army Combat Fitness Test Performance in ROTC Cadets

David Boffey Exercise Physiology, Education PhD

### An Ethical Analysis on the View of Cadavers in Medical Education Through the Lens of Flexner II

Alexandra Bunea Biomedical Sciences MS, Integrated Medical Sciences Track

### Early Onset of Fatigue Thresholds as an Indication of Impaired Aerobic Capacity of the Arm Muscles

Nicolas Clark Education PhD

The Efficacy and Potential
Benefits of Moderate Intensity
Exercise for Community-Dwelling
Older Adults with Dementia or
Mild Cognitive Impairment: A
Systematic Review

Alec Davis Physical Therapy DPT

### Optimizing CD4 T Cell Responses to Influenza Virus through Transcriptional Programming

Caroline Finn Biomedical Sciences PhD

### Influenza A Virus-Specific CD4 T Cell Subset Polarization Is Retained Following Treatment With 17ß-Estradiol

Valeria Flores Malavet Biomedical Sciences PhD

## What Patient Population Utilizes Cash Based Physical Therapy Services?

Melinda Geisel Physical Therapy DPT

### Optimizing B-Mode Ultrasonography Research Methodology: Does Image Depth Influence Echo Intesity?

Ryan Girts
Exercise Physiology, Education PhD

### Carbohydrate-Protein Co-Ingestion Effectively Promotes Recovery Between Bouts of Exhaustive Intermittent Exercise

Erica Goldstein Exercise Physiology, Education PhD

## Reliability and Validity of TMG, a Systematic Review

Daniel Hampton Physical Therapy DPT

### Test-Retest Reliability of Corticospinal Excitability and Inhibition of an Agonist-Antagonist Pair

Kylie Harmon Exercise Physiology, Education PhD

## 3D Printing an Osteochondral Implant

Kari Martyniak Biomedical Sciences PhD

Examining the Effects of Amplitude-Based Training in Individuals with Parkinson's Plus Syndromes and Secondary Parkinsonism: A Case Series

Emily Morrell Physical Therapy DPT

### Musculoskeletal Pain Interference Due to Remote Working in Response to COVID-19

Mollie Przybocki Athletic Training MAT

### Effects of Interrupted Routine Due to COVID-19 on Circadian Chronotype and Leisure Time Physical Activity

Justine Renziehausen Exercise Physiology, Education PhD A Retrospective Data Analysis on Mechanism of Injury, Method of Entry, and Amount of Money Spent on Cash Based Physical Therapy

Justin Richmond Physical Therapy DPT

## Challenges and Barriers on the Implementation of Rehabilitation Exercises for Scapular Dyskinesis via Telemedicine: A Clinician's Perspective

Zamaris Rivera Athletic Training MAT

### Local Versus Systemic Hypoxia: Differences in Neuromuscular Function During Exercise

Paola Rivera Exercise Physiology, Education PhD

Exploring the Knowledge, Perceptions and Attitudes of Typical Middle and High School Students Towards Individuals With Disabilities

Nicole Russell Physical Therapy DPT

### Spermidine Rescued PTPN2/22 Function in CRISPR-Cas9-edited T-cells with PTPN2/22 SNPs Linked to Crohn's Disease and Rheumatoid Arthritis

Ameera Shaw Biotechnology MS

### Examining the Reliability of the Upper Body 3-Minute Critical Power Test

Tristan Starling-Smith Exercise Physiology, Education PhD

### Medications for Opioid Use Disorder and Naloxone in News Media from 2005-2019

Rachel Totaram Public Affairs PhD, Health Services Management and Research Track

## Retention of Athletic Trainers in the Secondary School Setting

Emily Tran Athletic Training MAT

### Stress and Coping Among Pregnant Black Women during the COVID-19 Pandemic

Jenna Wheeler Nursing PhD, BSN to PhD Track

### LIFE SCIENCES

## Undergraduate Presentations

Can Lifespan be Extended with a Drug? Analysis of a Novel Compound that Mimics Dietary Methionine Restriction

Natali Barakat

Mentor: Dr. Laurence von Kalm, Biology

### Targeting Arginine Biosynthesis to Control and Reverse Small Cell Transformation in Lung Cancer

Robert Burns

Mentor: Dr. Wencai Zhang, Burnett School of Biomedical Sciences

### Development of Transgenic Cordycrps bassiana for the Verification of Putative Behavioral-Manipulation Genes in Ophiocordyceps Camponotifloridani

Devin Burris

Mentor: Dr. Charissa de Bekker, Biology

## The Effects of Roundup on Disease Transferability Probability of *Aedes aegypti*

Michele Crowhurst

Mentor: Dr. Kenneth Fedorka, Biology

### Pollinator Abundance and Diversity in Natural Lands Versus Urban Landscapes

Kaili Gruwell, Alannah Callaghan, Lauren Betza, Ian Schwartzberg, Lauren Hankes

Mentor: Ms. Jennifer Elliott, Biology

### Single-Cell Metabolic Profiling of Immune Response During Severe COVID-19 Reveals Multiple Potential Therapeutic Targets

Sanjeev Gurshaney

Mentor: Dr. Hung Nguyen, Burnett School

of Biomedical Sciences

### Designing A Restoration Plan for the UCF Arboretum Boardwalk To Enhance Biological Functionality and Community Engagement With Nature

Alexandra Holiday, Veronica Renzette, Juliana Ser, Emma Roehrig, Lily Jaczko

Mentor: Ms. Jennifer Elliott, Biology

### Investigating Microplastic Abundance and Hotspots in the Guana River

McKenna Keplinger Mentor: Dr. Linda Walters, Biology

### LncRNA PAINT Promotes Prostate Cancer Progression Through Modulation of Genes Involved In Epithelial-mesenchymal Transition and Apoptosis

Ayman Khatib

Mentor: Dr. Ratna Chakrabarti, Burnett School of Biomedical Sciences

## Luminescence Stabilization in Gaussia Luciferase Assay

Alesia Lokshina

Mentor: Dr. Thomas Kean, Burnett School of Biomedical Sciences

### Development of a SOX9 Reporter Cell for High-Throughput Chondrogenic Assessment

Alyssa Mickle

Mentor: Dr. Thomas Kean, Burnett School of Biomedical Sciences

### Understanding the Genetic Control of Secondary Metabolism Within Sunflowers

Emir Saffar

Mentor: Dr. Chase Mason, Biology

## Carbon Sequestration of Longleaf Pines Across Three Ecosystems

Danielle Vincent, Chere' Érickson, Thomas Jordan Evans, James Ray Bardo Jr., Alec Santiago Mentor: Ms. Jennifer Elliott, Biology

### SOCIAL SCIENCES

### Undergraduate Presentations

### The Impact of Hope on Loneliness

Taila Ben-lulu

Mentor: Dr. Janan Smither, Dr. Daniel McConnell, Psychology

### Associations between Adverse Childhood Experiences ACEs and Suicide Risk Factors and Warning Signs

Ashley Cieplensky Mentor: Dr. Kimberly Gryglewicz, School of Social Work

### Sorority Women in STEM and Imposter Syndrome

Lindsay Eisenstark

Mentor: Dr. Angela Vergara, Sociology

### Understanding People's Perceptions About Transracial Adoptions

Marielle Garvey

Mentor: Dr. Valerie Sims, Psychology

## Effects of Cellphone Use on Working Memory

Amanda Gonzalez, Argelis Milian Robles

Mentor: Dr. Marisol Parra-Tatge, Psychology

### Predicting Objective Career Success: An Examination of Leadership and Proactive Personality

Isabella Guerrero

Mentor: Dr. Victoria Pace, Dr. Marisol Parra-Tatge, Psychology

### Spaces Between and Things Unseen: An Archaeological Analysis of the Burns Site

Erin Hage, Daniel Langdon, Ashley Comstock

Mentor: Dr. Sarah B. Barber, Anthropology

## Individual Variation in Causal Learning

Laila Johnston

Mentor: Dr. David Danks, Carnegie Mellon University

### The Role of Acculturative Stress on Immigrant Mental Health

Daaman Lall

Mentor: Dr. Shahram Ghiasinejad, Psychology

### Penny and Its People: An Archaeological and Holistic Approach to Settlements in Cape Canaveral, Florida

Lauren Lehman, Amara Williams, Jennifer Moreno, Lydia Kiernicki Mentor: Dr. Amanda Groff, Dr. Sarah Stacy Barber, Dr. Neil Duncan, Anthropology

### Coping Mechanisms in Graduate School Discipline Specific Comparison

Sandra Montenegro

Mentor: Dr. Steve Jex, Dr. Kristin Horan, Psychology

## Examining the Relationship Between Mood Disorders and Risk Perception in Determining COVID-19 Preventative Behaviors

Krupali Patel

Mentor: Dr. Nichole Lighthall, Psychology

## Elaboration in Narratives of Covid-19: Relations to Mental Health

Jullianna Stalbaum

Mentor: Dr. Widaad Zaman, Psychology

## Everything is Under Control: The Types of Autonomy and Their Effect on Job and Life Satisfaction

Eram Syed, Magali Scotto-Lavina, Nathaly Rayo, Malek Kalai Mentor: Dr. Mindy Shoss, Psychology

### **EDUCATION**

## Undergraduate Presentations

### Analysis of Spatial Hierarchy of Real and Ideal Chemistry Learning Spaces

Bethany Arcaya, Brianna Ewing Mentor: Dr. Julie Donnelly, Dr. Nicole Lapeyrouse, Chemistry

### Designing an ELA Thematic Unit with Students with ASD in Mind: The Synthesis of Social-Emotional Learning and Writing Strategy Instruction

Maya Govea Calderon Mentor: Dr. Norine Blanch, Dr. Mary Little, School of Teacher Education

## The Relationship Between Campus Involvement and Civic Engagement

Sheina Koolik

Mentor: Dr. Gregg Buckingham, Dr. Daniel Seigler, School of Public Administration

### Internalized Argot Roles on Perception of Fear and Manipulation in Jail

Keily Mena

Mentor: Dr. Frances Abderhalden, California State University, Los Angeles

### Racial Biases in Early Childhood Classrooms Among Pre-Service and In-Service Teachers

Tiffany Tan

Mentor: Dr. Marisa Macy, Dr. Judith Levin, School of Teacher Education

### FINE ARTS AND HUMANITIES

## Undergraduate Presentations

Understanding Africa in the 21st Century: The Past, Present, and the Prospect for the Future

Sengo Pauline Kabambi Mentor: Dr. Obi Nwakanma, English

### Tales of Sunshine: Short Film Series Documenting Diverse Florida Conservationists and Their Lives During COVID-19

Vincent Marcucci, Christopher Shick

Mentor: Ms. Lisa Peterson, Nicholson School of Communication and Media

## The Definers and the Defined: The Conditionality of Global South Tendencies in the Works of Anita Brenner and Una Marson

Zohra Qazi

Mentor: Dr. Louise Kane, English

### Thrive: Using Theatre for Social Change to Promote Learning, Well-Being, and Personal Application Among Undergraduate Students

Seva Reilly

Mentor: Prof. Sybil St. Claire, School of Performing Arts

### A Third Culture Kid's Quest for Belonging: Ephemeral, Eternal, and the Space in Between

Simona Wiig

Mentor: Prof. Byron Clercx, Dr. Ilenia Colon Mendoza, School of Visual Arts and Design, Dr. Martha Garcia, Modern Languages and Literatures

### HEALTH SCIENCES

## Undergraduate Presentations

### A Literature Review on The Potential Impact of COVID-19 on The Future of Human Subject Research

Sarah Akbarpour

Mentor: Dr. L. Colby Mangum, Health Sciences

### Contralateral Repeated Bout Effect of the Elbow Flexors in Untrained Males

Ariel Alberto Mentor: Dr. Nicholas Coker, Springfield College

## Talk and Play with Me: Facilitated Playgroups to Promote Communication Skills

Kasey Allen

Mentor: Dr. Jacqueline Towson, School of Communication Sciences and Disorders

### The Relationship Between Rapid Weight Loss and Physical Performance in Combat Sports

Sean Cavey

Mentor: Dr. Anna Valdes, Dr. Thomas Fisher, School of Kinesiology and Physical Therapy

### Using Physical Exercise Interventions to Reduce Depression and Axiety in People with Lung Cancer

Jordan Dubocq

Mentor: Dr. Victoria Loerzel, Dr. Jean Davis, College of Nursing

### Home-Based Interventions to Lower Neonatal Mortality Rates in Developing Countries

Josee Etienne

Mentor: Prof. Donna Breit, Dr. Dawn Turnage, Dr. Desiree Díaz, College of Nursing

### The Effects of Maternal Alcohol Consumption on Risk of TDS Development in Their Sons

Alexa Gallelli, Janet Guelmes Mentor: Dr. Michael Rovito, Health Sciences

### The Effects of Martial Arts Training on Social Interaction in Children with Autism Spectrum Disorder, ASD

Serenity Jackson

Mentor: Dr. Jeanette Garcia, School of Kinesiology and Physical Therapy

### Readability of Cochlear Implant Brochures: A Potential Factor in Parent Choice

Jennifer La Scala Mentor: Dr. Janel L. Cosby, Dr. Linda I. Rosa-Lugo, Dr. Richard I. Zraick, School of Communication Sciences and

## Evaluating the Negative Influences of COVID-19 on the Aphasic Community and Related Healthcare Providers

Maireni Nunez

Disorders

Mentor: Dr. Antony Pak-Hin Kong, School of Communication Sciences and Disorders

## The Fighting Journey of the Premature Baby: A Systemic Review

Dana Patel

Mentor: Dr. Katia Ferdowski, Health Sciences, Dr. Jacqueline Towson, School of Communication Sciences and Disorders

### Food Insecurity After Hurricane Maria: Perceptions and Psychological Effects Among Puerto Ricans

Valeria Sostre

Mentor: Dr. Humberto Lopez Castillo, Health Sciences

### LIFE SCIENCES

### **Graduate Presentations**

Surface Flow Constructed Wetland Organic Matter Reduction Via Periodic Water Level Draw-Down Paul Boudreau Biology MS

### Counteractive Effects of Electrostatics and Macromolecular Crowding on Actin Bundle Mechanics and Secondary Structure

Nicholas Castaneda Biomedical Sciences PhD

### E-cigarette Vape Enhances S. Aureus Oral Colonization and the Epithelial Immune Response

Alma Catala Valentin Biomedical Sciences PhD

### Crowder Size Influences Actin Assembly Dynamics and Kinetics

Bryan Demosthene Nanotechnology MS

### Inhibition of Polyamine Transport in Human Pancreatic Cancer Cells by an Indole Compound GW5074

Aiste Dobrovolskaite Biomedical Sciences PhD

### Anti-MAP Triple Therapy Supports Immunomodulatory Therapeutic Response in Crohn's Disease

Erij Elkamel Biotechnology MS

### DosRS Mediated Adaptation of Mycobacterium abscessus to Hypoxic and Nitrosative Stress

Breven Gaines Biomedical Sciences PhD

### Monitoring Competition Jump Load in Division I Female Collegiate Volleyball Athletes

Chad Herring Exercise Physiology, Education PhD

### The Recovery of Single Source DNA Profiles from Contributors to Complex Mixtures by Direct Single Cell Subsampling, DSCS

Kaitlin Huffman Chemistry PhD

### Endocytosis of the CdtA Subunit from Haemophilus ducreyi Cytolethal Distending Toxin

George Huhn Biomedical Sciences PhD

### Small Organic Osmolytes Accelerate Actin Filament Assembly

Pavlo Kravchuk Nanotechnology MS, Non-Thesis Track

### Using Codon Frequencies to Classify Gene Sequences to Biochemical Pathways Using Machine-Learning

Sambadi Majumder Integrative and Conservation Biology PhD

### Methods to Quantify Mineral Associated Organic Matter in Subtropical Wetlands

Anthony Mirabito Biology MS

### Targeting the Succinate Dehydrogenase Enzyme In Non-Small Cell Lung Cancers

Nicholas Skiados Biomedical Sciences MS

### Defining MprF Mediated Lipid Modifications in Actinobacteria and Examining Their Role in Antimicrobial Resistance

Danielle Worrell Biomedical Sciences PhD

## Engineered Iridium Nanoparticles for Bio-Sensing and Disease Biomarker Detection

Tamar Yishay Nanotechnology MS

## Undergraduate Presentations

### Application of Bonferroni and Holm Methods in Biomedical Research

Jarod Barnhart Mentor: Dr. Julia Soulakova, Population Health Sciences

## UCF Students' Knowledge of Sexually Transmitted Diseases

Danielle Faketty Mentor: Dr. Alicia L Hawthorne, Burnett School of Biomedical Sciences

## Crystallization of the Fusion Protein GST-EGFP

Nancy Flynn Mentor: Dr. Robert Borgon, Ms. Nicole Verity, Burnett School of Biomedical Sciences

### Efficacy of Cystatin C Over Creatinine as a Renal Marker for Acute Kidney Injury in Select Patient Populations

Matthew Hibdon Mentor: Dr. Kyle Riding, Burnett School of Biomedical Sciences

## Clostridioides difficile Motility in Defined Culture Media and Its Response to Nutrients

Mary Ishak

Mentor: Dr. William Self, Burnett School of Biomedical Sciences

## Delineating the Five Subspecies of Native Beach Sunflower, H. debilis

Nathan Leemis

Mentor: Dr. Chase Mason, Biology

### Conservation in Palm Beach County: Using GIS Mapping to Improve Shoreline Management Efforts

Cristina Lingvay

Mentor: Dr. Melinda Donnelly, Biology

### Phototransduction Components Involved in the Visual System of the Lone Star Tick

Arimar Lopez

Mentor: Dr. Robert R. Fitak, Biology

## Mapping Stress Hormone Synthesis: Pnmt Localization and Expression in the Cerebellum

Meeti Mehta

Mentor: Dr. Steven Ebert, Burnett School of Biomedical Sciences

### The Two N-terminal Thioredoxin Domains of Protein Disulfide Isomerase are Sufficient for Cholera Toxin Disassembly

Antonio Mele

Mentor: Dr. Ken Teter, Burnett School of Biomedical Sciences

### Effects of Cosmic Radiation Exposure to Bone Regeneration Mechanisms and P53 Activation

Idael Ortiz

Mentor: Dr. Melanie Coathup, Dr. Raj Sawh-Martinez, Burnett School of Biomedical Sciences

### Multifactorial Media Optimization via Design of Experiment Strategy Results in Increased Type 2 Collagen Expression in Cartilage Tissue

Javier Velez Toro Mentor: Dr. Thomas Kean, Burnett School of Biomedical Sciences

## MATHEMATICS, OPTICS, AND PHYSICAL SCIENCES

## **Undergraduate Presentations**

Analysis of SONORA Substellar Atmosphere Models and Spectra Dataset Using Machine Learning

Alex Cingoranelli

Mentor: Dr. Joseph Harrington, Physics

Model Creation and Analysis for COVID-19

Matthew Crespo

Mentor: Dr. Zhisheng Shuai, Mathematics

Developing a DNA Machine for Biomarker-Activated Cleavage of a Housekeeping Gene mRNA

Jocelyn Evins

Mentor: Dr. Dmitry Kolpashchikov,

Chemistry

On the Molecular Basis of Alzheimer's Disease

Bryan Garcia

Mentor: Dr. Suren A. Tatulian, Physics

Modeling and Analysis of COVID-19 and Dynamical Systems in Biology and Physics

Vladimir Grbic

Mentor: Dr. Costas Efthimiou, Physics

The Cognitive Role of Amyloid Beta and Tau Protein in Alzheimer's Disease

Rowan Hassan

Mentor: Dr. Suren A. Tatulian, Physics

Asymptotics of Greedy Energy Sequences

Ryan McCleary

Mentor: Dr. Abey Lopez-Garcia,

Mathematics

Application of Edge Detection Techniques to Angle Resolved Photoemission Specttoscopy Data

Luis Persaud

Mentor: Dr. Madhab Neupane, Physics

Electrostatics and Riemann Surfaces

Spencer Tamagni

Mentor: Dr. Costas Efthimiou, Physics

Simulating Systematic Errors and Exoplanet Transits for the James Webb Space Telescope

David Wright

Mentor: Dr. Joseph Harrington, Physics

### **SOCIAL SCIENCES**

### **Graduate Presentations**

Cybersecurity: The Problematic of Constructing an Interdisciplinary Methodology to Theorize and Analyze the Emerging Discipline in the Digital Domain

Hajer Albalawi

Texts and Technology PhD

Macro-Level Factors Impacting Colorectal Cancer Screening Behavior Among Church-Going Chinese Immigrants: A Convergent Mixed-Method Study

Xian Cao

Public Affairs PhD, Health Services Management and Research Track

Leveraging Digital Platforms to Capture Multimodal Data on Diagnostic Reasoning

Elizabeth Cloude

Education PhD, Learning Sciences Track

Surrounded By The Dead: A Spatial Analysis Of Kuelap's Mortuary Practices, Peru

Hannah Haynes Anthropology MA

Bayesian Nearest Neighbor Matrix-Normal Gaussian Process Model

Qing He

Big Data Analytics PhD

The Direct and Indirect Effects of Strategic Civilian Displacment on Territorial Control in Conventional Civil War

Jennifer Hudson Security Studies PhD

Climate, Violent Conflict and Women's Economic Empowerment in the Nigerian North East

Jennifer Joel Security Studies PhD

How Incarceration History Affects Opioid Use

Laura Lightfoot Sociology, Applied MA

Juvenile Probation and COVID-19: Examining the Challenges and Implementation of New Strategies

Ashley Lockwood Criminal Justice PhD

Companionship Matters: User-Desired Qualities in Human-Robot Social Companionship

Fernando Montalvo Human Factors and Cognitive Psychology Contextualizing Self-Abandonment Through Identity in Romantic, Social, and Family Relationships

Rawad Nahhas Communication MA

Read All About It: The D-Day Inspired Shift in British World War II Journalism

Jessica Oldham History MA

A Body In Focus: Examining Ancient Maya Life and Death Through Osteobiography

Horvey Palacios Anthropology MA

The Internal Heterogeneity of Terrorist Organizations

Erika Ricci Security Studies PhD

Towards a Definition of Transactional Sex in the Scientific Literature a Systematic Narrative Literature Review

Daniel Serrano Kinesiology MS

From Waves to Huacas Stable Isotope Analysis of Ancient Social Elite Diet at Túcume Peru

Dylan Smith Anthropology MA

Hispanic Serving Institutions: Exploring the Depth of a Designation

Ashley Stone Sociology PhD

Meeting in the Middle: The Role of Cultural Diversity in Spaceflight

Krisztina Szabo Industrial and Organizational Psychology PhD

Systematic & Theoretical Analysis of Research: Habitation-Moon

Xeona Villegas Nondegree or Transient

Florida Campaign Money: Are Constituents being Represented?

Craig Wilding Political Science MA

**Averting School Mass Shootings**Ashlev Winch

Clinical Psychology PhD

### STUDENT SCHOLAR SYMPOSIUM | WEDNESDAY, MARCH 31 | SESSION IV: 12:30 - 1:30 p.m.

## **Undergraduate Presentations**

### An Investigation Into Provider Communication at UCF and the Impact of Health Literacy on Teach-Back Outcomes

Shreya Atmakuri Mentor: Dr. Ann Miller, Nicholson School of Communication and Media, Dr. Richard Zraick, School of Communication Sciences and Disorders

### The Role of Conscientiousness on the Relationship between Information Processing, Job Satisfaction, and Cognitive Engagement

Ignacio Azcarate, Jeff Emile Mentor: Dr. Mindy Shoss, Psychology

### The Role of Work-Family Conflict on the Relationship Between Job Autonomy and Organizational Commitment

Giselle Chaviano, Rishika Sharma Mentor: Dr. Mindy Shoss, Psychology

### The Feasibility of Recruiting the Elderly in Minority Groups for Research During a Global Pandemic

Oscar Garcia Mentor: Dr. Ladda Thiamwong, College of Nursing

### Awareness of Suicide Risk Factors and Warning Signs Differ Based on Demographics

Fatima Hussain Mentor: Dr. Kimberley Gryglewicz, School of Social Work

### A Study Exploring the Factors that Influence Abortion Related Opinions in the US

Calissa Jones Mentor: Dr. Kenicia Wright, Dr. Anca Turcu, School of Politics, Security, and International Affairs

### Aftermath: The Impact of an OB/ GYN Appointment on the Mental Health of Queer Assigned-Female-At-Birth Sexual Assault Survivors with AFAB Perpetrators

Madeline Judy Mentor: Dr. Jason Chesnut, Psychology

### Working Memory and Executive Functioning in Older Adult Cannabis Users

Madison Maynard Mentor: Dr. Daniel Paulson, Dr. Michael Dunn, Psychology

## Craving for Attention: Examining Mood and Attention Bias In The Moment as Predictors of Alcohol Craving

Katie Moskal Mentor: Dr. Robert Dvorak, Psychology

## The Effects of Health Crises on Democracy in sub-Saharan Africa

Abigail Reynolds

Mentor: Dr. Jonathan Powell, School of Politics, Security, and International Affairs

### Gender Ideology, Gender Consciousness, and Identity Among Conservative Baptist Women: An Intersectional Perspective

Marina Rivera Ramos Mentor: Dr. Michael Armato, Sociology

## Narrative Elaboration of Adverse Experiences and Mental Health

Serena Somberg

Mentor: Dr. Widaad Zaman, Psychology

### FINE ARTS AND HUMANITIES

### Undergraduate Presentations

### Cultural Norms of Russian and American Women in the 21st Century

Emma Bancroft Mentor: Dr. Alla Kourova, Modern Languages and Literatures

### Look Out, Here Comes Fraud!: A Multimodal Analysis of Retail Scammers

DiGray Olcima Mentor: Melissa Pompos Mansfield, Writing and Rhetoric

### Systemic Inequalities for Afro-Brazilians

Teya De Oliveira Mentor: Dr. Sandra Sousa, Modern Languages and Literatures

### How Some Registered Student Organizations, RSOs Have Organized During the COVID-19 Pandemic

Kurt Ramos Mentor: Dr. Kevin Roozen, Writing and Rhetoric, Dr. J.D. Applen, Dr. Peter Telep, English

### **HEALTH SCIENCES**

## Undergraduate Presentations

## Perceptions and Health Effects of Electronic Cigarettes among College Students

Safia Centner Mentor: Dr. Suha Saleh. Health Sciences

### Complementary and Alternative Treatments for Individuals with Epilepsy

April Detrick Mentor: Dr. Leslee D'Amato-Kubiet, Dr. Angeline Bushy, College of Nursing

### Evaluating the Nutritional Adequacy of Peruvian-American Children

Delainey Dietz Mentor: Dr. Desiree Diaz, College of Nursing

## Influence of Body Composition on Army Combat Fitness Test Performance

Joseph DiPrima, Amanda Straus, Carson McAbee, Bianka Monis, Hannah Bauta

Mentor: Dr. David Fukuda, School of Kinesiology and Physical Therapy

### Exploring the Relationship between Disordered Eating, Internalized Homophobia, and Self-Esteem in Men Who have Sex with Men

Gabriel Garces Mentor: Dr. Humberto López Castillo, Health Sciences

## The Psychological Benefits of a Remote Physical Activity Intervention in Young Adults with Autism Spectrum Disorder

Madisyn Pelchat Mentor: Dr. Jeanette Garcia, Health Sciences

### Association Between Plasma Genistein and Health-related Quality of Life In Breast Cancer Survivors

Tran Pham Mentor: Dr. Eunkyung Lee, Dr. Mohammadali Amirkhosravi, Health Sciences

### Readability of IDEA Procedural Safeguards Written in Spanish

Stella Quintero

Mentor: Dr. Richard Zraick, Dr. Linda Rosa-Lugo, School of Communication Sciences and Disorders

### Sedentary Behavior: An Obesogenic Risk Factor in Rural Children

Serina Rayan

Mentor: Dr. Keith Brazendale, Health Sciences

### Use of Mechanical Pronation Beds to Treat Patients with Acute Respiratory Distress Syndrome in the Intensive Care Unit setting: An Integrative Review of the Literature

Amanda St. John Mentor: Dr. Angeline Bushy, Dr. Leslee D'Amato-Kubiet, College of Nursing

### Patient-Reported Outcome Measures in Voice: An Updated Readability Analysis

Julia Stefu

Mentor: Dr. Richard Zraick, Dr. Bonnie Slavych, School of Communication Sciences and Disorders

## Readability and Quality of Internet Information on Dysphagia

Sarah Steiner

Mentor: Dr. Richard Zraick, Dr. Bonnie Slavych, School of Communication Sciences and Disorders

### LIFE SCIENCES

## Undergraduate Presentations

### Dietary Variation in Gut Microbiome among Vegans and Omnivores

Rachel Adamson Mentor: Dr. Taj Azarian, Burnett School of Biomedical Sciences, Dr. Swadeshmukul Santra, Chemistry

### Sink or Swim: Comparing Emergent vs. Free-Floating Aquatic Plants and Their Ability to Remove Nutrients from Stormwater

Luciana Banquero, Lyndsey Chute, Maximillion Meader, May Lam Mentor: Ms. Jennifer Elliott, Amanda Lindsay, Biology

### Mice Expressing a Human CMT Mutation Have Defects in Cerebellar Development

Isabel Carvalho Mentor: Dr. Stephen King, Burnett School of Biomedical Sciences

### Genetic Diversity in Coastal and Inland Populations of Rana Sphenocephala Facing Sea-Level Rise

Rachel Gutner Mentor: Dr. Anna Savage, Biology

### Assessing Vertebrate Abundance, Behavior, and Impact on A Living Shoreline Through Wildlife Camera Analysis

Jason Litwak, Julia Rifenberg Mentor: Dr. Linda Walters, Biology

### Using Genetics in a Model Organism to Understand Polyamine Transport

Victoria Millington Mentor: Dr. Laurence Von Kalm, Biology

### Spatial Analysis of Sea Turtle Nest Predation by Coyotes and Raccoons

Jennifer Rote Mentor: Dr. Erin Seney, Dr. Kristy Lewis, Dr. Eric Goolsby, Biology

### Tobacco Use Behaviors and Attitudes Toward the Smoke- and Vape-Free Campus Policy Among UCF Students: Analysis of 2020 Data

Jeremy Sheiber Mentor: Dr. Julia Soulakova, Department of Population Health Sciences

## The Effect of Sugars on Gas Production in *Clostridioides* difficile

Rhianna Ventura Mentor: Dr. William Self, Burnett School of Biomedical Sciences

### Investigating Microplastic Exposure in Pea Crabs from the Indian River Lagoon

Sophia Vermeulen Mentor: Dr. Linda Walters, Biology

## MATHEMATICS, OPTICS AND PHYSICAL SCIENCES

### **Graduate Presentations**

## Segmental Aggregation and Structural Propensities of Amyloid B Peptide

Faisal Abedin Physics PhD

### Predicting Final Size of a Cholera Outbreak on a River Network

Christopher Botelho Mathematics PhD

### Characterization and Catalytic Study of Valorized Downstream ZrS2 CVD Waste

Taylor Currie Chemistry PhD

### Observation of Multi-Fermionic States in Ti2Te2P

Gyanendra Dhakal Physics PhD

## Traffic Flow Model and Its Implementation to Realistic Vehicle Interactions

Oluwaseun Farotimi Mathematics PhD

## Raman Microspectroscopy of a Silicon Solar Cell

Jeya Prakash Ganesan Materials Science and Engineering PhD

### Computation of Effective Properties of Multi-Laminated Composites

David Guinovart Sanjuan Mathematics PhD

## Effect of Dilute Magnetism in a Topological Insulator

Firoza Kabir Physics PhD

### Developing an Efficient Co3O4/Ni Catalyst for the Oxygen Evolution Reaction

Zackary Parsons Physics PhD

## A Mathematical Model For COVID-19

Hanna Reed Mathematics PhD

### Temperature-dependent Electronic Structure in a Higher-Order Topological Insulator Candidate EuIn2As2

Sabin Regmi Physics PhD

## Decoding DNA Barcodes using Nanopore Translocation

Swarnadeep Seth Physics PhD

### Introduction of Local Strain in Hexagonal Boron Nitride with Light-Assisted Atomic Force Microscopy

Fernand Torres-Davila Physics PhD

### Spectral Broadening of Oneand Two-Color Pulses from a Femtosecond Yb Laser Amplifier

Chau Truong Physics PhD

### Mathematical Measurements for the Spread and Control of Infectious Diseases

Poroshat Yazdanbakhshghahyazi Mathematics PhD

### The Adsorption of Oxygen on Bimetallic Pd3M2 Clusters, M= Ag, Au, Co, Cu, Mn, Ni, Pt and Ru with and without Alumina Support by Density Functional Theory

Nusaiba Zaman Physics PhD

## Undergraduate Presentations

## Experimental Investigation of Planetesimal Accretion

Yeniz Azconovieta Mentor: Dr. Joshua Colwell, Physics

### Design and Creation of a Miniaturized Gas Chromatograph for Field Research

Rishi Basdeo Mentor: Dr. Michael Hampton, Chemistry

### Predicted Chemical Synthesis through Genetic Algorithms and Neural Networking

Jonah Halili Mentor: Dr. Richard Blair, Physics

### Bimetallic Cluster Structure Optimization Search Aided by Machine Learning and Genetic Algorithm

Carson Kelly Mentor: Dr. Abdelkader Kara, Physics

## How Common Is It for Exogenous Material to be Found on Asteroids?

Daniela McCarty, Jennifer Nolau, Alicia Allen Mentor: Dr. Humberto Campins, Physics

### Precise Measurement of Pressure-Temperature Phase Diagrams of Responsive Polymers in Aqueous

**Solution.** Austin Schrader

Mentor: Dr. Alfons Schulte, Physics, Dr. Lorraine Leon, Materials Science and Engineering

### SOCIAL SCIENCES

## **Undergraduate Presentations**

### Capturing Diagnostic Reasoning Using Multimodal Data From Digital Platforms to Enhance Medical Education and Training

Nikki Anne Ballelos

Mentor: Dr. Roger Azevedo, Learning Sciences and Educational Research

## The Girlhood Double-Standard: Girls' Perceptions of Gendered Classroom Expectations

Juliet Cahow Mentor: Dr. Anne Bubriski, Women's and Gender Studies, Dr. Angela Vergara, Sociology

### STUDENT SCHOLAR SYMPOSIUM | THURSDAY, APRIL 1 | SESSION V: 11:30 a.m. - 12:30 p.m.

## The Politics of Kindness: Ideology, Empathy, and Entitlement

Fernando Elizarraras, Gabrielle Scott, Roberto Martinez-Espinosa Mentor: Dr. Jason Chesnut, Psychology

### Physical Activity Moderates the Relationship Between Apoe4 Status and Working Memory: The Health and Retirement Study

Dalia El-Shafie Mentor: Dr. Daniel Paulson, Dr. Nichole Lighthall, Psychology

### Examining Mental Health Symptoms Among English and Spanish-Speaking Populations

Tirzah Fernandes Mentor: Dr. Kimberley Gryglewicz, School of Social Work

### A Look Into Virtual Reality Depth Perception: Comparing the HTC Vive and Oculus Rift for Immersion and Workload

Jacey Koo Mentor: Dr. Crystal Maraj, School of Modeling, Simulation and Training

### Domestic Migrant Workers in Lebanon: Factors Influencing a Precarious Position

Jasmine Masri Mentor: Dr. Güneş Murat Tezcür, Dr. Konstantin Ash, School of Politics, Security, and International Affairs

### Using Gramsci's Theory of Cultural Hegemony to Examine Obstructions to Energy Transition

Nathaniel Miller Mentor: Dr. Peter Jacques, School of Politics, Security, and International Affairs

### Experiences of Breastfeeding Support in Healthcare Settings Among African American Mothers

Hanna Nour Mentor: Dr. Shannon K. Carter, Sociology

### Informal Systems of Health Care: How Grassroots Organizations and Health Care Practitioners Perceive Farmworker Health

Andrea Ocasio Cruz Mentor: Dr. Beatriz Reyes-Foster, Anthropology

### Relating the Big Five Personality Factors and the Method of Dog Obtainment in Dog Owners

Julia Rifenberg

Mentor: Dr. Valerie Sims, Psychology

## Understanding the Link Between Perception and Action: An Examination of Conflicting Theories

Faith Sauber

Mentor: Dr. Mary Jean Amon, Dr. Joseph T. Kider Jr., School of Modeling, Simulation and Training, Dr. Daniel S. Mcconnell, Psychology

### **EDUCATION**

### **Graduate Presentations**

Track

Equity in Early Literacy Instruction Monica Berns-Conner Education PhD, Exceptional Education

Enhancing Middle School Science Instruction for Students with Disabilities Using The Principles of Universal Design for Learning and Technology

Jacob Brewer
Education PhD, Exceptional Education
Track

Evaluation of an Online Module Enhanced with Universal Design for Learning for use in Special Education Teacher Preparation

Sacha Cartagena Education PhD, Exceptional Education Track

Predicting Students' Academic Performance with Machine Learning Techniques

Yuting Chen Education PhD, Methodology, Measurement and Analysis Track

The Perceptions of Clinical Instructors: How Virtual Learning Impacts the Clinical Education Experience of Physical Therapy Students on Their First Clinical Education Experience

Ashleigh-Jo Darby Physical Therapy DPT

The Effects of Distance Learning on Students from Lower Socioeconomic Statuses During State and National Emergencies Miranda Eddy

Applied Learning and Instruction MA

How Science Inquiry Outcomes Compare for Students with Learning Disabilities and Intellectual Disabilities: A Systematic Literature Review

Shalece Kohnke
Education PhD, Exceptional Education
Track

Intersectionality As a Lens to Explore How Black Male College Students' Science Identities and the Relevance of Their Science Learning Influence Their Decisions to Pursue Science Professions Regina McCurdy

Education PhD, Science Education Track

An Examination of Secondary English Language Arts and Social Studies Teachers' Perceptions and Implementation of Effective Literacy Instruction Practices in Their Content Area Classrooms: A Correlation Study

Melissa Mitchell Education PhD, Reading Education Track

Understanding Hearing Loss Through Digital Media

Jesslyn Parrish Texts and Technology PhD

Comparison of the NIH Toolbox-CB Assessment for Executive Function with a Novel Virtual Reality Executive Function Assessment

Christine Parsons Interdisciplinary Studies MS, Thesis Track

Does Methodology Matter? A Corpus Study of Authorial Risks in TESOL Dissertations

Michelle Verbitskaya Teaching English to Speakers of Other Languages, TESOL MA

## Undergraduate Presentations

The Impact of Unexpected Chaos on the Development of a Child with Cognitive, Social, and Emotional Delays: A Case Study Sarah Brown

Mentor: Dr. Sara Michael-Luna, Dr. Marisa Macy, School of Teacher Education

Exploring the Effects of COVID-19 on Central Florida Nonprofits:
Assessment of Financial
Consequences and Capacity
Building Strategies During a
Public Health Crisis

Tiffany Chinwuba Mentor: Dr. Maritza Concha, Dr. Daniel Seigler, School of Public Administration

Student Perceptions of Emergency Remote Teaching and Future Best Practices

Barbara Chiu

Mentor: Dr. Nicole Lapeyrouse, Chemistry

### Teacher Effectiveness in Underserved, Underfunded, and Under-Resourced Elementary Schools

Anais Placencia

Mentor: Dr. Martha Lue Stewart, Dr. Joyce Nutta, Dr. Sherron Roberts, School of Teacher Education

Are All Relationships The Same? A Comparison of Intimate Partner Victimization within Heterosexual and Same-Sex Couples

Nicole Rosenzvaig

Mentor: Dr. Erica Fissel, Criminal Justice

### ENGINEERING, COMPUTER SCIENCE, MODELING AND SIMULATION

## Undergraduate Presentations

### Catalytic Performance of Porous Yb2O3 Sesquioxide

Alina Aftab

Mentor: Dr. Nina Orlovskaya, Mechanical and Aerospace Engineering, Dr. Richard Blair, Physics

High-Density Cobalt Single Site Catalyst on Ceria for Carbon Monoxide Oxidation and Carbon Dioxide Hydrogenation

Jennifer Akinpelu Mentor: Dr. Fudong Liu, Civil, Environmental, and Construction Engineering

### Ignition Studies of LOx Methane Rocket Propulsion System

Marley Albright

Mentor: Dr. Subith Vasu, Mechanical and Aerospace Engineering

### Dynamic Automaton-Guided Reward Shaping for Monte Carlo Tree Search

Lior Barak, Brett Bissey Mentor: Dr. George Atia, Computer Science

Development of a Self-Sanitizing Mask to Combat the Spread of Infectious Disease

Matthew Crawford Mentor: Dr. Hwan Choi, Mechanical and Aerospace Engineering

### Nitric Oxide Release for ECMO Devices in COVID-19 Patients

Austin Eason

Mentor: Dr. Elizabeth Brisbois, Materials Science and Engineering

### Pinpointing Power Outages in Real-Time by Monitoring Severe Weather

Robert Ferrand

Mentor: Dr. Adan E. Vela, Industrial Engineering and Management Systems

### Deriving Muscle Pathway of the Gastrocnemius Using Motion Capture and Ultrasound for Musculoskeletal Modeling

Eric Irani

Mentor: Dr. Hwan Choi, Mechanical and Aerospace Engineering

### Relation Between Heart Sounds and Seismocardiographic Signals

Daniella King, Anna Voyatzoglou Mentor: Dr. Hansen Mansy, Mechanical and Aerospace Engineering

## Help Not Found: An Analysis of Precursors to Teen Suicide Attempts on Online Posts

Maria Lopez

Mentor: Dr. Pamela J. Wisniewski, Computer Science

### Visible to UV Upconversion Nanomaterials Based Outer Coating to Combat Mold Growth

Erik Marcelo

Mentor: Dr. Sudipta Seal, Materials Science and Engineering

## Infrared Spectroscopy of Defects in Structural Materials and its Effects on Energy Efficiency

Garrett Mastantuono Mentor: Dr. Necati Catbas, Civil, Environmental, and Construction Engineering

### Rapid Orbital Motion Emulator, ROME

Hunter Quebedeaux, Ryan Ketzner, Celeste Ozimek-Newman Mentor: Dr. Tarek Elgohary, Mechanical and Aerospace Engineering

## SafePlan: Co-designing for Suicide Prevention of At-Risk Youth

Luke Shirley

Mentor: Dr. Pamela Wisniewski, Computer Science

### FINE ARTS AND HUMANITIES

### Undergraduate Presentations

### Abolitionist Perspectives on Russian Serfdom During the Antebellum Era

Mariana Kellis

Mentor: Dr. Barbara Gannon, History

## Visualizing a Pandemic: Mapping Flu Mortality in Florida, 1918-1919

Andrew Kishuni

Mentor: Dr. Connie Lester, History

### Documenting the Undocumented: Understanding Identity and Displacement Through Undocumented U.S Latinx Experiences

Thelma Quintanila

Mentor: Dr. Sandra Sousa, Dr. Tyler Fisher, Modern Languages and Literatures

### Runic Mentions in Medieval Icelandic Sagas and Poems

Jordan Williams

Mentor: Dr. Stephen Hopkins, Dr. Beth

Young, English

### The Making of Mala'chite'

Sebastian Wittig

Mentor: Ms. Jo Anne Adams, School of Visual Arts and Design

## The Roots of Homophobia in Modern Day Chinese Society

Angela Yen

Mentor: Dr. Luis Martinez Fernandez, History

### LIFE SCIENCES

### **Graduate Presentations**

### Invasive Xenopus Tropicalis Alter Disease Dynamics in Florida Amphibian Communities

Matthew Atkinson Biomedical Sciences PhD

### The Application of HiPSC-Cortical Neurons to Drug Evaluation in a Body-On-A-Chip System

Kaveena Autar Chemistry PhD

### Behavioral Division of Labor in Carpenter Ants Camponotus Floridanus is Associated with Plasticity in Clock-Controlled Gene Expression in Brains

Biplabendu Das Integrative and Conservation Biology PhD

### Multifaceted Function of MicroRNA-299-3p Fosters an Antitumor Environment Through Modulation of Androgen Receptor and VEGFA Signaling Pathways in Prostate Cancer Cells

Kavya Ganapathy Biomedical Sciences PhD

### Characterizing the Sialin Gene Family Expansion in Cephalopoda: Neurogenomic Insights Into Octopus Intelligence

Taryn Gustafson Integrative and Conservation Biology PhD, Integrative Biology Track

#### Boring Sponges on Oyster Reefs: Distance From Boating Channels and Impact on Boring Damage Kathering Harris

Katherine Harris Biology MS

### Assessing the Response of Mangrove Snapper, Lutjanus griseus Trophic Dynamics to Oyster Reef Restoration in the Indian River Lagoon

Jennifer Loch Integrative and Conservation Biology PhD, Conservation Biology Track

### Molecular Elements of Osmotic Taste Cell Response

Angela Mohrman Biomedical Sciences PhD

## Undergraduate Presentations

## Identifying Population Structure of the Gulf Pipefish, Syngnathus covelli, across Florida

Gillian Baez Colon, Malia Boudreau Mentor: Dr. Michelle Gaither, Biology

### DNA Biosensors: Selective Determination of SARS-CoV-2 Using a Universal DNA-Hairpin Probe

Andrew Carlson

Mentor: Dr. Karin Chumbimuni-Torres, Chemistry

## The Effects of Forced Diurnal Activity on the Nocturnal Clouded Leopard: Neofelis nebulosa

Steven Elsaid

Mentor: Mr. Frank Logiudice, Biology

### Next Generation Protein Sequencing, NGPS for Determining Complete Sequences for Unknown Proteins and Antibodies

Alexis Howard

Mentor: Dr. Kersten Schroeder, Burnett School of Biomedical Sciences

## Psychedelic Medicine and the Attenuation of Depressive Symptoms

Andrew Laino

Mentor: Dr. Mohtashem Samsam, Advent Health University

## Linking Magnetoreception to CACNA1D Homolog Protein Insertions in Vertebrates

Annabelle Levin

Mentor: Dr. Robert Fitak, Biology

## Stable Isotope Analysis of an Invasive Crab Species, *Charybdis hellerii*, in the Indian River Lagoon

Justin Meyer

Mentor: Dr. Geoffrey Cook, Biology

## The Effects of Agriculture Herbicide Pendimethalin on the Immune Function of Aedes aegypti and its Ability to Vector Diseases

Kassady Perkinson

Mentor: Dr. Kenneth Fedorka, Biology

### A Novel Ultrasound-Mediated Gene Delivery Nanosystem for Osteoporosis Treatment

Angela Shar

Mentor: Dr. Mehdi Razavi, Burnett School of Biomedical Sciences

### Acid-Mediated Dissociation of Haemophilus ducreyi Cytolethal Distending Toxin Subunits Upon Cell Entry

Isabel Silva, Carla Reyes, Ashley Fragoso, Celine Sparkes, Gisselle Perez, Michelle Alvarez Mentor: Dr. Ken Teter, Burnett School of Biomedical Sciences

## Quantifying the Amount of Microplastics in UCF Wetlands

Sophia Stahl, Melanie Buziak, Steven DeGarmo,

Mentor: Dr. Lisa Chambers, Biology

### Sulfide: The Result of Toxic Relationships in Freshwater Wetlands

David Yannick

Mentor: Dr. Lisa Chambers, Biology

## MATHEMATICS, OPTICS, AND PHYSICAL SCIENCES

## Undergraduate Presentations

## Sequence-Independent Assay for the Quantitation of HIV Viral Loads

Omar El Merhebi Mentor: Dr. Karin Chumbimuni-Torres, Dr. Yulia Gerasimova, Chemistry

### Analysis of Co-Cultured Bacteria Using Split Deoxyribozyme Probes

Nicholas Mandel

Mentor: Dr. Yulia Gerasimova, Chemistry

## Mechanistic Understanding of Ozone Assisted Combustion

Nath-Eddy Moody, Skylar Gootkin Mentor: Dr. Denisia Popolan-Vaida, Chemistry

### Microbe-Resistant Hybrid Membranes for Healing Burns and Wounds

Kasey Rigby, Jodie Chen Mentor: Dr. Kausik Mukhopadhyay, Dr. Kaitlyn E. Crawford, Dr. Elizabeth Brisbois, Materials Science and Engineering

### Myelination and Node of Ranvier Formation in a Human Motoneuron-Schwann Cell Serum-Free Coculture

Marnie Williams

Mentor: Dr. James Hickman, Chemistry

### SOCIAL SCIENCES

### **Graduate Presentations**

### The Green Morocco Plan: A Case Study of the Unintended Consequences of Sustainable Development

Sofiya Asedrem Political Science MA

### Stratification on the Shelves: A Grounded Theory Analysis of Social Hierarchies in Everyday Consumption

Caroline Austin Sociology PhD

## Moral To The Story: The Effects of Public Policy on Public Opinion in the Context of Abortion

Marin Deevers
Political Science MA

### Examination of the Role of Trait Mindfulness and Driving-Related Cognitive Failures in Aggressive Driving Behavior

John Duany Human Factors and Cognitive Psychology

## Black Fathers Having the "Talk" Conversation With Their Sons

Vernon Headley Sociology PhD

### The Correlates of Regional Cooperation in a Dyadic Perspective

Ozgur Kayaalp Security Studies PhD

## **Undergraduate Presentations**

## Can Creative Hobbies Improve Spatial Ability?

Victoria Alexander Mentor: Dr. Shannon Whitten, Dr. Karen Mottarella, Psychology

### The Message or the Messenger: The Effects of Social Identity on Foreign Policy Decision Making

Joseph Aromando

Mentor: Dr. Mark Schafer, School of Politics, Security, and International Affairs Dr. Matthew Chin, Psychology, Dr. Nathan Ilderton, School of Politics, Security, and International Affairs

### In-Situ Space Resource Utilization: A Review of Economics, Geology, and Policy

Samuel Baker

Mentor: Dr. Christopher Bennett, Physics

### Past Suicidal Ideation Among Transgender and Nonbinary Young Adults Seeking Healthcare: An Analysis of Qualitative Data

Sabrina Beckwith

Mentor: Dr. Lindsay Taliaferro, Population Health Studies, Dr. Shannon Carter, Sociology

### Shift or Stagnation?: Changing Japanese Attitudes Toward Minorities

Aicha Camara

Mentor: Dr. Myunghee Kim, School of Politics, Security, and International Affairs

### Identity Consequences of Holding Collectivistic Values in an Individualistic Culture

Madison Cooper

Mentor: Dr. Steven L. Berman, Dr. Daniel McConnell, Psychology

### Does Age and Race Impact Risk Factors, Warning Signs, and Protective Factors for Those At-Risk of Suicide?

Michael Cosare

Mentor: Dr. Kimberley Gryglewicz, School of Social Work

## Structural Equation Analysis of the Three-Step Theory of Suicidality

Ana Garcia

Mentor: Dr. Jeffrey Bedwell, Psychology

## Meaning-Making in Narratives of COVID-19 Experiences: Relations to Identity Development

Maha Halabi

Mentor: Dr. Widaad Zaman, Psychology

### STUDENT SCHOLAR SYMPOSIUM | THURSDAY, APRIL 1 | SESSION VI: 2:30 - 3:30 p.m.

### Utilizing Fitts' Law to Examine Motor Imagery of Self, Other, and Objects

Sean Hinkle

Mentor: Dr. Daniel McConnell, Psychology,

Dr. Luis H. Favela, Philosophy

### The Role of Identity in Eating Problems

Stephanie Kaine

Mentor: Dr. Steven L. Berman, Psychology

### Keepers of The Cape: Reexamining the Quarterman Archaeological Site, Cape Canaveral Air Force Station

Audrey McGill, Megan McCauley Mentor: Dr. Sandra Wheeler, Dr. Sarah S. Barber, Dr. Neil Duncan, Anthropology

### Proficiency in English: Spanish-English Differences in Language Processing

Trucvy Nguyen, Daniela Velez Mentor: Dr. Mustapha Mouloua,

Psychology

## ADHD Children's Susceptibility to Interference in Memory Rehearsal

Cameron Pothoven

Mentor: Dr. Mark Rapport, Psychology

## What are the Factors that Influence the Adoption of Data Analytics and Artificial Intelligence in Auditing?

Grace Tsao

Mentor: Dr. Steven Hornik, Kenneth G. Dixon School of Accounting

## Prevalence Rates of Antisocial Behaviors in Generation Z

Adrianna Valencia Mentor: Dr. W. Steven Saunders, Psychology

### STUDENT SCHOLAR SYMPOSIUM AWARDS CEREMONY

Friday, April 2, 2021 | 2:00 - 3:30 p.m. *Virtually via Zoom* 

### **WELCOME AND AWARDS**

Mr. Kenneth W. Bradley Former UCF Trustee

Dr. Alexander N. Cartwright *President* 

Dr. Elizabeth A. Klonoff Vice President for Research and Dean of the College of Graduate Studies

Dr. Theodorea Regina Berry

Vice Provost for the Division of Student Learning and Academic Success and Dean of the College of Undergraduate Studies

