



2014

SHOWCASE OF
UNDERGRADUATE RESEARCH EXCELLENCE

CELEBRATING UNDERGRADUATE RESEARCH AND CREATIVITY ACROSS THE CURRICULUM

THURSDAY, APRIL 3, 2014

PEGASUS BALLROOM — UCF STUDENT UNION

Welcome to the 11th Annual Showcase of Undergraduate Research Excellence.

The Showcase is a poster- or display-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 Undergraduate Studies. For more information about undergraduate research, please visit the Office of Undergraduate Research website at **www.OUR.ucf.edu**.

The Showcase is part of the 2014 Research Week at UCF.

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

ORDER OF EVENTS

STUDENT PRESENTATIONS (*Pegasus Ballroom*) 1:00-4:00 P.M.

FACULTY MENTOR OF THE YEAR (*Cape Florida Ballroom*) 4:20 P.M.

Student Undergraduate Research Council

REMARKS AND PRESENTATION
OF SCHOLARSHIPS (*Cape Florida Ballroom*) 4:30 P.M.

John C. Hitt
President

Elliot Vittes
Interim Vice Provost and Dean of Undergraduate Studies

STUDENT RESEARCH WEEK 2014

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.

Cindy Bayer	Mollie Jewett	Jeff Rosky
Kathleen Bell	Travis Jewett	Michael Rovito
Bill Blank	Jennifer Kent-Walsh	Erin Saitta
Patrick Bohlen	Dmitry Kolpashchikov	Jamie Schwartz
Bob Borgon	Alla Kourova	Zhisheng Shuai
Latarsha Chisholm	Stephen Kuebler	Shadab Siddiqi
Karin Chumbimuni Torres	Patrice Lancey	Valerie Sims
Christa Diercksen	Woo Hyoung Lee	Hojun Song
Maysoun Dimachkie Masri	Victoria Loerzel	Pamela Thomas
Stephen Duranceau	Karen Mottarella	Mary Tripp
Marcella Farina	Mustapha Mouloua	Volodymyr Turkowski
Kenneth Fedorka	Elizabeth Mustaine	John Venecek
James Hogg	Jeff Novak	Laurence von Kalm
Jana Jasinski	Adam Pritchard	Kerry Welch
Bernie Jensen	Shawn Putnam	Antonis Zervos

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 Student Research Week are grateful to these benefactors for their encouragement and support of student research at UCF.

The Burnett Honors College
Ken Fedorka and Kimberly Schneider
Florida High Tech Corridor
Richard H. Harrison II in honor of Mrs. John C. Hitt
Institute for Social and Behavioral Sciences
Office of Research and Commercialization
John (Rick) Schell
Student Government Association
Undergraduate Studies

FACULTY MENTORS

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

Jonathan Alexander	Yan Fernandez	Victoria Loerzel	William Safranek
Kelly Allred	Cristina Fernandez-Valle	Michael Loree	Haripada Saha
Deborah Altomare	Terri Fine	Martha S. Lue Stewart	Eduardo Salas
Thad Anderson	Jason Ford	John Lynwiler	Mohtashem Samsam
Uluc Aysun	Barbara Fritzsche	Yvonne Maldonado	M.C. Santana
Cyrus Azimi	David Gay	Carolyn Massiah	Swadeshmukul Santra
Jack Ballantyne	Andre Gesquierre	Shawn Midlam-Mohler	William Saunders
Cherie Behrens	Linda Gibson-Young	Ann Miller	Kristen Schellhase
Deborah Beidel	Avelino Gonzalez	Lisa Mills	Alfons Schulte
Rosalind Beiler	Ali Gordon	Abby Milton	William Self
Kevin Belfield	Bryce Hagedorn	Joanna Mishtal	Mubarak Shah
Steven Berman	Hossam Haick	Euripides Montagne	Bhimsen Shivamoggi
Alaina Bernard	Peter Hancock	Sean Moore	Shadab Siddiqi
Corey Bohil	Christopher Hawkins	Karen Mottarella	Valerie Sims
Patrick Bohlen	Daniel Herschlag	Mustapha Mouloua	Charles Smith
Daniel Britt	James Hickman	Mark Muller	Eileen Smith
James Campbell	Elizabeth Hoffman	Elizabeth Mustaine	Yongho Sohn
Jenene Case Pease	Eric Hoffman	Sandra Neer	Hojun Song
Mason Cash	Bari Hoffman Ruddy	Mark Neider	Valerie Storey
Debopam Chakrabarti	Lin Huff-Corzine	Ann Norris	Kiminobu Sugaya
Ratna Chakrabarti	Masahiro Ishigami	Nina Orlovskaya	Laurene Tetard
Debashis Chanda	Peter Jacques	Christopher Parkinson	Kenneth Teter
Jason Chesnut	Florian Jentsch	Pedro Patino Marin	J. Marla Toyne
Matthew Chin	Jayanta Kapat	Otto Phanstiel	Meredith Tweed
Latrasha Chisholm	Annette Khaled	Roberto Potter	Martine Vanryckeghem
Manoj Chopra	Joshua King	Linda Potkovic	Laurence von Kalm
Karin Chumbimuni-Torres	Stephen King	Shawn Putnam	Ezekiel Walker
Joshua Colwell	William Kinnally	Nancy Rabalais	Chuck Wall
Patricia Coronado	Eda Koculi	Seetha Raghavan	Linda Walters
Leslee D'Amato-Kubiet	Dmitry Kolpashchikov	Debra Reinhart	John Weishampel
Andrew Daire	Alla Kourova	Kimberly Renk	Grace White
Weiwei Deng	Stephen Kuebler	Beatriz Reyes-Foster	Shannon Whitten
Aristide Dogariu	Stephanie Lackey	Fernando Rivera	W. Scott Wise
Stacey Dunn	Stephen Lambert	Heejung Ro	Chrysalis Wright
Steven Duranceau	Glenn Lambie	Cecilia Rodriguez Milanes	Yu Yuan
Steven Ebert	Peter Larson	Kyle Rohde	Widaad Zaman
Jennifer Elliot	Connie Lester	Carey Rothschild	Lei Zhai
Alvaro Estevez	Xiaoman Li	Michael Rovito	Shaojie Zhang
Dan Ezell	Kuo-Chi Lin	Bari Ruddy	
Kenneth Fedorka	Anne Lindsay	Houman Sadri	

ARTS AND HUMANITIES

KATHERINE BOWERS

Unearthing Colonial Transactions: Understanding and Interpreting the Paleography of Mount Vernon's Glassford and Henderson Transcription Project

Undergraduate Co-Authors: Gianna Borawski, Robin Dunn

Mentor: Dr. Anne Lindsay (History)

The objective of this project was to research a point of interest found while transcribing 18th century store ledgers from Mount Vernon. The resulting project is a series of researched blog posts featured on Mount Vernon's website and database to make that knowledge readily available.

NICHOLAS CASORIO

Multilingualism's Effect on Linguistic Relativity

Mentor: Dr. Beatriz Reyes-Foster (Anthropology)

To date, my research project has involved an extensive literature review of linguistic relativity to familiarize myself with the broad interdisciplinary research that has been completed prior. I am developing methodology to recreate experiments that focused on monolingual speakers and applying them to multilingual speakers.

ROBERTO DACUNHA

Turtle Power: A Look at Our Changing Climate

Undergraduate Co-Authors: Juan Chavarro-Villa, Ezra Cohen

Mentor: Ms. Eileen Smith (Visual Arts and Design)

Our team will use an educational video series to educate middle school students about the effects of global warming, particularly on the nesting patterns of sea turtles and the sex of the resulting turtle embryos. We have also developed supplemental material that lets students look for a solution on their own.

PORSHA DOSSIE

Animal-Like and Depraved: Racist Stereotypes, Commercial Sex, and Black Women's Identity, 1825-1917

Mentor: Dr. Connie Lester (History)

I seek to understand how racist stereotypes and myths compounded the sale of fair-skinned black women during and after the slave trade in New Orleans. These stereotypes alternately aided and concealed the horrors of commercial sex in the 1800s, and still have very real effects on contemporary African-American women.

BRYNNE HEATLEY

Science After Hours: Reconnecting Adults with Science

Undergraduate Co-Authors: Cierra Simmons, Blake McKinniss, Jonathan Gravato, Katelyn Smalley, Bryan Solon

Mentor: Ms. Eileen Smith (Visual Arts and Design)

We are bringing a captivating, interactive experience to cities across America designed to intrigue young adults through late night science festivals.

JACOB KIGHT

UCF Percussion Performance and Recording of New Repertoire for Two Marimbas and Two Vibraphones

Undergraduate Co-Authors: Karen Elizabeth, Marissa Turney

Mentor: Dr. Thad Anderson (Music)

This project was created to provide the three student researchers with the opportunity to learn to run a chamber ensemble, to go through the recording process, and to create a CD of new music.

AMELIA MACKAREY

Representation and Imagination of the Holocaust in Young Adult Literature

Mentor: Dr. James Campbell (English)

This project explores the way that Holocaust literature is presented to young adults through the use of representation and imagination. I will consider the lenses of sentimentality, realism, and fun and how each of these impacts the story as it is told to young adult readers.

RACHAEL MILOVICH

iSeeGull: Creating a Citizen-Scientist Digital Application Using Geolocation to Track Wading Bird Usage of Restored Oyster Reefs

Undergraduate Co-Authors: Arissa Brown, Miguel Ramos, Summers Hardy, Ian McIlrath, Erica Wessner

Mentor: Dr. Linda Walters (Biology)

To facilitate the monitoring of wading birds and their behavior after restoration of the oyster reefs, we are creating "iSeeGull" to help Dr. Linda Walters obtain quantified data with crowdsourcing and citizen scientist observations, and registering user geolocation of their observation.

BRITTANY MURPHY

The Failure of Happiness: Examining Strategies Within LGBT/ Queer Young Adult Fiction

Mentor: Dr. Jonathan Alexander (English, University of California-Irvine)

I analyzed the strategies employed by queer characters in LGBT/queer young adult (YA) fiction by examining two award winning queer YA texts against two primary theoretical texts. My objective was to use an aesthetic space, YA fiction, to discuss theoretical concepts with contemporary visible effects.

BEVERLY NWOKOYE

Filthy Dreamers: The Evolution Controversy at Florida State College for Women in the 1920s

Undergraduate Co-Authors: Jason Clarke

Mentor: Dr. Lisa Mills (Film)

We researched the controversy over teaching women about evolution at Florida State College for Women in the 1920s. Our findings were made into a film which also explores the importance of academic freedom and how fundamentalists of the time tried to get laws passed in Florida to ban evolution teaching.

LORI NYKANEN

Conversos in Christian Spain

Mentor: Dr. Peter Larson (History)

I have accumulated research data through investigating the Spanish Inquisition court records and the testimonies written by accused Conversos. I will continue my research in regard to the Christian monarchs' orthodoxy and political agendas behind the Spanish Inquisition.

MATTHEW PATSIS

The Legacy of African Veterans of World War II and Their Role in Independence Movements of the Late 20th Century

Mentor: Dr. Ezekiel Walker (History)

This research focused on understanding the impact African veterans of the French Colonial Army during World War II had in winning independence across French West Africa during the 1950s and 1960s. This research focused on the contributions veterans made in politics, trade unions, and the legacy of African veterans postwar.

IRINA PIDBEREJNA

The Impact of Culture on Students' Motivation in Acquiring a Second Language

Mentor: Dr. Alla Kourova (Modern Languages and Literatures)

This research intends to analyze and understand how culture affects the desire to learn a second language, and how it is represented in the classroom through student responses, textbook analysis of cultural information, and the implications of culturally enriching classroom projects, including cross-cultural communication, exchanges, and study abroad.

KAYLA ROBINSON

Permaculture: Using Centuries Old Processes to Create a Sustainable Future

Undergraduate Co-Authors: Amanda Allen, Gilbert Jallad, Kerry McKinney, Alison Veal, Wendell Gonzalez

Mentor: Ms. Eileen Smith (Visual Arts and Design)

Permaculture is a way of living healthy, sustainable lives and improving our carbon footprint. In researching the history and different elements of permaculture, our team has created a website to act as a single database of information for anyone interested in living a greener life.

JOANNA SILVESTRI

Global Garden: Promoting Worldwide Interactive Connectivity for Horticultural Involvement Through an Online Platform

Undergraduate Co-Authors: Kalee Bond, Lindsay Abney, Jamie Velez, Nicole Winslow, Caitlyn Medlin

Mentor: Ms. Eileen Smith (Visual Arts and Design)

Because our target audience consumes fresh food daily but doesn't know where it comes from, we plan to bring food and knowledge to our audience in an interactive way. It is our goal to educate our audience about local gardens and promote cooperation through an interactive portal.

ASHLEY TORRES

Feminist Teaching: The Benefits of Teaching Like a "Girl"

Mentor: Dr. Cecilia Rodriguez Milanes (English)

This research project will analyze the benefits of feminist teaching in modern classrooms and universities.

ADAM URSELL

HurriGame: Test Your Odds Against the Ultimate Storm

Undergraduate Co-Authors: Whitney Koehler, Kyle Fairhurst, Mairim Luquis, Taylor Martinez, Lemar Joseph

Mentor: Ms. Eileen Smith (Visual Arts and Design)

"HurriGame" is designed to educate users about correct safety protocols in anticipation of hurricanes and similar dangerous storms. Featuring realistic time and monetary restrictions, HurriGame will give users a vital working knowledge on how to better prepare themselves for dangerous storms in a fun, safe, and interactive way.

ENGINEERING AND COMPUTER SCIENCE

DANIELLE BARNHILL

Toxicity Testing of Adsorbents Used in Phosphorous Removal of Impacted Surface Waters

Mentor: Dr. Steven Duranceau (Civil, Environmental, and Construction Engineering)

The inherent toxicity of fly ash, alum sludge, and two proprietary materials will be investigated and characterized to allow for design considerations minimizing negative environmental impact on Floridian surface waters treated with these materials for phosphorous removal.

BEN BEAMAN

Catalytically Enhanced Combustion in Porous Media Utilizing Thermoelectric Devices for Power Conversion

Mentor: Dr. Nina Orlovskaya (Mechanical and Aerospace Engineering)

The effects of different perovskite compositions in porous ceramic media combustion are researched. Eight thermocouples inside the combustion chamber are used to record the temperature gradient using software called LabView. Flame stability and minimum equivalence ratio (necessary air-fuel ratio) are observed and reported for each experiment.

MATTHEW BRICKNER

Vortex Induced Auto-Rotation in Helicopters: A Numerical Analysis

Mentor: Ms. Patricia Coronado (Mechanical and Aerospace Engineering)

Computational fluid dynamics (CFD) simulations were used to analyze the flow over a pinned flat plate which is subjected to vortex-induced auto rotation. The results from this research are preliminary and will be the foundation for further analysis, which will include a simulation over an entire rotary system.

ALEX BULLOCK

Piezospectroscopy for Noninvasive Stress Detection and Analysis of Structures

Undergraduate Co-Authors: Alex Selimov, Sean Harms

Mentor: Dr. Seetha Raghavan (Mechanical and Aerospace Engineering)

Piezospectroscopy has been developed to noninvasively monitor the stress in alumina nanocomposites in real-time. A portable piezospectroscopic system was developed with the goal of creating an effective method of optical structural health monitoring. Various alumina coatings were compared through a combination of static mapping and dynamic testing using this system.

DAVID DABROW

Diffusional Interaction in the Al-Zr System: Effects of Increasing Hafnium Content in Zirconium

Mentor: Dr. Yongho Sohn (Materials Science and Engineering)

This project examines diffusion and reaction in the binary Al-Zr system as a function of impurity content, temperature, and time. The results will help design and develop low-enriched metallic nuclear fuels with small volume, nonproliferation, and recyclability.

ZACHARY DEMASTRY**Optimization of Properties of Fused Deposition Modeling with Polylactic Acid for Consumer End Use via Design of Experiments**

Mentor: Dr. Ali Gordon (Mechanical and Aerospace Engineering)

This research is centered on the optimization of 3-D printed components made with a fused deposition modeling printer. To optimize the parts, different slicing settings were used in statistically determined combinations, and their effects on the mechanical properties of the components were analyzed using a particular method.

BRANDON EALY**Investigation of Flow Characteristics in Rotating Channels**

Mentor: Dr. Jayanta Kapat (Mechanical and Aerospace Engineering)

Investigating rotating flowpaths like those seen in today's gas turbines will help understand how much rotation drives flow. This study examines how much radial flow is induced from a rotating channel and how rotational speed influences the radial flowrate. Using a novel rotating rig, flow characteristics are studied.

COLTON FALUSI**Optical Characterization of Complex Fluids**

Mentor: Dr. Aristide Dogariu (Optics and Photonics)

Using a novel light-scattering technique, we investigated several dynamic properties of complex fluids. The procedure utilized a multimode common path interferometer connected to a Matlab program that plotted the power spectrum density of the sample. Further computational analysis allowed us to calculate and observe various other quantitative optical characteristics.

PASCAL FOUQUET**In-Situ Synchrotron Analysis of Thermal Barrier Coatings Under Thermal Gradients and Mechanical Loads**

Undergraduate Co-Authors: Frank Ramirez, Stephen Sofronsky

Mentor: Dr. Seetha Raghavan (Mechanical and Aerospace Engineering)

The purpose of the research is to determine internal strains in thermal barrier coatings used on engine turbine blades using synchrotron X-ray diffraction, and determine their response and performance under thermal gradients and mechanical loading in extreme engine operating environments.

KEVIN GLEASON**Microdroplet Evaporation with a Forced Pinned Contact Line**

Mentor: Dr. Shawn Putnam (Mechanical and Aerospace Engineering)

The study investigates microdroplet evaporation with a forced pinned contact line. Substrates are laser patterned for controlling the droplets' contact line, facilitating first-time steady-state microdroplet evaporation studies. A modified numerical model is also developed to validate the influence of the nonuniform temperature distribution at the liquid-vapor interface during evaporation.

JORGE GUERRA MARIN**Multi-Agent Collaboration System Using Context-Based Reasoning**

Mentor: Dr. Avelino Gonzalez (Electrical Engineering and Computer Science)

I conducted research on the development of a multiagent collaborative system using the context-based reasoning paradigm in artificial intelligence. Our goal is to efficiently model collaborative behaviors from virtual agents that explicitly communicate rather than from institutional awareness. The virtual players are able to create complex collaborative soccer behaviors.

IMAD HANHAN**Alumina Particulate-Epoxy Composite Mechanics via Piezospectroscopy**

Undergraduate Co-Authors: Joseangel Rosas, Any Lai

Mentor: Dr. Seetha Raghavan (Mechanical and Aerospace Engineering)

The purpose of this work is to compare experimentally determined particle reinforcement stresses to theoretical models for load transfer, and relate the results to the improvement of particulate composite mechanics.

KAPPY KRUEGER**Flow Focusing Microfluidic Device for Production of Monodisperse Droplets**

Mentor: Dr. Weiwei Deng (Engineering Technology)

This research on flow focusing presents an alternative method of producing monodispersed droplets. Flow focusing aims to enable formulation of small monodisperse droplets with a variety of solutions. The mechanism explored utilizes high-pressure air to shrink the diameter of a liquid jet. The experimentation focuses on atomizing aqueous media.

BRIAN LAW**Silt Fence Testing**

Student Co-Presenter: Ethan Denison

Mentors: Dr. Manoj Chopra (Civil, Environmental, and Construction Engineering)

My research was conducted to analyze the effects of specific silt fences and their ability to remove suspended solids from water/soil mixture producer with a rainfall simulator.

AARON MADDEN**Scalable Production of Amorphous Pharmaceutical Nanoparticle Powders via the Electrospray Method to Augment Aqueous Solubility**

Mentor: Dr. Weiwei Deng (Mechanical and Aerospace Engineering)

This contribution explores the efficacy of electrospray as a method for producing monodisperse powders with submicron particle size and amorphous solid composition, which are useful properties in a wide variety of applications. In this study, we specifically aim to bolster aqueous solubility of pharmaceutical compounds that otherwise exhibit poor solubility.

MASON MONEY**Mobile Dual Infrared Band System for Plastic Polymer Identification**

Undergraduate Co-Author: Nathaniel McKinney

Mentor: Dr. Debashis Chanda (Optics and Photonics)

This study examines the feasibility of a dual band IR spectroscopy-based, handheld classification system for the identification of plastic polymers, for the purpose of increasing the efficiency of polymer sorting in the recycling process.

GREGORY NORRIS**Shedding New Light on Watershed Models:
A Comparative Study of Existing Digital Elevation
Models with New LiDA Data**

Mentor: Dr. John Weishampel (Biology)

This study seeks to determine the level of accuracy of two widely used digital elevation models (DEMs) in terms of their ability to model watershed topography and water flow by comparing them with a newer, finer resolution LiDAR derived DEM.

ALLEN OWJI**Effects of Stress Concentrations on Mechanical
Behavior of Micronic Woven Wire Mesh for Use
in Water Filtration**

Mentor: Dr. Ali Gordon (Mechanical and Aerospace Engineering)

This study seeks to fill gaps in existing information on the mechanical behaviors of woven wire mesh pertaining to filtration.

ALLA PETRAKOVA**Understanding Trajectory Behavior: A Motion
Pattern Approach**

Mentor: Dr. Mubarak Shah (Electrical Engineering and Computer Science)

This work proposes an algorithm for extracting behavioral patterns from trajectory data. Inspired by the idea of motion patterns in computer vision, the proposed method provides an effective solution to the general task of trajectory clustering in data mining, with possible applications ranging from urban planning to animal migration studies.

ADAM PHILLIPS**GPU Computing: Numerical Linear Algebra and CFD**

Mentor: Dr. Bhimsen Shivamoggi (Mathematics)

Speed is a central issue when performing computational analyses, such as computational fluid dynamics (CFD). The work took advantage of computer graphic cards (GPUs) to accelerate numerical linear algebraic computations that appear in CFD analyses. Navier-Stokes and Lattice Boltzmann, two common CFD methods, were compared for both speed and accuracy.

HUNTER RAYL**Water Resource Lab**

Mentors: Dr. Manoj Chopra (Civil, Environmental, and Construction Engineering)

We researched different studies that all had to do with improving water quality. Whether it was filtering out clay from run off, making suspended solids settle out, or removing chemicals, we were always testing how to make water quality better.

ANGELA RODRIGUEZ**Laboratory-Scale Ozone Oxidation of a Volcanic
Surface Water Supply to Reduce Disinfection
Byproduct Formation Potential**

Mentor: Dr. Steven Duranceau (Civil, Environmental, and Construction Engineering)

This study investigated the effectiveness of ozone oxidation (ozonation) as a treatment method for reducing disinfection byproduct (DBP) precursor material from a volcanic surface water supply originating from the Waikamoi Rain Forest on the island of Maui, Hawaii.

PASCUAL SANTIAGO-MARTINEZ**A Mechanics Based Approach for Putt Distance
Optimization**

Mentor: Dr. Ali Gordon (Mechanical and Aerospace Engineering)

The purpose of this study is to establish a correlation between the backstroke of a putt (how far back the putter is swung before impact) and the travel distance of the ball after impact. This will be done by developing a theoretical model and performing experiments to validate the approach.

DREW THOMAS**Piezospectroscopic Studies on Tubular Geometry
with Thermal Barrier Coatings**

Undergraduate Co-Author: Michael Ache

Mentor: Dr. Seetha Raghavan (Mechanical and Aerospace Engineering)

The objective of this research study was to collect piezospectroscopic data from the oxide layer and ceramic top coat of a thermal barrier coating for an early cycled cylindrical specimen in order to map out an accurate stress profile for that specimen.

TYLER WATHEN**Stormwater**

Mentor: Dr. Manoj Chopra (Civil, Environmental, and Construction Engineering)

I worked with the graduate students on their stormwater research projects to develop results that will help further the engineering community.

JAMES WILLIAMS**Constitutive Modeling the Re-Torque of a Glass Fiber-
Reinforced PTFE Gasketed Joint**

Mentor: Dr. Ali Gordon (Mechanical and Aerospace Engineering)

A Burger-type viscoelastic model is modified and experimentally verified to predict the stress strain response of a single bolt gasketed joint subjected to a retorquing.

SAMUEL YACINTHE**Hybrid Vehicle Sensitivity Analysis for Optimization
of Efficiency and Performance**

Mentor: Dr. Shawn Midlam-Mohler (Mechanical and Aerospace Engineering, The Ohio State University)

The goal of this research study is to develop a model that identifies the optimal allocation of given resources across specific parameters in order to reduce the electric consumption of a plug in hybrid electric vehicle, in turn determining the most beneficial approach in improving the efficiency of the vehicle.

HEALTH SCIENCES

GUILLERMO ALFONSO

Psychosocial Indicators of Injury Concealment Among Young Athletes

Mentor: Dr. Michael Rovito (Health Professions)

The purpose of this study is to uncover specific factors contributing to young athletes concealing injuries and ignoring long-term health. Factors including masculinity and other external influences such as lack of knowledge and desire to not "let the team down" will be researched in order to improve athlete longevity.

SARA BOLIVAR WAGERS

iVDPV Cases: Their History, Evolution, and Implications for Polio Eradication

Mentor: Dr. Yvonne Maldonado (Medicine, Stanford University)

Provide data necessary to determine future vaccine strategies and global policies after polio eradication through evaluation of trends in immunodeficiency-related, vaccine-derived poliovirus cases (iVDPVs).

IOANNA BORISSOVA

Analyzing the Factors that Influence Dental Anxiety Levels in a Clinical Setting

Mentor: Dr. Fernando Rivera (Sociology)

The purpose of this study is to conduct an analysis of the factors that cause patient anxiety in a dental clinical setting through a literature review. The explored factors will be used to gain further knowledge of how treatment avoidance affects preventative health care.

ELYSE BREIT

Education on Fertility Preservation of Pediatric Oncology Patients for Pediatric Oncology Nurses

Mentor: Dr. Victoria Loerzel (Nursing)

This study evaluates current guidelines related to fertility preservation (FP) in pediatric oncology patients, reviews nurse perceived barriers related to educating patients and families about the risk for infertility following cancer treatments and FP, and makes recommendations for improving communication between nurses and families about FP.

JESSICA DIPIETRO

Nursing Interventions for Childhood Obesity: Evaluating Mobile Applications Targeting Physical Activity Level and Diet

Mentor: Dr. Anne Norris (Nursing)

The goal of this literature review is to determine what mobile applications and technologies are most beneficial in the management and prevention of childhood obesity. Results of this literature review will be used to recommend mobile applications and technological practice guidelines to nurses and other health care providers for implementation.

SHEKINAH FASHAW

The Use of Physical Restraints Among Nursing Home Residents: Do Disparities Exist?

Mentor: Dr. Latarsha Chisholm (Health Management and Informatics)

This study examines the effects of racial composition, the cognitive impairment of nursing home residents, and the presence of special care units on physical restraint used in nursing homes around the nation. This research, once completed, will add to the nursing home literature focused on racial/ethnic disparities.

SHAINA FLOWERS

The Use of Drug Therapy to Control Disruptive Behavior Associated with Oppositional Defiant Disorder in School-Age Children

Mentor: Dr. Leslee D'Amato-Kubiet (Nursing)

The objective of this study is to explore the efficacy of drug therapy used to treat oppositional defiant disorder (ODD) in school-age children and to describe interventions used to improve outcomes in poorly controlled ODD.

JAMILLAH HAMMOND

Prescription Drug Misuse and its Effects Within the Health Care Environment

Mentor: Dr. Jason Ford (Sociology)

I analyzed and reviewed past research within prescription drug misuse among various demographics. Currently focusing on drug abuse among adolescents and young adults, I plan to explore correlations between drug misuse and health care treatment outcomes.

ADERONKE ILEGBUSI

Laryngopharyngeal Reflux: Is There Evidence in the Larynx?

Mentor: Dr. Bari Ruddy (Communication Sciences and Disorders)

The purpose of this study was to understand the relationship between patients' perceived symptoms and evidence of acid exposure to the larynx, and to investigate the implications of these findings for medical and behavioral management.

TAYLOR IRWIN

Exploring the Vicious Cycle of Pediatric Asthma and Anxiety

Mentor: Dr. Linda Gibson-Young (Nursing)

The aim of this thesis is to provide an integrated review of the literature that identifies the factors contributing to the vicious cycle of pediatric anxiety and asthma. Upon completion of this literature review, a suggestion for future research and recommendation for practice will be made.

KYLE JAIMES

Assessment of the Affective, Behavioral and Cognitive Correlates that Surround Spasmodic Dysphonia by Means of the Behavior Assessment Battery

Undergraduate Co-Author: Geethika Reddi

Mentors: Dr. Martine Vanryckeghem, Dr. Bari Hoffman Ruddy (Communication Sciences and Disorders)

Individuals with spasmodic dysphonia (SD) and a control group were given four self-report subtests that comprise the Behavior Assessment Battery to assess the tests' internal reliability while also determining the existence of any negative speech-associated attitudes, situation-related anxiety and voice problems, and the use of coping behaviors associated with SD.

DIONTE MADDEN

Prevalence of Falls Among Patients with Dementia Across Long-Term Care Settings

Mentor: Dr. Latarsha Chisholm (Health Management and Informatics)

The purpose of this study is to document the correlation between dementia and falls among the elderly across all long-term care settings.

GERALDINE MARTINEZ

Factors that Influence Pain Management Strategies in the NICU

Mentor: Dr. Kelly Allred (Nursing)

The purpose of this study is to identify the prevalent factors that influence the implementation of pain management strategies among nurses who work in a NICU setting in Central Florida and provide direction to overcome determined barriers.

LENA MARTONE

The Impact of a Motivational Interviewing Intervention on Early Adolescents with a Specific Learning Disability

Mentor: Dr. Glenn Lambie (Child, Family, and Community Sciences)

The purpose of this presentation is to introduce motivational interviewing as an effective counseling intervention on early adolescents who have been diagnosed with a specific learning disability.

MEGAN MCMENAMY

A Systematic Review of Single-Subject Design Studies of Behavioral Stuttering Intervention

Mentor: Dr. Martine Vanryckeghem (Communication Sciences and Disorders)

This study evaluates the efficacy of stuttering treatments that use a single subject experimental design. By means of systematic review techniques, 18 studies were selected for inclusion following the search of six electronic databases. Each study was coded and effect sizes calculated, using the percentage of nonoverlapping data points (PND) statistic.

CANDACE MILLER

HIV Knowledge, Attitudes, and Beliefs Among College Students at the University of Central Florida

Mentor: Ms. Linda Potkovic (Health Management and Informatics)

The purpose of this research is to gain information on the HIV/AIDS knowledge, attitudes, and beliefs of students at UCF. Through completing an anonymous online survey, the students provided responses and demographic information that can be used to determine the aspects of the disease in which they need greater education.

CHRISTOPHER MINGS

Acute Avulsion Fracture of the Anterior Superior Iliac Spine in a High School Track and Field Athlete

Mentor: Dr. Kristen Schellhase (Health Professions)

Avulsion fractures are not uncommon, but a sartorius avulsion is rare. I will present an avulsion fracture in a high school athlete that healed with conservative treatment without complications. It is important for athletic trainers to understand complications of avulsion fractures and the treatment options that are available.

THERESA MUNROE

Nursing Student Knowledge of Genomics

Mentor: Dr. Victoria Loerzel (Nursing)

The purpose of this research is to investigate the genomic knowledge base of undergraduate nursing students by using the Genomic Nursing Concept Inventory© (GNCI) as a measure of genomic literacy.

SEETA NATH

The Effect of Dietary Interventions of Fetal Birth Weights in Pregnant Adolescents: A Systematic Review

Mentor: Dr. Leslee D'Amato-Kubiet (Nursing)

The objectives of this research are to determine which dietary interventions have the greatest effect on fetal birth weight in adolescent mothers. Results of this study are expected to improve dietary and nutritional education offered in adolescent prenatal programs.

HECTOR ORTIZ CINTRON

Use of Complementary and Alternative Medications in Older Adults with Chronic Pain: A Pilot Hospice Nursing Survey

Mentor: Dr. Kelly Allred (Nursing)

The project focused on analyzing if hospice nurses use complementary and alternative medications (CAT) in conjunction with pharmacological methods and to determine what types, if used.

ANGELA PECTOL

Platelet-Rich Plasma Injections for Patellar Tendinosis in a Division I Female Collegiate Soccer Player

Mentor: Dr. Kristen Schellhase (Health Professions)

The objective of this case study was to research the usefulness of platelet-rich plasma injections for the treatment of chronic musculoskeletal injuries as an alternative conservative treatment before surgical interventions are warranted.

KYLE PERKINS

The Risks and Benefits of Running Barefoot or in Minimalist Shoes: A Systematic Review

Mentor: Dr. Carey Rothschild (Health Professions)

A systematic review of the literature was performed to assess the methodological quality of studies proposing risks or benefits between barefoot, shod, and minimalist shoes.

HEATHER PRICE

Management of Beta-Blocker Therapy in Individuals with Chronic Heart Failure (CHF) and Efficacy of Health Outcomes if Doses are Missed

Mentor: Dr. Leslee D'Amato-Kubiet (Nursing)

The objective of this research was to examine the management of beta-blocker drug therapy in individuals with chronic heart failure (CHF) and to determine if missed doses of beta-blocker drug therapy affect the efficacy of CHF health outcomes.

ERIN RHODES

Perceived Masculinity and Health-Seeking Behaviors Among College Men

Mentor: Dr. Michael Rovito (Health Professions)

This study aims to assess the influence of perceived masculinity upon health information seeking behaviors among college men. In addition, this project assesses the sampled males' knowledge and awareness to male specific health outcomes and the validity of the health-related websites they frequent.

NIDHI SETHI

My Child Has What?

Mentor: Dr. Linda Gibson-Young (Nursing)

Delivering a difficult diagnosis to a patient's caregiver is a challenging and stressful task. Caregivers often feel unprepared when receiving the news of a difficult diagnosis. A systematic literature review was conducted of the most effective means of communication when relating a difficult diagnosis to a pediatric patient's caregiver.

DAIBELIZ VEGA**Acute Patellar Tendon Rupture****Mentor:** Dr. Kristen Schellhase (Health Professions)

The objective of this research is to present the case of an acute patellar tendon rupture in an intercollegiate basketball player, and to explore the surgical procedures, rehabilitation process, and complications that can occur as a result of said injury.

LIFE SCIENCES

AFIF ABU-HANNA**Volatile Organic Compounds in Exhaled Breath as Biomarkers for the Early Detection and Screening of Renal, Bladder, and Prostate Cancer****Mentor:** Dr. Hossam Haick (Chemical Engineering, Israel Institute of Technology)

The objective of this research is to harness nanotechnology and medicine to utilize a tailor-made, noninvasive array of nanosensors for the detection of volatile biomarkers that will indicate an increased risk of disease for prostate, bladder, and renal cancers, and to assist clinicians to decide for the proper therapy algorithm.

RACHEL ACUNA**A Morphological Assessment of the Federally Threatened Atlantic Salt Marsh Snake (*Nerodia clarkii taeniata*)****Mentor:** Dr. Christopher Parkinson (Biology)

Morphological variation in the Atlantic salt marsh snake is not well understood as this snake is rare. Previous studies suffered from small sample sizes which resulted in unsampled variation. Using a large sample size, we demonstrate a wider range in morphological variation than previous studies.

SARAH ALVAREZ**Using Stable Isotopes to Identify Key Foraging Areas for Loggerhead Sea Turtles Nesting in North Carolina****Mentor:** Dr. John Weishampel (Biology)

I used stable isotope analysis to identify and compare relative contributions of two foraging areas to the loggerhead assemblage nesting at Bald Head Island, N.C. during the 2012 and 2013 nesting seasons.

LINDSAY ARICK**Determining the Evolutionary Relationship Between Two Species of Water Snake: *Nerodia clarkii* and *Nerodia fasciata*****Mentor:** Dr. Christopher Parkinson (Biology)

In this study, I will analyze the evolutionary relationship between the banded water snake (*Nerodia fasciata*) and the Salt Marsh Snake (*Nerodia clarkii*) using mitochondrial and then nuclear gene sequences to compare the results of each data set independently and combined.

GRACE AVECILLA**Differential Gene Expression of Heat Shock Proteins in Crowded Versus Isolated *Schistocerca americana*****Mentor:** Dr. Hojun Song (Biology)

This study will use a quantitative real-time polymerase chain reaction to determine if gene expression of six heat shock proteins differs significantly in the isolated versus crowded phases of the American birdwing grasshopper, *Schistocerca americana*.

ERIN BARBEAU**Butterfly Abundance and Diversity In Burned Habitats****Mentor:** Dr. Hojun Song (Biology)

The study's objective was to determine if butterfly abundance and diversity increased after prescribed burns in two study habitats at the Savannas Preserve State Park.

RAMIN BEHESHTI**Evaluating Genetic Diversity and Population Structure of Salt Marsh and Freshwater Snakes, Using Microsatellites****Mentor:** Dr. Christopher Parkinson (Biology)

In Volusia County, Fla., a federally threatened water snake is thought to be hybridizing with a closely related species, though it has never been tested. We use genetic markers to determine population structure, genetic diversity, and evaluate gene flow between these two species to test for hybridization.

JAMAR BORLAND**An In-Depth Study of the Specificity Determinants of the Enzyme PafA****Mentor:** Dr. Daniel Herschlag (Biochemistry, Stanford University)

This project was aimed at determining which residues of the enzyme PafA are affecting the enzyme's specificity for phosphomonoester hydrolysis. This will bring us closer to understanding how to design an enzyme with high-substrate specificity, which may yield practical and beneficial uses, both in the chemical and medical industries.

ALYSSA BRASS**Hydrogen Productivity of *Escherichia coli* Mutants: Implications for the Formate-Hydrogen Lyase Complex****Mentor:** Dr. William Self (Biomedical Sciences)

A select few *Escherichia coli* mutants were chosen that contained mutations in uncharacterized genes and hydrogen productivity was quantified in order to pursue their potential involvement in the formate-hydrogen lyase (FHL) system.

THOMAS CARPINO**Uncovering the Genetic Diversity and Subspecies Designation Within *Diadophis punctatus*****Mentor:** Dr. Eric Hoffman (Biology)

The key ringneck snakes are on the brink of extinction, and their fate may lie within their genes. In this study we assessed the genetic diversity of the critically endangered key ringneck snake, endemic to the Florida Keys, compared to their Peninsular Florida counterparts, to unlock its subspecies classification.

JONATHAN CARR**Avant Garden: An Ecologically Based Model for Urban Agriculture Design****Undergraduate Co-Author:** Benjamin Zand**Mentor:** Dr. William Safranek (Molecular and Microbiology)

The objective of this project is to take a step away from industrial monoculture farming methods and instead move toward a new sustainable means of localized food production — one that maximizes space, minimizes water loss, and increases biodiversity.

STEVEN CARRION

Creatures of the Subtidal Deep: Examining Long-Term Impacts of the Deepwater Horizon Oil Spill on Infaunal Communities in Terrebonne Bay

Mentors: Dr. Nancy Rabalais, Dr. Chuck Wall (Louisiana Universities Marine Consortium)

Following the Macondo wellhead blowout, an estimated 4.9 million barrels of crude oil were released into the Gulf of Mexico, imperiling one of the most productive and economically important coastal ecosystems in the U.S. In order to determine potential long-term impacts, community structure and vertical distribution of infauna were examined.

MORGAN CARSON

The Potential Role of YedE, JdfW, and YlcE in Selenium Transport

Mentor: Dr. William Self (Biomedical Sciences)

We are studying the transport of selenium in the model system of *Escherichia coli*. This project uses basic bacteriology techniques to determine specific metabolic pathways in various *E. coli* mutants. Overall, we will determine whether YedE, JdfW, and YlcE have any effect on the transport of selenium in *E. coli*.

SHARON CARTER

Hidden in Plain Sight: Cryptic Speciation Within Venomous Snakes

Mentor: Dr. Christopher Parkinson (Biology)

Our objective was to determine if there are any hidden species within the cobra relative, *Toxicocalamus*, using DNA analyses. Using seven genetic loci we were able to identify at least three cases of cryptic speciation within this fossorial lineage found only on the islands of New Guinea.

GABRIELLE CEREP

Florida-Friendly Pond Landscaping Increases Indicator Species Biodiversity

Mentor: Ms. Jennifer Elliott (Biology)

The purpose of this project is to study stormwater ponds to determine if Florida-friendly landscaping techniques increase the biodiversity of indicator species in ponds located on the University of Central Florida campus.

SPENCER CLARK

Fertilizer Filtration in Conventional Ground Covers

Mentors: Ms. Jennifer Elliott, Ms. Alaina Bernard (Biology)

The objective of this project is to compare St. Augustine, Bahia, and Zoysia grasses to see which species is the most sustainable in terms of nitrogen filtration and water consumption.

LOUISA COLLINS

Behavioral Fever and Host Manipulation in Insects

Mentor: Dr. Kenneth Fedorka (Biology)

Temperature choice of infected *Drosophila melanogaster* will be examined to determine to what extent the bacteria show parasite manipulation in their hosts and/or if the hosts show behavioral fever in response to the pathogen.

KIMBERLY CRANMORE

Turnover Rate of Biotin Tagged Histidine-Rich Glycoprotein (HRG) in the Bivalve *Mytilus edulis* L.

Mentor: Dr. Debra Reinhart (Civil, Environmental, and Construction Engineering)

This project focuses on blood plasma of marine mussels. A protein called HRG makes up 60 percent of the mussels' blood so it's expected to play a major role in blood transport processes. The objective of this research is to better understand how HRG is transported through the mussel biotin can be tagged to the HRG molecules.

LYDIA CRAWFORD

Evaluation of High-Resolution Aerial Images for Sea Turtle Nest Monitoring

Mentor: Dr. John Weishampel (Biology)

Sea turtle nesting is monitored across the Atlantic coast of Florida by volunteers manually counting the number of nests present on a beach each night throughout the summer months. This research aims to determine if remote sensing is a viable alternative for expansive or remote beaches.

JUAN CUETO

Cholera Toxin Activates Uncharacterized Anti-Apoptotic Pathways that are Non-Protective when Intracellular Stress is Induced by Apoptotic Agents

Mentor: Dr. Kenneth Teter (Biomedical Sciences)

This research aims to determine the pathway or pathways by which cholera toxin stops apoptosis.

HOLLIS DAHN

Absence Makes the Gap Grow Stronger: Evolutionary Divergence in Allopatric Snake Populations

Mentor: Dr. Christopher Parkinson (Biology)

This study analyzed the evolutionary relationships of two desert snake species relative to a major geographic barrier that bisects their ranges, separating populations. Using molecular genetic techniques, we tested whether this separation correlates to evolutionary divergence. Our data show that the separated populations are genetically distinct.

JULIE DESLAURIERS

Pleurotus djamor Cultivation on Various Sustainable Waste Substrates

Undergraduate Co-Author: Victoria Kreinbrink

Mentors: Ms. Jennifer Elliott, Ms. Alaina Bernard (Biology)

Creating a closed-looped system, mushrooms were cultivated on four waste substrates: oak mulch, palm mulch, coffee grounds, and a mix of all three, producing both food and usable compost as byproducts. Using local waste from the campus as growth mediums reduced the cost of production and increased potential profits.

ALEXANDRIA DEVORE

Development of a Microparticle Atlas for the Characterization of Human Bioparticles in Forensic Touch DNA Evidence

Mentors: Dr. Jack Ballantyne, Dr. Erin Hanson (Chemistry)

Touch DNA is thought to be the result of DNA obtained from shed skin cells. The project goal was to perform a comprehensive characterization of biological material recovered from touch DNA and to develop a microparticle atlas that documents the size, quantity and morphology of bioparticles in touch DNA evidence.

VIKRAMJIT DHILLON**Evolution of Functionally Conserved Regions in Orthologous Species****Mentor:** Dr. Xiaoman Li (Biomedical Sciences)

We have proposed a method to address and predict what happens of similar DNA sequences in species that evolved from a common ancestor and how those changes constitute to give an outcome so radically different from its progenitor.

JEFF DORALUS**I Need an Advil — The Role of Neuropeptides in Migraine Headaches****Mentor:** Dr. Mohtashem Samsam (Biomedical Sciences)

I did a thorough literary investigation of the processes that occur in headaches in order to find a scientific explanation as to why migraine headaches occur. I used findings from my research mentor, and various other certified clinical researchers to compile a clear overview of the mechanism occurring during migraines.

KATELYN DUNIGAN**Optimization of the Expression of Functionally Active Recombinant LIM Kinase 1****Mentor:** Dr. Ratna Chakrabarti (Biomedical Sciences)

In this study, we aim to identify the conditions necessary to produce active recombinant LIMK1 in *E. coli*. Functionally active recombinant LIMK1 is essential for identifying small molecule inhibitors that may be used as cancer therapeutics in the future.

JAIS EMMANUEL**Isolation of Stem Cell-Derived Cardiomyocytes Using Magnetic Cell Sorting Technique****Mentor:** Dr. Steven Ebert (Biomedical Sciences)

We have transfected RS1 cells with a reporter expression plasmid. Cells expressing the reporter were isolated using MACS, and the presence of the reporter gene in the isolated cells was verified by RT-PCR. Once optimized, this technique can isolate stem cell-derived cardiomyocytes for further study on their potential therapeutic use.

JACQUELINE GIBSON**The Effect of Soil Conditions on Plant Health at the University of Central Florida****Mentors:** Ms. Jennifer Elliott, Ms. Alaina Bernard (Biology)

This project researched the effect of soil conditions on plant health in an urban environment. Effective ecological management of urban systems could potentially contribute to an improved well-being of human populations as well as the surrounding environment.

SARAH GIDUS**Adrenergic Hormones Provide Essential Stimulation of Embryonic Metabolism but do not Appear to Affect Major Stores of Metabolic Substrates****Mentor:** Dr. Steven Ebert (Biomedical Sciences)

The objective of this study was to determine if metabolic substrate pools of glycogen and lipids are altered in embryonic mouse hearts that lack the ability to produce adrenergic hormones.

WISSAM HADRI**FV-162: Best-in-Class Orally Active Proteasome Inhibitor****Mentor:** Dr. Mohtashem Samsam (Biomedical Sciences)

A combination of molecular design, novel fluorine-based medicinal chemistry, and extensive biological testing led to the selection of FV-162 as a lead preclinical drug candidate. FV-162 is highly selective, orally bioavailable, efficacious in vivo, and metabolically stable, with excellent potency against a battery of myeloma and leukemia cell lines.

JORGE ANDRES HERNANDEZ**Genetic Deletion of the SOD Copper-Binding Site does not Prevent Catalysis of Nitration by Peroxynitrite****Mentor:** Dr. Alvaro Estevez (Biomedical Sciences)

The objective of this research is to identify the mechanism by which mutant SOD causes amyotrophic lateral sclerosis (ALS).

CAITLYN HERNDON**Understanding the Role of a Hemerythrin-Like Protein in *Mycobacterium Tuberculosis* Using Fluorescent Reporters and Reverse Genetics****Mentor:** Dr. Kyle Rohde (Biomedical Sciences)

Using advanced methodology, this research aims to determine the role of a hemerythrin-like protein in *Mycobacterium tuberculosis* and its link to pathogenicity.

LAURA HERNDON**Identification of the Domain(s) in Protein Disulfide Isomerase that is Required for Binding and Disassembly of the Cholera Holotoxin****Mentor:** Dr. Kenneth Teter (Biomedical Sciences)

The goal of this project is to identify which domain(s) of protein disulfide isomerase is responsible for binding to the cholera toxin A1-subunit and dislodging it from the rest of the cholera holotoxin. These events are crucial interactions for the cholera intoxication process.

HALEIGH HODGES**Identifying Protein-Protein Interactions in *Mycobacterium tuberculosis* Using Mycobacterial Protein Fragment Complementation****Mentor:** Dr. Kyle Rohde (Biomedical Sciences)

Our objective is to identify protein-protein interactions within *Mycobacterium tuberculosis* that contribute to its virulence by using a technique called mycobacterial protein fragment complementation. We are focused on screening a genomic library for interactors of WhiB7, a transcriptional regulator involved in inducible drug resistance and survival in macrophages.

TAHIA HOSSAIN**Investigation of Flavonoids as Anti-HIV Agents****Mentor:** Dr. Otto Phanstiel (Medical Education)

The objective of this project was to synthesize and evaluate new flavonoid compounds with antiviral activity against human immunodeficiency virus (HIV). Chalcone and flavone architectures were prepared and screened for antiviral activity using human cell lines overexpressing the HIV receptor. Structure activity relationships were developed to inform future efforts.

SARAH HUFF

Selective Feeding Pressure on the Oyster *Crassostrea virginica* and the Crown Conch *Melongena Corona* in Mosquito Lagoon, Florida

Undergraduate Co-Authors: Chelsea Landau , Emily Curtiss, Adam Handley, Anthony Cuminale, Casey Craig, Courtney Buck, Jordan Filipponi, Amanda Aull, Adrien Izquierdo, Evan Klemen

Mentor: Dr. Linda Walters (Biology)

This research's objective is to determine how the feeding patterns of crown conch *Melongena corona* affect oyster abundance in a highly biologically diverse shallow water Florida estuary.

JEFFREY JACOB

Genetically-Programmed Suicide of Pnmt+ Adrenergic Cells in Mice Produces Adult-Onset Cardiac Dysfunction

Mentor: Dr. Steven Ebert (Biomedical Sciences)

The primary objective of this project is to determine the specificity of DTA-mediated ablation of Pnmt-expressing cells in the Pnmt-Cre/DTA mice and to assess cardiovascular anatomy and function in Pnmt-Cre/DTA mice throughout life.

ROSEMARY JENSEN

Gp-9 Genotype for Monogyne and Polygyne Behaviors of the Queen Fire Ant, *Solenopsis invicta*, at the University of Central Florida

Mentor: Dr. Joshua King (Biology)

The purpose of this study is to survey and genotype *Solenopsis invicta* queens on the main campus to determine the ratio of monogyne to polygyne colonies. This behavior is a phenotypic expression at the Gp-9 locus.

SYDNEY JIMENEZ

Bioremediation of Copper by Submerged and Emergent Aquatic Vegetation

Mentor: Ms. Jennifer Elliott, Ms. Alaina Bernard (Biology)

This experiment tested the effectiveness of Tape Grass (*Vallisneria spiralis*) and Pickerelweed (*Pontederia cordata*) in their uptake of excess nutrients and heavy metals. Their ability to bioremediate these systems is important for creating habitats that are suitable for aquatic life to thrive.

CAMERON JOHNSON

Analysis of Mechanical Influences on Schwann Cell Cytoskeletal Dynamics and Motility

Undergraduate Co-Author: Tony Cole

Mentor: Dr. Cristina Fernandez-Valle (Biomedical Sciences)

This work studies motility of Schwann cells, glial cells in the peripheral nervous system responsible for insulating neuron axons with a structure called myelin. Using a novel, live-imaging system, we determine that the proteins cofilin and merlin increase the diameter at which SCs switch from random to directional motility.

JOSHUA KELLER

Discovering Riboswitch Elements in the Genomes of Cyanobacteria

Mentor: Dr. Shaojie Zhang (Electrical Engineering and Computer Science)

The goal of this study was to find a new family of riboswitches within cyanobacteria (blue-green algae) genomes in an effort to better understand how genes that are involved in energy storage are regulated.

JACOB KIMMEL

Characterization of Induced Pluripotent Reprogramming via Machine-Learning-Based Image Analysis

Mentor: Dr. Kiminobu Sugaya (Biomedical Sciences)

This study analyzed the temporality of the induced pluripotent reprogramming process through quantitative image analysis. Machine-learning classifiers were also developed to determine the state of pluripotency circuitry activation within a cell culture.

AARON LEDRAY

Establishing Tail Suspension Reflex Phenotypes in H308R Dynein Mutant Mice

Mentor: Dr. Stephen King (Biomedical Sciences)

The goal of this project was to identify and characterize distinct tail suspension reflex phenotypes among H308R heterozygous and homozygous mutant mice populations.

CARL LEWIS

A Grass Root's Take on Shoreline Stabilization

Undergraduate Co-Authors: Steven Carrion, Louisa Choy, Ellis Hartley, Peter Gonzalez, Michelle Pena-Ortiz

Mentor: Dr. Linda Walters (Biology)

Spartina alterniflora is one of the most important plant species on the Atlantic seaboard for stabilizing shorelines. Now more than ever, shorelines are being threatened by various anthropogenic factors. Our objective is to maximize root biomass during cultivation in order to enhance the success of transplantation for conservation measures.

MICHAEL LOPEZ

Cell Printer Optimization for BioMEMS Applications

Undergraduate Co-Author: Muhaimeen Hossain

Mentor: Dr. James Hickman (Chemistry)

To achieve an optimized, printable cell pattern on BioMEMS to be used in electrophysiological testing for improving drug testing methods. The ability to achieve this pattern will allow for multiple cell types to be carefully organized on BioMEMS to mimic a "human-on-a-chip" system.

MOHID MIRZA

Evaluation of the Stability of miRNA Expression in Vaginal Secretions and Menstrual Blood During Female Reproductive Cycles

Mentor: Dr. Jack Ballantyne (Chemistry)

The study goal is to evaluate the stability of vaginal and menstrual blood specific miRNA expression in samples collected during menstruation and full reproductive cycles (28-days) in menstruating and menopausal females. Stability will be assessed using developed miRNA profiling assays that include logistic regression analysis for body fluid identification.

CATHERINE MITCHELL

Nitration Evaluation of Hsp90 in ALS Mice at Different Stages of the Disease Progression

Mentor: Dr. Alvaro Estevez (Biomedical Sciences)

The purpose of this study is to gain a better understanding of how the ALS disease progresses by measuring the amount of nitration of Hsp90 at different stages of the disease. Knowing more about the disease progression could result in a drug to better treat ALS.

MIKAELA MOROLLA**Determining the Best Method to Facilitate Shoreline Stabilization Using Different Greenhouse Rearing Times and Planting Densities of *Spartina alterniflora*****Mentor:** Dr. Linda Walters (Biology)

In order to prevent shoreline erosion, *Spartina alterniflora* is used in "living shoreline" projects to disperse wave energy and stabilize sediments. We experimentally determined optimal greenhouse rearing times and planting densities that resulted in maximum survival and new shoot growth at two sites in Indian River Lagoon, Fla.

PASCALE NELSON**Nitrated Hsp90-Induced PC12 Cell Apoptosis Requires p38 and JNK MAP Kinase Activation****Mentor:** Dr. Alvaro Estevez (Biomedical Sciences)

Investigation of nitrated Hsp90 induction of PC12 cell apoptosis by a MAP-kinase-p2X7 mediated mechanism.

JI MIN NOH**A Comparative Phylogenetic and Life History Trait Study of Aposematic Coleoptera on a Community Level****Mentor:** Dr. Hojun Song (Biology)

This study will annotate UCF's Stuart M. Fullerton Collection of Arthropods and compile a list of species that show aposematic coloration in order to understand the diversity of aposematism in Coleoptera in a phylogenetic framework, and compare life history traits to better understand its complexity from an ecological standpoint.

HAYLEY O'BRIEN**Determination of the Quantity and Quality of Human DNA in Household Dust (Dust Bunnies) to Identify Occupants of a Room****Mentors:** Dr. Jack Ballantyne, Dr. Erin Hanson (Chemistry)

Dust bunnies are macroscopic dust structures that comprise a variety of organic and inorganic materials from the immediate environment, including human cellular material. This study will recover human DNA from dust bunnies and determine whether it is of sufficient quantity and quality for DNA profiling.

AMPARO OXNER**The Metabolic Properties of Different Triple Negative Breast Cancer Lines and the Effectiveness of CT20 Peptide Treatment Against Them****Mentor:** Dr. Annette Khaled (Biomedical Sciences)

CT20p is a peptide derived from the cell death apoptotic protein BAX. The metabolic properties of different triple negative breast cancer cell lines will be determined, and then the effectiveness of CT20p against those cell lines will be observed in order to optimize CT20p cancer treatment.

MELISSA PADUANI**Urbanization's Impact on Ecological Communities in Natural Lakes Versus Constructed Stormwater Ponds****Mentor:** Dr. Patrick Bohlen (Biology)

Vegetative, benthic, and macro-invertebrate communities along the littoral zones of three ponds and lakes on and nearby the University of Central Florida campus will be quantified. The data will be used to draw comparisons between the two systems, and potentially improve design and management strategies that will increase ecological health and functionality of the ponds.

ANTONY PAPADIA**Moving Oysters to Save the Indian River Lagoon: Assessing Growth Rate and Survival of *Crassostrea virginica* in New Locations****Mentor:** Dr. Linda Walters (Biology)

My objective was to determine the success of the eastern oyster when moved south of their natural distribution in Mosquito Lagoon, Fla. by observing growth and survival of transplanted oysters. If oysters can be successfully migrated, then their distribution can be expanded, increasing water filtration and increasing habitat for other organisms.

JENNA PAPPALARDO**Nutrient Acquisition Through *Clostridium difficile* Toxin Production****Mentor:** Dr. William Self (Biomedical Sciences)

Clostridium difficile is an emerging danger in health care settings as a life-threatening nosocomial pathogen. *C. difficile*'s purpose for producing toxins crucial to causing disease is unknown and was hypothesized to be nutrient acquisition through collagen or mucin degradation. Understanding the role of toxin production could provide novel treatments for infection.

NICOLE PARADA**Development of a Deoxyribozyme-Based Sensor for the Detection of the *Mycobacterium tuberculosis* Complex****Mentor:** Dr. Dmitry Kolpashchikov (Chemistry)

The objective of this project is to use deoxyribozyme-based sensors in order to detect and differentiate types of *Mycobacterium tuberculosis* species with a low limit of detection, thereby improving current detection methods, as well as decreasing turnaround time.

ARJUN PATEL**Development of Selective Acid Sphingomyelinase Inhibitors as Therapies for Inflammatory Bowel Disease****Mentor:** Dr. Otto Phanstiel (Medical Education)

This project characterizes the inhibitory effects of several flavonoid compounds on acid sphingomyelinase, an important target for inflammatory bowel disease. The outcomes from this work will provide critical structure-activity information useful for future acid sphingomyelinase inhibitor design.

JACQUELINE PEREZ**Abundance and Diversity of Microplastics on Oyster Reefs in the Indian River Lagoon****Mentor:** Dr. Linda Walters (Biology)

The relationship between microplastics and filter-feeding oysters is not known. I examined microplastic abundance and diversity data in the Indian River Lagoon, comparing proximity to ocean inlet, proximity to oyster reefs, and impact of storm resuspension.

MARIAH PERO**Identification of Novel Components of the *Drosophila* Polyamine Transport System****Mentor:** Dr. Laurence von Kalm (Biology)

This study aimed to test the involvement of Huntingtin Interacting Protein 1 (Hip1) and Scaffold Attachment Factor-B (Saf-B) in polyamine transport, a basic cellular process vital for cell growth/proliferation. Gaining a better understanding of this transport system will allow us to develop more effective drugs aimed at cancer treatment.

AARON POLLOCK

Mycobacterium tuberculosis Regulation of Efflux Pump Tap by Transcriptional Activator WhiB7

Mentor: Dr. Kyle Rohde (Biomedical Sciences)

Understanding *Mycobacterium tuberculosis* ability to persist within immune cells and pulmonary tissue and resist eradication by antibiotics is of utmost importance in the effort to develop new interventions. This study will focus on the transcriptional activator WhiB7 and its regulation of the multidrug Tap efflux pump encoded by Rv1258c.

ASHLEY RAMIREZ

Engineering an Improved Recombination System Using Antibiotic Resistance

Mentor: Dr. Sean Moore (Biomedical Sciences)

The goal of the project is to use a synthetic-lethal screening system to reveal their functions. My immediate focus has been to engineer a genetic tool that serves as a reporter system for successful integration of the orphan genes.

MEERA RATHOD

The Effectiveness of DFMO in Inhibiting Pancreatic Tumor Cell Growth

Mentor: Dr. Deborah Altomare (Biomedical Sciences)

The objective of this research is to determine the effectiveness of DFMO in inhibiting proliferation and inducing apoptosis in pancreatic tumor cells. We accomplished this by comparing tumors from untreated and DFMO-treated mice through immunohistochemistry using antibodies Ki67 and Cleaved Caspase, which recognize a proliferation marker and apoptotic marker, respectively.

TYTON ROBERTS

Discovery of Novel Antimalarials Through Marine Microbial Extracts

Mentor: Dr. Debopam Chakrabarti (Biomedical Sciences)

We are pursuing the discovery of novel antimalarial pharmacophore from marine microbial extracts by tapping into the chemical and biological diversity of Harbor Branch Oceanographic Institute's Marine Microbial Culture Collection. Our goal is to identify, from these marine microbial extracts, novel antimalarial drugs that have a high antimalarial potency.

BRADLEY ROSENKRANTZ

Binary Deoxyribozyme Technology for Detection and Characterization of Pathogenic *Mycobacteria*

Mentors: Dr. Kyle Rohde (Biomedical Sciences), Dr. Dmitry Kolpashchikov (Chemistry)

DNAzymes recognize bacteria-specific nucleic acid sequences and bind to them, forming a catalytic core which cleaves a substrate molecule. This cleavage separates a quencher molecule from a fluorophore, which results in a fluorescent output. This flexible assay platform has great potential for the detection of *M. tuberculosis* or *M. abscessus*.

JACOB SAMBURSKY

The Characterization of Cadherin-19 in Early Schwann Cell Development

Undergraduate Co-Author: Johanna Arce

Mentor: Dr. Stephen Lambert (Biomedical Sciences)

We utilized an embryonic dorsal root ganglion explant culture system, whereby myelinating SCs differentiate from a pool of precursors to recreate the early stages of SC differentiation. Using this system, we characterized cadherin-19 and will test its function by perturbing its expression through overexpression and knock-down.

FIRAS SBEIH

Potential Role of ApoA1 in the Exit of Mature VLDL from the Trans-Golgi Network

Mentor: Dr. Shadab Siddiqi (Biomedical Sciences)

The objective of this project was to find out the role of ApoA1 in mature VLDL-exit from the trans-Golgi network in a specialized vesicle known as the post-Golgi VLDL transport vesicle (PG-VTV).

MICHAEL SCHRUM

Assessing Relationships Among Populations of New Guinea Elapid Snakes

Mentor: Dr. Christopher Parkinson (Biology)

This study examines morphological relationships among populations of an elapid snake, *Aspidomorphus muelleri* to determine if morphological characters represent genetics. We analyze scale counts, anatomic measurements, and color patterns to assess the possibility of species divergence. Preliminary results from scale counts and anatomic measurements contradict genetic data.

DANIELA SEBASTIANI

Understanding the Function of CDK-Like Kinases of the Malaria Parasite

Mentor: Dr. Debopam Chakrabarti (Biomedical Sciences)

Elucidating the physiological functions of PfPK6, an atypical kinase similar to CDKs and MAP kinases, and PfMrk, a CDK-like kinase with homology to the human MO15/CDK7, could provide new targets for drug design. It is hypothesized that the functions will be revealed through analysis of substrates interacting partners of each kinase.

JOANE TITUS

Exploring the Use of Fluorescence-Activated Cell Sorting (FACS) for Isolation of Cardiac Stem Cells

Mentor: Dr. Steven Ebert (Biomedical Sciences)

The study aims to explore the usage of fluorescence-activated cell sorting (FACS) for the isolation of stem cells that exhibit phenylethanolamine n-methyltransferase (PNMT) an adrenaline producing enzyme. The adrenal-derived Rs1 cells were transfected with enhanced green fluorescent protein (EGFP) to isolate the expressed markers which signifies Pnmt expression.

JEREMY TRAN

Using a Cell-Based Assay for Discovering Epigenetic Cancer Therapy Drugs

Mentor: Dr. Mark Muller (Molecular and Microbiology)

A hallmark of cancer is its ability to silence certain genes by altering the epigenetics of cells, allowing the cancer to grow uncontrollably and spread throughout the body. Our research involves screening for potential drugs to reverse this silencing and return the cells' abilities to regulate their growth.

BRAD TREMBLAY

Bacterial Expression and Purification of Human Recombinant Heat Shock Protein 90 (HSP90)

Mentor: Dr. Alvaro Estevez (Biomedical Sciences)

Expressed and purified heat shock protein 90 (HSP90) using recombinant BL21-A1 *E. coli* bacterial culture and polyhistidine-tag purification. HSP90 is an abundant chaperone protein that is essential for cell survival. Our lab is investigating the role of HSP90 in the apoptosis of motor neurons in amyotrophic lateral sclerosis (ALS).

CRYSTAL TURNER**Identification of Molybdenum-Dependent Oxidoreductases Capable of Selenate Reduction****Mentor:** Dr. William Self (Molecular and Microbiology)

The objective of this project is to identify which molybdenum-containing oxidoreductases can reduce selenate, and determine the concentration of selenate at which these enzymes act. We will take a genetic approach to create compound mutants and subsequently test for the inability to reduce selenate to elemental red selenium.

CRISTHIAN VALOR**A Novel Natural Product-Inspired Synthetic Compound with Antimalarial Activity****Mentor:** Dr. Debopam Chakrabarti (Biomedical Sciences)

This research focused on the study of the properties of a novel natural-like synthetic scaffold and analyze its selectivity, and cellular mechanism of action in *Plasmodium falciparum*.

JACQUELYN WEAVER**Wading Birds and Oyster Reefs in Mosquito Lagoon, Florida: Searching for Signs of Successful Restoration****Undergraduate Co-Authors:** Anna Jenkins, Alexandra Consuegra, Antonio Olivella, Gregory Norris, Heather Xiong**Mentor:** Dr. Linda Walters (Biology)

This study aims to determine the abundance and behavior of threatened and endangered wading birds in Mosquito Lagoon, Fla. on natural, restored, and dead oyster reefs.

SOREN WEBER**Genetic Structuring of the Long-Spined Sea Urchin Between Captive and Florida Keys Populations****Mentor:** Dr. Eric Hoffman (Biology)

The purpose of this study is to determine if there is genetic structuring between populations of the long-spined sea urchin (*Diadema antillarum*) in captivity and in the Florida Keys. This information will allow us to assess whether captive urchins should be released into the wild.

ROBERT WINGO**Evo-Engineering of a Conserved Molecular Machine****Mentor:** Dr. Sean Moore (Biomedical Sciences)

The project intention is to evolve a highly conserved protease, ClpXP, so that it will recognize a unique recognition sequence. The new protease will yield insight into the mechanisms of substrate recognition by ClpXP, and provide a mechanism to degrade protein targets not currently recognized by native ClpXP.

ARELYS ZAMORA**Molecular Mechanism of RNA Helicase DDX3 and its Role in HIV-1 Infection and Breast Cancer Metastasis****Mentor:** Dr. Eda Koculi (Chemistry)

We have focused on the expression of DDX3 in *E. coli* cells using IPTG induction. Purification of DDX3 and its constructs has been done by the use of fast-protein liquid chromatography.

MARISA ZIMMERMAN**Habitat Use of Florida Sandhill Cranes (*Grus canadensis pretenses*) in an Urban Environment****Mentor:** Dr. Patrick Bohlen (Biology)

This study will identify the areas on the University of Central Florida's campus that Florida sandhill cranes use as foraging habitat and identify landscape features that affect their distribution. It will also recruit citizen scientists to increase data observations and to engage the community's interest in ecology.

PHYSICAL SCIENCES AND MATHEMATICS**DANIELLE ABBITT****Highly Ordered Printed Electrode for Supercapacitor****Undergraduate Co-Author:** Julian Moore**Mentor:** Dr. Jayan Thomas (NanoScience Technology Center)

The purpose of this project is to fabricate a highly ordered nanopillar pseudocapacitor electrode utilizing MnO₂ and our SNAP technique. The result will be an energy storage device capable of high-energy density and power density.

NATHAN AULTMAN**Analysis of the WISE Spacecraft's Infrared Comet Detection Capability: Why Were Some Comets Missed?****Mentor:** Dr. Yan Fernandez (Physics)

The WISE spacecraft detected the infrared light from approximately 150 comets during its 2010 survey but did not detect a few hundred others. Our objective was to cross-reference all these comets' physical and brightness properties with their WISE observation to look for causal relationships between detected and nondetected comets.

ARIELA BARAN**Potentiometric Detection of DNA Using Ion Selective Electrodes and Nanoparticle Labels****Mentor:** Dr. Karin Chumbimuni-Torres (Chemistry)

A four-way junction system consisting of stem loop, m, f, and target will be analyzed via potentiometric detection to create a universal probe instead of the two strands system probes. This new methodology will allow for the detection of different targets, without modifying the stem-loop structure.

CHRISTOPHER BARSOUM**Planetary Engineering of Mars Through Utilization of Pressure Scale Heights and Polar Ice Albedo Alteration****Mentors:** Dr. Kuo-Chi Lin, Dr. Shawn Putnam (Mechanical and Aerospace Engineering), Dr. Daniel Britt (Physics)

The objective of this research was to demonstrate that Mars, theoretically, can be engineered to have atmospheric conditions capable of sustaining human life. By observing a positive feedback reaction with volatile ices on Mars, this research shows how using Martian terrain and inventory makes planetary engineering possible.

ALLISON BRATCHER**Analysis of Bending Waves in Saturn's Rings with Cassini UVIS Stellar Occultations**

Mentor: Dr. Joshua Colwell (Physics)

Spiral bending waves in Saturn's rings are revealed in stellar occultations collected by Cassini's Ultraviolet Imaging Spectrograph. These waves act as local traces of the surface mass density of the rings. We present an analysis of several waves and calculate surface mass densities at the wave locations.

KARISHMA CANTARERO**Synthesis and Characterization of Dopant Based Water Soluble Quantum Dots**

Mentor: Dr. Swadeshmukul Santra (Chemistry)

Quantum dots were solubilized by coating the surface with N-acetylcysteine (NAC) post synthesis. Photoluminescence characterization, particle size, and crystallinity were collected before and after NAC coating. Water dispersibility and fluorescence emission were improved and enhanced, respectively, post coating. Crystallinity remained unchanged indicating that the Q-Dots core integrity was conserved.

COLEMAN CARIKER**Pressure and Temperature Response of a Switchable Hydrogel Probed with Raman Microscopy**

Mentor: Dr. Alfons Schulte (Physics)

We propose to investigate the conformally sensitive spectra of PNiPA and other macromolecules as a function of pressure and temperature in and around the LCST.

DANIEL CERKONEY**Theoretical Study of Excitation and Ionization of Atoms in the Upper Atmosphere**

Mentor: Dr. Haripada Saha (Physics)

The electron impact ionization of highly charged carbon atoms was examined by using the most accurate multiconfiguration Hartree-Fock method to numerically calculate the triple differential cross sections for this interaction at an excess energy of 2 eV shared equally by the two outgoing final state electrons.

JACOB CLEAVELAND**Forming an Oxazine Moiety via a Lewis-Acid Catalyzed Aza-Prins-Type Cyclization**

Mentor: Yu Yuan (Chemistry)

A new method for forming a functionalized oxazine ring has been proposed that uses a derivative of an *Aza-Prins-type Amidalkylation* reaction to form the ring from a tailored substrate and an acetal, catalyzed by a Lewis-acid.

JOSEPH DEJESUS**Synthesis and Use of Covalently Linkable Potassium Ionophore in Polymeric Ion Selective Sensors**

Mentor: Dr. Karin Chumbimuni-Torres (Chemistry)

A covalently linked potassium ionophore to poly (vinyl chloride) is being synthesized and characterized. The obtained compound will be used for both ion-selective electrode and ion-selective optode membranes. The covalently linked ionophore to the polymer matrix can potentially be used to improve the lifetime and performance of the membranes.

ASMAIL HABACH**Micro-Raman and Reflectance Spectroscopy of Meteorite Materials**

Mentor: Dr. Alfons Schulte (Physics)

Our objective is to probe chemical composition and fine scale structure preserved in several critical meteorite types by employing Raman spectroscopy and reflectance measurements on a micron-scale

HAFAEEZ HANIFF**Synthesis of Novel and Highly Stable Tetrahydroxy Squaraine Dyes for Bioimaging Applications**

Mentor: Dr. Kevin Belfield (Chemistry)

In this project, three novel squaraine dyes have been synthesized and characterized for their linear and nonlinear photophysical properties. They were then subjected to rigorous testing for photostability and nucleophilic stability to determine if this chromophore could be used in bioimaging applications.

SHELLY HASSETT**Robustness of Reversible Photoacid Sensor Under Biological Conditions**

Mentor: Dr. Karin Chumbimuni-Torres (Chemistry)

The goal of this project is to optimize a light-activated photoacid sensor that can be used in a range of biological conditions, including biological buffers and higher temperatures, while mitigating undesirable effects for biological applications.

DANIEL HELIGMAN**Modifications of Device Fabrication Using E-Beam Lithography for Carbon Nanotubes**

Mentor: Dr. Masahiro Ishigami (Physics)

I researched the process of creating experimental devices for carbon nanotubes and devised from experimentation, the best possible parameters that produced the best device with the least amount of contact resistance.

GEENA ILDEFONSO**Hall Magnetohydrodynamic Reconnection: Parker Problem**

Mentor: Dr. Bhimsen Shivamoggi (Mathematics)

In this research, we calculate analytical and numerical solutions of Hall-resistive magnetohydrodynamic equations. Our goal is to see if our calculations in describing stagnation point flows in a thin current sheet are more accurate than Shivamoggi's previous results given by a different mathematical procedure.

NATALIE JOSEPH**Poly-Electrolyte Gels for Biomedical Applications**

Mentor: Dr. Lei Zhai (Chemistry)

In the proposed research, factors influencing the cross-linking interactions between Poly(acrylic acid) and chitosan to form hydrogels will be examined. Furthermore, the mechanical and biological properties of the gels and their applications will be determined.

MAURY KNUDSEN**Brightness and Orbital Characteristics of Short Versus Long Period Comets**

Mentor: Dr. Yan Fernandez (Physics)

The brightness of a comet depends on its distance from the sun, its composition, and its evolution. Comets with differing evolutionary paths could have behavioral differences that can be revealed through observations. I have compiled brightness parameters of hundreds of comets to look for correlations with orbital parameters.

MARISSA KRIENKE**Conjugated Conducting Polymer Nanoparticles for Bioimaging and Photodynamic Therapy Applications***Mentor:* Dr. Andre Gesquiere (Optics and Photonics)

Nanoparticles fabricated from MEHPPV polymer are used for the applications in photodynamic therapy. The nanoparticles are functionalized with folic acid to increase the specificity toward cancer cells. The viability of the cells after PDT treatment is quantified by MTT assay.

ELIF KUGUOGLU**In Vitro Selection of DNA Aptamers Against Prostate Cancer Peptide Biomarkers***Mentor:* Dr. Dmitry Kolpashchikov (Chemistry)

A process of in vitro selection known as SELEX will be utilized in order to obtain DNA aptamers that bind to prostate cancer peptide biomarkers.

ANNA LEWIS**Photochemical Response and Etching Behavior of Chalcogenide Glass Films***Mentor:* Dr. Stephen Kuebler (Chemistry)

Chalcogenide glasses are a class of materials that can be used to photo pattern nanoscale structures having useful optical and electronic function. Various phases of the structure fabrication process were studied, including identifying structural changes resulting from photo exposure, optimizing post-exposure etching conditions, and studying the etching properties of potential substrate materials.

SAMANTHA MENSAH**Nanomolar Detection Limits of Cd²⁺, Ag⁺, and K⁺ Using Paper-Strip Ion-Selective Electrodes***Mentor:* Dr. Karin Chumbimuni-Torres (Chemistry)

Ultrasensitive ion-selective electrodes were developed on paper substrates than can detect Cd²⁺, Ag⁺, and K⁺ ions. Optimization of preparation of the electrode membrane and substrate allowed detection of various ions in nanomolar concentrations. These paper-based electrodes are not only very sensitive, but inexpensive and robust.

PARTH PATEL**Reversible Ion-Selective Optode Using a Photosensitive Compound Activated by Visible Light***Mentor:* Dr. Karin Chumbimuni-Torres (Chemistry)

For the first time, a metastable photoacid polymer activated by visible light was introduced in ion-selective optodes for controlled sensing of calcium ions. This photo-sensing membrane was characterized and analyzed via UV-visible spectroscopy to understand the ion-exchange processes involved.

TYLER PONTIUS**Biomolecular Computing: Connectable DNA Logic Gates on Double-Crossover Tiles***Mentor:* Dr. Dmitry Kolpashchikov (Chemistry)

DNA-based logic gates were assembled to perform biomolecular computations. These logic gates were then connected together into three-dimensional structures using a DNA double-crossover tile as the substrate for a DNA-based XOR logic gate. Both the structure and function of the complex were observed using gel electrophoresis and fluorescence spectroscopy.

MICHELLE RICH**Improving Ion-Selective Electrodes for Applications in Multiplex Analysis***Mentor:* Dr. Karin Chumbimuni-Torres (Chemistry)

The objective of this project is to develop ion-selective electrodes (ISEs) that do not require extensive conditioning times, as traditional ISEs. Hence, sodium, potassium, and silver-ISEs were developed with submicromolar limits of detection and Nernstian responses without conditioning. ISEs with shorter analysis times could be used for multiplex analysis.

GERALD RICHARDSON**Anisotropic Fluorescent Dyes for Efficient Luminescent Solar Concentrators***Mentor:* Dr. Stephen Kuebler (Chemistry)

Luminescent solar concentrators are devices that absorb sunlight and redirect the energy toward an edge-mounted photovoltaic cell. This ongoing exploration considers fluorescent anisotropic dyes as a method to increase the efficiency of the luminescent solar concentrator.

MONICA RIVAS**Toward the Synthesis of Pyrrole-2-Aminoimidazole Alkaloids***Mentor:* Dr. Yu Yuan (Chemistry)

An efficient methodology for the synthesis of pyrrole-2-aminoimidazole alkaloids (PAIs) is proposed. The conditions include the use of heteroatom assisted oxidation to prepare a reactive nitroso species. The expected results include the synthesis of the imidazolidinone structure and future functionalizations of this structure to yield a variety of PAI compounds.

ILIA TOLI**Data Storage on Single-Layer Fluorographene Sheets***Mentor:* Dr. Pedro Patino Marin (Chemistry)

This project proposes a computer chip that stores 500,000 gigabyte per square centimeter. It argues in favor of the feasibility and considers all the theoretical and practical aspect. It is relevant because it involves applications of new materials to fields like computer science where there is pressure for more memory.

MY TRAN**A Study on the Synthesis of 2-Azidoethyliditriazoate and Propargyl-Maleimide for X-ray CT Contrast Agent Involving the Use of CARSKNKDC (CAR) Peptide***Mentor:* Dr. Kevin Belfield (Chemistry)

This research aims to map out a synthetic scheme and to synthesize a compound that can be used as a contrast agent for X-ray CT, in which also can be conjugated to target peptides for pulmonary arterial hypertension detection.

QING WANG**Functionalization of Single-Layer Molybdenum Disulfide with Peptides***Mentor:* Dr. Masahiro Ishigami (Physics)

The purpose of this research is to deposit GAM peptide on to the surface of molybdenum disulfide, and use atomic force microscopy to image the surface to identify peptide binding.

BRANDON WOLFSON

Advanced Characterization of Uptake of Nanoparticles in Plant Roots

Undergraduate Co-Author: Brandon Ikeman

Mentor: Dr. Laurene Tetard (Physics)

We present evidence of nanoparticles uptake and possible translocation in plants. The distribution of the quantum dots could be studied through various microscopy and spectroscopy tools. The results of this project can be applied to tackle a variety of biological challenges.

SOCIAL SCIENCES

KARLA BADILLO-URQUIOLA

Kinesic Cues: How to Effectively Simulate Body Language in a Virtual Environment

Mentor: Dr. Stephanie Lackey (Institute for Simulation and Training)

The kinesics subcategory manipulators will be examined to determine the guidelines to develop state-of-the-art, simulation-based training that can prepare first responders to detect nervous or aggressive behaviors by decoding body language.

CHRISTOPHER BATES

Study of the SBNR Phenomenon as Found Within Members of Alcoholics and Narcotics Anonymous

Mentor: Dr. David Gay (Sociology)

A study of stable, active members of 12-step recovery groups, carried out through open-ended conversations. Emphasis was placed on how participants understand spirituality in opposition to religiosity, the mental disconnect between spiritual practices and perceived religious practices of their out group, and anti-belonging sociological functions.

MARK BERRIOS-AYALA

Brave New World Reloaded

Mentor: Dr. Abby Milon (Legal Studies)

The objective of this study is to apply basic constitutional safeguards to new technology in order to stop mass surveillance.

TIFFANY BISBEY

A Multilevel Theory for Predicting Practical Drift: Uncovering Adaptive Behaviors in Organizations

Mentor: Dr. Eduardo Salas (Institute for Simulation and Training)

This study developed the first multilevel model of practical drift by integrating research on organizational system failure and practical drift in high-reliability organizations. The model suggests antecedents and potential moderators, along with testable propositions regarding the prediction of practical drift, in effort to reduce accidents in high-reliability organizations.

PAUL-HENRY BLANCHET

Influence of Neonicotinoid Policies on Ecological Modernization

Mentor: Dr. Peter Jacques (Political Science)

The objective of this research was to analyze and compare the European Union and U.S. policies regarding neonicotinoids.

BRITTANY BOGEAJIS

An Exploratory Study of Gays and Lesbian Customers' Discriminatory Service Experiences in the Hospitality Industry

Mentor: Dr. Heejung Ro (Hospitality Services)

The purpose of this research is to identify and classify discriminatory service incidents involving LGBTQ customers in the hospitality businesses. Using a modified critical incident technique, 72 incidents reported since 2010 have been analyzed based on issue, company's treatment and reason, LGBTQ customer's reaction, company's response, and target sexual orientation.

FAWN BOLAK

Asking For It: Understanding Victim-Blaming Attitudes and Rape Myth Adherence Through the Lens of Just World Theory

Mentor: Ms. Meredith Tweed (Women's Studies)

The purpose of this research is to discover if there is a significant relationship between a person's subscription to a just world and their adherence to rape myths.

STEFANIE CAMPBELL

Why Evidence Matters

Mentor: Dr. Valerie Storey (Teaching, Learning, and Leadership)

Evidence-based education is the use of scholastic strategies and programs in the classroom or curriculum that has been studied in scientific experiments. The purpose of this research is to provide vital information pertaining to preservice educator's access and to utilize their research findings to improve their teaching methods, and overall student achievements.

QUAVIA CARTER

Food Insecurity and Political Instability

Mentor: Dr. Peter Jacques (Political Science)

The research objective is to investigate the link between food insecurity and political instability at the nation-state level, addressing the emerging threats to security from global environmental change.

RANDI CHAPKIS

Absent? What Now?

Undergraduate Co-Author: Juliana Berros

Mentor: Dr. W. Scott Wise (Teaching, Learning, and Leadership)

When students are absent from school over an extended time period, how are they able to successfully complete their assignments? Our goal is to investigate teachers' perceptions toward accommodating students. To accomplish this, researchers will survey and interview teachers in regard to their experiences and perceptions of accommodating absent students.

VIJAY CHILLAR

Sexual Offender Treatment: A Paradigm Analysis of Academic Journals

Mentor: Dr. Roberto Potter (Criminal Justice)

The objective of this project was to critically examine different paradigms in a sample of academic journals in regards to sex offender treatment options within the fields of criminal justice and psychology and to analyze how these fields differentiate the process of becoming a sex offender.

CAITLIN CHRISTIAN**Impact of a Robotic Teammate's Appearance on a Human's Reliance on and Perceived Knowledge of the Robot***Mentor:* Dr. Florian Jentsch (Psychology)

Robots come in many shapes, and humans tend to make assumptions about a robot's capabilities based on its appearance. In order to define these assumptions, this project examined the impact of specific physical features on a human's perceived knowledge of and reliance upon a robotic teammate in a pursuit scenario.

NICHOLAS COLES**How Can We Study Happiness? A Proposed Working Model***Mentor:* Dr. Valerie Sims (Psychology)

The purpose of this study was to create a working model that can be utilized for a more comprehensive study of happiness.

MICHELLE CRASKE**Music's Normalization Influences on College Students' Health-Compromising Behaviors***Mentor:* Dr. Chrysalis Wright (Psychology)

The current research study focused on how music normalizes behaviors in college students. Using a theoretical basis from Bandura and Gerbner on social learning theory and cultivation theory, the study examined college students' health-compromising behaviors versus the genres of music they listened to the most.

DEEDRA DE KEMPER**Music Preference as a Mediator Between Ethnicity and Perceptions of Acceptability and Harm with Substance Use***Mentor:* Dr. Chrysalis Wright (Psychology)

This research examined the differences in recent substance use and perception of harm from substance use among black, white and Hispanic ethnic groups with music preference as a mediating factor based on exposure to substance use references in music lyrics and videos.

NAJEE DEVORE**Religiosity's Influence on the Individual's Perspective on Crime and the Criminal Justice System***Mentor:* Mr. Michael Loree (Sociology)

Examines the relationship between religiosity and authoritative disposition with a focus on how the authoritarian mentality influences the desired nature for the criminal justice system.

DANIELLYS DIAZ**Personality Impact on Vigilance Performance***Mentor:* Dr. Peter Hancock (Psychology)

The purpose of this study has been to investigate the possible influence of personality factors on vigilance and sustained attention.

JOHN DOYLE**Exploring Relationships Among Personality Traits and Nontechnical Skills in College Students***Mentor:* Dr. Shannon Whitten (Psychology)

The researched analyzes the possible relationships between personality facets as defined by the NEO PI-R and nontechnical skills (creativity and critical thinking ability) as well as grade-point average.

KELLY DUCKWORTH**Stand Your Ground Law: What Affects College Students' Opinions of this Law?***Mentors:* Mr. Michael Loree, Dr. John Lynwiler (Sociology)

This research aims to obtain an understanding of what people felt about the stand your ground law. Another objective is to find out what factors affect opinions of this law, what types of people are affected, and understand how they are affected.

ANDREW EASLER**Simplified Integrated Lesson Planning with Florida State Standards and Accompanying Plan-Evaluation Rubrics***Mentor:* Dr. Cherie Behrens (Teaching, Learning, and Leadership)

This project culminates in the synthesis of existing and planned educator standards in Florida with proven strategies focused on integrated and thematic lesson planning to develop practical, simplified evaluation tools for lesson plans in elementary and secondary education settings.

LAREYNE ELLEBRACHT**Inequality in Eternity: A Comparative Study Between Historic Caucasian and African-American Cemeteries in Brevard County, Florida***Mentor:* Dr. Rosalind Beiler (History)

Cemeteries are material artifacts that tell stories of our society's past. The analysis of grave marker styles and materials provides historic and economic data that allow cross-cultural comparisons to be made. This comparative study will assess the perceived differences between historic Caucasian and African-American cemeteries in Brevard County, Fla.

MICHELLE ESPOSITO**Looking into an Open Mind: The Relationship Between Creativity and Figurative Language Use***Undergraduate Co-Authors:* Jennifer Wilson, John Doyle, Vincent Iula, Rachael Wells, Laura Weinberger*Mentor:* Dr. Shannon Whitten (Psychology)

The objective of the current study is to investigate the relationship between creativity and the use of figurative language in writing, with particular attention to metaphors.

CYNTHIA FLORENTINO**The Role of International Non-Governmental Organizations (INGO) in Combating Human Trafficking***Mentor:* Dr. Charles Smith (Political Science, University of California-Irvine)

The project compared data obtained from the United States' State Department Trafficking in Persons Report 2013 and the number of signatories to the U.N. Trafficking Protocol. My role was to identify countries in six different regions and identify INGO activity within them to draw conclusions.

LUKE FURTAK**Mental Rotation and Embodied Cognition***Mentors:* Dr. Valerie Sims, Dr. Matthew Chin (Psychology)

Research started by Shepard and Metzler (1971) suggests that mental representations are stored as whole objects. This study hopes to determine if the size and weight of objects will influence participants' mental representations. This has implications for an embodied cognition view of how humans process implicit information.

CANDICE GIBBS

Indicators of Traditional Gender Ideology

Mentor: Mr. Michael Loree (Sociology)

A survey was used to collect sociodemographic information from an undergraduate population in order to determine predictors of traditional patriarchal gender ideology. The intent of this research is to develop an updated survey instrument to determine the presence of traditional gender ideology as old measures become obsolete or ineffective.

AMY GIROUX

Watt Will It Cost?: Long-Term Cost Comparisons of Various Energy Infrastructures

Mentor: Dr. Peter Jacques (Political Science)

The purpose of this research is to explore the availability of options for a more renewable cost efficient infrastructure that could act as viable replacements for local energy centers.

SARAH GONZALEZ

Hispanic Women's Thoughts and Attitudes on Their Own Body Image and the Representation and Influence of Other Females in Media

Mentor: Dr. Widaad Zaman (Psychology)

The purpose of this research is to examine the thoughts and attitudes of Hispanic females about their body image. Additionally, we will examine how Hispanic women view the representation of women of varying races in media, and the effects of this representation on the perception of their own body image.

JESSY GULER

Exposure to War and Conflict, Acculturation, and Identity Formation Among Adolescent Refugees

Undergraduate Co-Authors: Mira Atia, Jimmy Joseph, Daniela De Abreu Rodriguez

Mentor: Dr. Steven Berman (Psychology)

To research the potential relationships that may exist among previous exposure to war and conflict, acculturation, and identity development within a sample of adolescent refugees. This study analyzed data collected via individual interviews conducted in the homes of multicultural and multilingual adolescent refugees living in the Central Florida area.

EMRE GUMULUOGLU

Hoarding Within the Fortune 500

Mentor: Dr. Uluc Aysun (Economics)

This research has four objectives. First, see if there is hoarding within this index. Second, see if the level of hoarding differs between the SIC divisions of the index. Third, see if the hoarding affects the borrowing leverage. Lastly, see if there is any correlation between their actions and the 2006 crisis.

MEGAN HARE

Relationship of Parents' Job Stress and Child Functioning in the Context of Spillover, Parenting and Marital Stress, and Parents' Perceptions

Mentor: Dr. Kimberly Renk (Psychology)

This study seeks to investigate the impact of parental work stress on young children. In particular, the current study will examine variables such as marital stress, parenting stress, spillover, and perception of parenting to see how parental work stress directly or indirectly affects a young child's emotional and behavioral functioning.

WAYNE HOUSTON

Implementing Student Engagement in Mass-Section Classes Delivered via Lecture Capture

Mentor: Dr. Carolyn Massiah (Marketing)

The objective is to provide a foundation for intimate relationships between business students and their curriculum in mass-section classrooms delivered via lecture capture. By discovering the current level of student engagement, we will be able to implement new strategies that will enhance the quality of education within large classes.

SARAH HUDAK

Exploring the Correlation Between Drive for Thinness and Theory of Mind

Mentor: Dr. Stacey Dunn (Psychology)

The purpose of this study was to observe the negative correlation of drive for thinness, a criterion for a clinical diagnosis of the eating disorder, anorexia nervosa, with theory of mind, which is the ability to infer another's thoughts, beliefs, and ideas.

BROCK JACOBI

Dangerous Opinions: Perception of Video Games on Jury Decision Making

Mentors: Dr. Valerie Sims, Dr. Matthew Chin (Psychology), Dr. Mason Cash (Philosophy)

Jury vignettes were created to determine whether a perpetrator is found guilty of a particular crime, or given varying sentences, based on the perpetrator's hobby and the participant's age, gender, and authoritarian traits.

NICHOLAS JAMES

Qualitative Aspects of Social Interactions in Social Anxiety Disorder

Mentor: Dr. Deborah Beidel (Psychology)

Focusing on the qualitative aspects of social interactions (e.g., awkwardness, assertiveness, friendliness), this project examined the difference between individuals with and without social anxiety disorder in unstructured social interaction tasks.

TISHA JAMES

Rose-Colored Mirrors: How Social Media Affects Our Lives, Perceptions of Ourselves, and Views of Others

Mentor: Dr. Elizabeth Mustaine (Sociology)

The objective of this research is to understand how the content of college students' social media activities influence their perceptions of themselves and others.

NATACHA JEROME

Developing a Student Engagement Model for Lecture-Capture Courses with Mass Enrollments

Mentor: Dr. Carolyn Massiah (Marketing)

Through this study, different literary works were analyzed to gather further support on the effectiveness of implementing technology resources in mass sections delivered via video streaming. The effect on student levels of engagement will be measured through in-depth interviews and data collection.

CORY KING**Behavior of Vegetarian, Vegan, and Pescatarian Consumers and Their Participation in the Green Movement***Mentor:* Dr. Carolyn Massiah (Marketing)

The objective of this research is to discover if there is a correlation between consumers identifying as vegetarian, vegan, or pescatarian, and whether they are ecologically conscious in their general attitudes, and more importantly, their purchasing behaviors.

DAPHNE KOPEL**Spatial Schema Transfers to Similar Place: A Case of Disney Theme Parks***Mentor:* Dr. Valerie Sims (Psychology)

This study explores whether an existing spatial schema assists with learning a similar environment. Spatially experienced and nonexperienced participants of a Disney theme park learned a similar park using a virtual environment. The existing schema for a similar place transfers to the new environment regardless of passive or active training.

CHARLENE KORMONDY**Water Vulnerability in the Caribbean Island Nation of St. Kitts-Nevis***Mentor:* Dr. Peter Jacques (Political Science)

The Institutional Analysis and Development (IAD) Framework is used to analyze the Watercourses and Waterworks Ordinance (1956), the law currently governing water resources on St. Kitts-Nevis. Conclusions drawn from the IAD approach identify water-related vulnerabilities of St. Kitts-Nevis in the face of global environmental change and social change.

AMY KOSKY**The Attitudes and Perceptions of Pre-Service Teachers in Regards to Science Fiction Literature and its Use in the Classroom***Mentor:* Dr. Elizabeth Hoffman (Teaching and Learning Principles)

This study is designed to examine the perceptions and attitudes toward science fiction literature by pre-service teachers currently enrolled at the University of Central Florida's College of Education and Human Performance and how these perceptions and attitudes may influence the use of science fiction literature in their future classrooms.

HEATHER LOPEZ**Pauperism in America: Long-Term Effects of Childhood Poverty on Caucasian Young Adults***Undergraduate Co-Author:* Jessie Shafer*Mentor:* Dr. Chrysalis Wright (Psychology)

We analyzed the relationship between attitudes about college and both poverty levels and anxiety among college students. Our objective was to discover if attitudes about college and anxiety levels were negatively impacted in participants who were raised in low-income households.

KEITH MACARTHUR**Deindividuation of Drivers: Are We Individuals?***Mentor:* Dr. Peter Hancock (Psychology)

This study's objective is to investigate the concept of deindividuation in automobile drivers and propound this concept to the scientific community. Our hypothesis is that automobile drivers deindividuate and subsequently violate road laws as a result of the anonymity vehicles afford.

BEATRIZ MARMOL**Infusing Malawi Culture into Curriculum of Second and Third Grades Through *Galimoto* and *When Africa Was Home****Mentor:* Dr. Martha Lue Stewart (School of Teaching, Learning, and Leadership)

This research aimed to show how infusing multicultural books into the curriculum of elementary grades can positively impact students' thoughts and feelings toward a culture different from their own. Students were surveyed before and after learning and reading a picture book about another culture. The results were analyzed and recorded.

ALYSSA MARSHALL**A Multilevel Model of Team Decision Making Under Stress***Mentor:* Dr. Eduardo Salas (Psychology)

This study integrates previous team decision making frameworks and creates a multilevel model for team decision making under stress. The new model offers testable propositions regarding the effects of stress on specific processes, emergent states, and outcomes within team decision making.

DOMINIC MARTIN**Political Transition in the Post-Arab Spring Middle East: A Comparative Analysis of Egypt, Tunisia, and Yemen***Mentor:* Dr. Houman Sadri (Political Science)

This study seeks to examine the hindered political transition in the Post-Arab Spring Middle East through a lens of electoral transition, transition that focuses on elections and is the major cause of derailed transition. To test this theory it is applied in a comparative analysis of Egypt, Tunisia, and Yemen.

ALEXANDRA MCCONNELL**The C.S.I. Effect: Exploration of its Influence on Perception of Criminal Behavior***Mentor:* Dr. Karen Mottarella (Psychology)

This study explores the C.S.I. Effect in relation to its influence on criminal activity. Expansive research exists concerning the C.S.I. Effect, but very little pertains to the influence it has on individuals' perception of crime and their ability to get away with it.

DAVID MCMAHAN**Roles and Responsibilities of Organizations Engaged in Emergency Management: Evidence from Florida Counties***Mentor:* Dr. Christopher Hawkins (Public Administration)

Based on a survey administered to government and nongovernment organizations located in three Central Florida counties, I am examining linkages between community development and disaster resilience. The study objective is to identify the extent to which agencies that are typically associated with disaster preparedness are engaged in community development activities.

DONALD MILLIMAN**Using Academic Intelligence as a Predictor of Self-Control and Impulsivity***Mentor:* Dr. Chrysalis Wright (Psychology)

The purpose of this study was to show that academic intelligence can be used as a predictor of self-control and impulsiveness. Students took a survey reporting on GPA, the BFI, and impulsiveness. Comparisons were made on self-control and impulsiveness based on the GPA range that the data fell into.

ALEXANDRA MINNICK

Just Eat It: An Examination of the Sociological Factors that Influence Eating Habits of College Students

Mentor: Dr. Lin Huff-Corzine (Sociology)

The purpose of this investigation is to address the young adult college population 18-25 years of age in the examination of eating habits. The present study will examine what kinds of foods college students eat and how they make decisions regarding food consumption.

JULIO MONTANEZ

Social Policy Positions of Undergraduate Students at a Large University in the Southeastern United States

Mentor: Dr. Terri Fine (Political Science)

This research aimed to understand which explanatory variables are most related to support for social policies and rights regarding the gay community. With a final sample of 210 undergraduate students, this research found that negative attitudes toward sexual minorities possessed the strongest relationship to social policy opinions.

ELIZABETH MONTANO

Perceptions of Sexual Content in Media

Undergraduate Co-Author: Alexandra Robinson

Mentors: Dr. Ann Miller, Dr. William Kinnally (Nicholson School of Communication)

Media diaries were used by college students for seven days to collect data regarding sexual content in media. Three different methodological approaches were used to determine which method gave the most in-depth information. Participants recorded what media they used and their perceptions of sexual content in their media diaries.

MATTHEW MURRAY

Greater Hemodynamic Response in Prefrontal Cortex During Procedural-Learning (Implicit) than Rule-Based (Explicit) Category Learning

Mentor: Dr. Corey Bohil (Psychology)

This study was intended to support the predictions made by the COVIS model of category learning that prefrontal cortex activation should decrease after an appropriate explicitly learned rule is established and used in explicit tasks but remain high while participants apply an ineffective explicitly learned rule to implicit tasks.

HANADY NABUT

Women's Economic Empowerment in MENA: A Path to Stability and Growth

Mentor: Dr. Houman Sadri (Political Science)

The objective of this study is to identify the problems associated with the lack of women's involvement in the economic sphere in the Middle East and North Africa, and to propose recommendations that could facilitate greater participation by women in the labor force.

JENNIFER NGUYEN

Gender Differences on the Perceptions of Body Modification

Mentor: Mr. Michael Loree (Sociology)

This research will explore published articles as well as their research methodologies to explain why body art is stereotyped and discriminated against, especially when it comes to females.

ELISABETH NIEDERMAN

Driving Performance While Texting Does Not Improve by Using a Familiar Phone

Mentor: Dr. Peter Hancock (Psychology)

In most texting and driving studies, participants text using an unfamiliar phone. Though this provides greater experimental control, it may produce results that are not externally valid. This study examines whether driving performance improves if participants use their own phones versus a research phone.

AMANDA PAGANO

The Effectiveness of Predeployment Treatment in Preventing PTSD in Soldiers

Mentor: Dr. Florian Jentsch (Psychology)

A literature review was conducted on stress inoculation training (SIT), which educated soldiers on how to control stress and anxiety during combat. The literature review showed mixed results on the effectiveness of SIT for soldiers with different combat experience. It's recommended that SIT be tailored for soldiers lacking combat experience.

POOJA PATEL

Eccentricity Effects on Change Detection

Mentor: Dr. Mark Neider (Psychology)

This study was designed to systematically explore the effects of foveal eccentricity on change detection. Change detection is relevant in orienting to threats in the environment. This research aims to better understand attention and cultivate a more efficient method to capture attention within our environment.

MICHELLE PENA-ORTIZ

Beyond the Reefs: An Analysis of the Institutions Behind a Declining Keystone Species

Mentor: Dr. Peter Jacques (Political Science)

Using historical case studies, this research compares the institutional vulnerabilities of past oyster collapse to the contemporary stress of Eastern Oyster populations in Mosquito Lagoon, Fla. This institutional analysis is then used to establish a scale of vulnerability.

LIN PENG

The Effects of Life Values Among Nonpsychedelic Users and Psychedelic Users: A Comparison Study on Life Values

Mentor: Dr. William Saunders (Psychology)

Psychedelic or psychoactive substances are often claimed to be capable of inducing life-changing experiences either as mystical or transcendental. As one way to test the theory, the present study examined and compared 14 different life values from the Life Values Inventory among nonpsychedelic users and psychedelic users.

TAYLAR PEOPLES

Influence of Couples and Relationship Education on the Distress Levels of Individuals with Chronic Illness

Mentor: Dr. Andrew Daire (Child, Family, and Community Sciences)

The present study is investigating the pre- to post-distress levels among individuals coping with chronic illness who participated in a couple and relationship education program to determine the influence of relationship distress on individual stress and disease trajectory.

CHRISTOPHER PEREZ**Misinformation in Social Media***Mentor:* Dr. Valerie Sims (Psychology)

This study will serve as an analysis and examination of how misinformation (in the form of rumors) are spread through social media, and how often/likely these rumors are believed and passed on. It will also touch on the effectiveness of a particular solution to the presented problem.

JENNIFER REY**The Financial Impact of Equal Pay for the Working Latina Population in Central Florida***Mentor:* Dr. M.C. Santana (Women's Studies)

My project focused on analyzing how much of a financial impact receiving equal pay would be for Latinas working in Central Florida in regards to poverty rates and job opportunities.

CALEB ROBINSON**Time to Success: An Analysis of Time in School and Achievement***Mentor:* Dr. W. Scott Wise (Educational Studies)

The research is a statistical analysis of the relationship between time in school on a given year in relation to performance. The research addresses claims that a lengthening of the school day or of the school year would improve performance.

STEPHANIE ROSALES**Exposure of Profanity in Childhood Increases the Use of Profanity in Adulthood***Undergraduate Co-Author:* Ledalis Zamora*Mentor:* Dr. Chrysalis Wright (Psychology)

The goal of the current study was to demonstrate if exposure to profanity in childhood would affect the usage of profanity in adulthood. We selected 724 participants and gave them a set of questionnaires. Linear regression analyses were performed on the data and resulted in supporting the hypothesis.

COURTNEY ROY**Peer Presentation: Can it Influence an English Language Learner's Relationship with Peers?***Mentor:* Dr. Dan Ezell (Child, Family and Community Sciences)

During this study, the collaborative strategy of peer presentations was investigated to determine whether it may positively affect classroom relationships between English language learners and their classmates. The research results presented identify if this instructional method could influence attitudes socially and scholastically.

KELCEY SABLON**The Effect of Service Provider Skin Tone on Customer Perceptions of Service Quality***Mentor:* Dr. Carolyn Massiah (Marketing)

This project explores effects of service provider skin tone on service quality. The study exposes respondents to provider images with various ethnicities. Specifically the study aims to examine the possibility that ethnicity directly influences how a customer perceives the quality of service they receive from the service provider.

ERIKA SAEB**The Correlation Between the Policies of Project Tiger and Population Decline***Mentor:* Dr. Peter Jacques (Political Science)

This research was conducted in order to understand how government policies interact with the environment. Project Tiger was chosen as it has a history of being indirectly affected by these policies. With every change that was made, there seemed to be a correlation with tiger population decline.

KATHRYN SCHAFER**Trust in Human-Robot Interaction: The Influence of Transparency and Modality***Mentor:* Dr. Peter Hancock (Psychology)

This experiment examined two communication factors that influence user trust in a human-robot interaction scenario: transparency and information modality. Participants trusted robotic teammates that were more transparent (communicative), but, contrary to the hypothesis, they did not prefer audio over text or video communication.

JACOB SCHNEPF**Using Stocks Within the S&P 500 to Predict Future Residential Real Estate Prices in the United States***Mentor:* Dr. Uluc Aysun (Economics)

Regression analysis is used to find a correlation between stock prices and the price of new homes in the U.S., as well as create a prediction method for future real estate prices. An index is created to isolate stocks and regression is run to determine the greatest correlations.

FEDERICO SCHOLCOVER**Attributions of Blame in Human-Robot Interaction***Mentor:* Dr. Valerie Sims (Psychology)

Current literature indicates that on many levels, we treat robots like humans. This study investigates how participants attribute blame in a robot-assisted surgery scenario resulting in complications, given different levels of robotic autonomy and involvement. This study builds on previous work, which indicated that a difference exists.

AMELIA SHERMER**Workplace Sexual Harassment and Violence Against Women: Supreme Court Jurisprudence Since 2000***Mentor:* Dr. Terri Fine (Political Science)

I researched Supreme Court decisions made after 2000, comparing the legal developments made in the arenas of workplace sexual harassment of women and violence against women. My objective is to understand the reasoning behind these decisions and how they affect the overall state of women's rights in the U.S.

JESSICA SILER**The Google Effect: Information and Memory Use***Mentor:* Dr. Peter Hancock (Psychology)

The Google Effect describes a growing tendency to offload memory to the Internet and related technologies. The purpose of this study is to investigate this shift in thinking by examining whether preference and tendency for developing these memory systems varies across age.

HECTOR SILVA

Relationships Between Attitudes Toward War and Big Five Personality Traits Agreeableness and Neuroticism

Undergraduate Co-Authors: Christian Quiles, Angela Parra

Mentor: Mr. Jason Chesnut (Psychology)

This study examined the relationships between two personality variables (agreeableness and neuroticism) and attitudes toward war.

AMANDA SMALL

Peer and Parental Influence on the Acceptability of Profanity

Undergraduate Co-Authors: Michelle Craske, Casey White

Mentor: Dr. Chrysalis Wright (Psychology)

This study used an ANOVA to examine the difference between peer and parental influence on an individual's acceptability of the use of profane and taboo language.

REBECCA STANLEY

Personality, Sex, and Lies

Undergraduate Co-Authors: Tiffany Lewis, Erin Parrish

Mentor: Dr. Grace White (Psychology)

The objective of this study is to see if there is a significant correlation between personality, as according to the Big Five inventory, and lying within a romantic relationship.

LUKE STRAWN

Examining the Relationship Between Couples' Satisfaction and Family Support Visits in Couples and Relationship Education

Mentor: Dr. Jenene Case Pease (Educational Studies)

This study examines the relationship between relationship satisfaction and the number of family service counselor (FSC) visits couples attended. We ran a multiple linear regression and analyzed the results to determine if initial relationship satisfaction predicts the number of FSC visits a couple utilizes while attending couples education workshops.

AMBER SZALANSKI

The Relationship Between Hydraulic Fracturing Disclosure Regulations and the Revenue Generated by State in the United States

Mentor: Dr. Peter Jacques (Political Science)

State disclosure laws were reviewed and evaluated using a coding system based on the goals of each statute. The regulation codes were compared with revenue created by each state to identify a correlation between regulations in state laws and revenue created by hydraulic fractured natural gas.

SARAH THOMAS

Research Apprenticeship: An Effective Way to Increase Interest and Socialization at the Undergraduate Level

Mentor: Dr. Anne Norris (Nursing)

This study aims to use autoethnography to describe the early research socialization and interest occurring in an undergraduate nursing student's apprenticeship experience.

ROBIN THORNE

What Today's Anniversary Cards Reveal About Gender Role Stereotypes In Our Culture

Undergraduate Co-Author: Ronald Farah

Mentor: Dr. Karen Mottarella (Psychology)

Greeting cards manifest social attitudes. This study examines anniversary cards in relation to gender roles and stereotypes. More than 100 cards were obtained in nine different stores across four counties with varied population, SES, and ethnicity. Content analysis explored gender role stereotypes reflective of our culture.

MELISSA THYE

Assessing the Second Born: The Role of Competitiveness and Extrinsic Motivation in Birth Order

Mentor: Dr. Cyrus Azimi (Psychology)

The present research endeavor explored how the presence of siblings impacts the development of competitiveness and motivation. By comparing firstborns with their second-born counterparts, a greater understanding of the impact of siblings and an appreciation of the specific needs of each child can be ascertained.

ALEXIS TIMMS

Controlled Network Communication Between Computer Systems Using a LabVIEW Interface

Mentor: Dr. Peter Hancock (Psychology)

This study aims to send text messages to an Android phone or Google Glass using a LabVIEW program which controls communication between computer systems across a network.

MICHAEL TORRES

Mental Rotation with Martial Arts Experts

Mentor: Dr. Valerie Sims (Psychology)

Athletes have exhibited faster reaction times on mental rotation tasks than non-athletes, suggesting they process this information faster. This experiment will investigate whether there is a link between Taekwondo expertise and reaction rate with mental rotations of various stimuli, as well as whether this expertise is transferable across different domains.

VU TRAN

Determining the Minimum Number of Individuals in a Possible Archaeological Ossuary at Kuelap in Chachapoyas, Peru

Mentor: Dr. J. Marla Toyne (Anthropology)

The objective is to create a human skeletal inventory and determine the minimum number and demography of individuals originally interred in the Estructura 9 pit, Kuelap, Peru.

TAYLER TRUHAN

Parentification Rates in Military Families

Mentors: Dr. Sandra Neer, Dr. Bryce Hagedorn (Psychology)

This study is researching the difference in rates of parentification in two-parent military families versus one-parent military families due to deployment. The objective is to determine any significant difference between the two family groups in order to analyze parentification as a possible effect of deployment on the at-home family.

CARLY TUCKER**Truly Accomplished: An Exploratory Study of Motivation and Social Influence****Mentor:** Dr. Barbara Fritzsche (Psychology)

The objective of this project was to examine motivation levels of individuals using Truly Accomplished as a fitness intervention as well as their satisfaction using the feedback system. This study also examined an individuals' self-determination in relation to exercise and the amount of social support each participant perceived.

DENNIS TURNER**Pink or Blue: Gender Stereotypes in Birth Congratulations Cards****Undergraduate Co-Author:** Riley King**Mentor:** Dr. Karen Mottarella (Psychology)

Class exercises use greeting cards to examine cultural messages. Arguably, the most well-known exercise is based on Bridges' (1993) demonstration of gender stereotypes in birth congratulations cards. The present study replicates this 20-year-old study to explore whether today's cards still convey gender stereotypes.

NATHAN UNDERWOOD**Parents' Perspectives of School Safety Threats on the Internet****Mentor:** Dr. W. Scott Wise (School of Teaching, Learning, and Leadership)

This research aims to discover the concerns of elementary school parents on the growth of Internet usage in today's elementary classroom. This is accomplished through survey and feedback from the parents of fourth grade students at Willow Hill Elementary on the potential threats of Internet in the classroom.

JENNIFER VOGEL**Effectiveness of Integrating Serious Video Games for Knowledge Acquisition in Youth Health Education****Mentor:** Dr. Euripides Montagne (Electrical Engineering and Computer Science)

There is some debate about the most effective means of sexual health education in schools. The purpose of the research is to integrate an educational video game into a preexisting education program and to find out if learning and engagement in these topics can be enhanced by a "gamified" curriculum.

JENNY WALKER**Placement of faceLAB 5 Eye Tracking Equipment****Mentor:** Dr. Peter Hancock (Psychology)

I researched the placement of faceLAB 5 eye tracking equipment inside of a driving simulator with the goal of improving the quality of data collection.

LINDSEY WHITACRE**Exploration of Female College Students' Interest in STEM and the Big Five Personality Factors****Mentor:** Dr. Karen Mottarella (Psychology)

This study explores the five factor model known as the Big Five in relation to female college students' choice of STEM majors.

CASEY WHITE**The Big Five Personality Factors and College Performance****Undergraduate Co-Authors:** Amanda Small, Michelle Craske**Mentor:** Dr. Chrysalis Wright (Psychology)

The Big Five personality factors and college performance will be investigated to determine if there are any relationships between the two, via use of questionnaires, in order to determine if personality traits are important factors in education.

MEGAN WHITMORE**Special Education: Undergraduate Students Lack Motivation to Answer Public Schools Need for Certified Special Education Teachers****Undergraduate Co-Author:** Jacklyn Carpenter**Mentor:** Dr. W. Scott Wise (School of Teaching, Learning, and Leadership)

This research aims to discover the reasons why undergraduate students are not pursuing degrees in special education. This is accomplished through gathering recent data on our existing special education teachers and surveying undergraduate students that are not answering public schools desperate plea for certified special education teachers.

JAMES WILCOX**Implementation of Threat Management Units in Grade Schools: A Focus on Prevention as Opposed to Prediction****Mentor:** Dr. Florian Jentsch (Psychology)

A literature review was conducted on the increasing occurrence of targeted violence in public, private, and postsecondary schools in the U.S. The main problem identified is a focus on prediction instead of prevention of these incidents. Implementation of threat management units is recommended to help prevent future incidents.

BRIANNA WILLIAMS**Individual Distress, Family Adjustment, and Parenting Alliance for Fathers in a Relationship Education Program****Mentor:** Dr. Andrew Daire (Child, Family, and Community Sciences)

The objective of this study is to examine the influence of a couple and relationship education intervention on the individual distress, family adjustment, and parental alliance of fathers who are in a relationship.

REBECCA WILLIAMS**Skip the Lecture...Hit the "Mall": A Survey of Student Perspectives Regarding "Reduced-Lecture" Mathematics Courses****Undergraduate Co-Author:** Richard Kelada**Mentor:** Dr. W. Scott Wise (School of Teaching, Learning, and Leadership)

Online surveys and face-to-face interviews will be conducted of current and former students of UCF's Mathematics Assistance and Learning Lab to determine their perspectives of its effectiveness and ethicality as compared to traditional-style lecture classes.

BRYAN WYLIE**An Exploration of the Effect of Media Bias on Individual Jurors' Predetermination of Guilt**

Undergraduate Co-Authors: Tiffany Cooper, Desiree Reeves, Anthony Baker

Mentor: Dr. Mustapha Mouloua (Psychology)

We research the effects of positive (pro-defendant), negative (anti-defendant), and neutral pretrial publicity on individuals' predetermination of guilt in a mock trial. Although the type of pretrial publicity was not related to verdict, negative publicity was related to increased scores on measures of racial bias.

REBECCA YOUNG**Networking and Discourses of Agency Among the Florida Homeless**

Mentor: Dr. Joanna Mishtal (Anthropology)

This project's goal is to examine how the Florida homeless strategize to obtain necessary services. This project involves anthropological primary data collection with a population of homeless people in Oviedo, Fla. at the nonprofit organization Hope Helps.

LEDALIS ZAMORA**Factors that Contribute to the Education Levels of Minority Students**

Mentor: Dr. Chrysalis Wright (Psychology)

The goal of this study was to demonstrate that there is a relationship between education levels and ethnic backgrounds. The current study focused on ethnic minority students' level of education compared to white students. Results revealed there are more white students attending or enrolled in college than ethnic minority students.

2013 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.

CHASE CAVAYERO

**A Practicality Analysis Pertaining to Minimally Invasive
Robot-Assisted Urologic Surgery**

Mentor: Dr. Michael J. Rovito

RACHEL SEWELL

**What is Appealing?: Sex and Racial Differences in
Perceptions of the Physical Attractiveness of Women**

Mentor: Dr. Amy Donley

MICHAEL D. BROOKS

**Civilizing the Metropole: The Role of the
1889 Parisian Universal Exposition's Colonial Exhibits
in Creating Greater France**

Mentor: Dr. Amelia Lyons

SHAWN GAULDEN

**Exploring Cognitive Dissonance Between
College Students' Religious and Spiritual Beliefs
and Their Higher Education**

Mentor: Dr. David Gray

JENNIFER E. GONZALEZ

**Influence of Family and Victim Demographic Factors
on Treatment Completion for Children Exposed to
Abuse and Family Violence**

Mentor: Dr. Andrew P. Daire

JILLIAN BLUEFORD

The Proposed Etiologies of Dissociative Identity Disorder

Mentor: Dr. Gulnora Hundley

UNIVERSITY OF CENTRAL FLORIDA LIBRARIES

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

The University of Central Florida Libraries is pleased to announce
Michael Brooks, author of *Civilizing the Metropole: The Role of the
1889 Parisian Universal Exposition's Colonial Exhibits in Creating Greater France*,
has won its 2013 Award for Excellence in Undergraduate Research Publishing.

Congratulations to Michael Brooks and his mentor, Dr. Amelia Lyons!

UNDERGRADUATE RESEARCHER OF THE MONTH

In January 2010, the Student Undergraduate Research Council, in collaboration with the Office of Undergraduate Research, developed the Undergraduate Researcher of the Month program. Each month a new student is honored with the award. The following students were recognized in 2013.

JANUARY

EMILY EDWARDS

Physiological Measures and Trust

Mentor: Dr. Peter Hancock (Psychology)

FEBRUARY

EMMANUAL JACKSON

Blending In: The Presentation of Self Among Homeless Men in a Gentrifying Environment

Mentor: Dr. Amy Donley (Sociology)

MARCH

NICOLE CRUZ

The Influence of Beliefs on People's Perception of Illness in the Spanish Golden Age

Mentor: Dr. Martha Garcia (Modern Languages and Literatures)

APRIL

NATALIA SEPULVEDA

The Importance of Education from a Global Perspective-Teaching Don Quixote in the 21st Century

Mentor: Dr. Martha Garcia (Modern Language and Literature)

MAY

CHRISTOPHER BRITT

A Computational Approach to Elucidating the Mechanisms of Bacterial Intoxication

Mentor: Dr. Ken Teter (Biomedical Sciences)

JUNE & JULY

JENNIFER ACKERMAN

Social Work Students' Comfort with Gay and Lesbian Families

Mentor: Dr. Ana Leon (Social Work)

AUGUST

GUILLERMO ALFONSO

Psychosocial Indicators of Injury Concealment Among Young Athletes

Mentor: Dr. Michael J. Rovito (Health Professions)

SEPTEMBER

KEVIN LEYVA

Multi-Attribute Task Battery Usability

Mentor: Dr. Mustapha Mouloua (Psychology)

OCTOBER

DAPHNE KOPEL

Distortion of Spatial Schemata Through Theme Park Experience

Mentor: Dr. Valerie Sims (Psychology)

NOVEMBER

JESSICA BRANDT

Sexually Suggestive Songs & Singers: Music Media and Its Effect on the Sexualization of Women

Mentor: Dr. Chrysalis Wright (Psychology)

DECEMBER

MARISA ZIMMERMAN

Habitat Use of Florida Sandhill Cranes in an Urban Environment

Mentor: Dr. Patrick Bohlen (Biology)

Applications are available at www.our.ucf.edu/accomplishments/uotm/.

UCF UNDERGRADUATE RESEARCH COUNCIL

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 as to policies and programs that pertain to undergraduate research at UCF.

Michael Aldarondo-Jeffries	Dmitry Kolpashchikov	Jeff Rosky
Kelly Astro	Stephen Kuebler	Julie Steen
Ratna Chakrabarti	Christopher Leo	Kenneth Teter
Po-Ju Chen	Ana Leon	Mary Tripp
Matt Chin	Karol Lucken	John Venecek
Latarsha Chisholm	Amelia Lyons	Elliot Vittes
Laura Crouch	John Malala	John Walker
Melissa Dagley	Stacey Malaret	Linda Walters
Jonathan Decker	Lisa Mills	Ze Wang
Martin Dupuis	Abby Milon	Lei Wei
Debbie Hahs-Vaughn	Daniel Murphree	Michael Wilkinson
Richard Harrison	Charles Perry	Pawel Wocjan
Christopher Hawkins	Lisa Peterson	Leslie Wolcott
James Hogg	Adam Pritchard	Chrysalis Wright
Peter Jacques	Tison Pugh	
Tammie Kaufman	Andrew Randall	
Jennifer Kent-Walsh	Kathy Rovito	
Joo Kim	Michael Rovito	

UCF STUDENT UNDERGRADUATE RESEARCH COUNCIL (SURC)

SURC was formed to promote awareness about undergraduate research for students at UCF. 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 continuously gets feedback on undergraduate research programs. Their help in promoting and running the Showcase of Undergraduate Research Excellence is greatly appreciated.

Taylor Cheeley	Michael Cooper	Nicholas James
Nicholas Coles	Porsha Dossie	Jeremy Tran
Jacquelyn Cook	Aderonke Ilegbusi	

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	Lauren Haar	Brian Strickland
Kelly Astro	Richard Harrison II	Elissa Vaughn
Robert Bilic	President John C. Hitt	Elliot Vittes
Austin Brogle	Martha H. Hitt	UCF Foundation
Sandra Cherepow	Nancy Lynch	UCF Libraries
Denise Crisafi	Eddy Mojica	UCF Student Union
Megan Ellis	Sandy Pouliot	UCF Marketing
Michelle Fuentes	Kathy Rovito	Provost Tony Waldrop
Drew Guarino	Liana Seegoolam	

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