Undergraduate Research & Inquiry at FAU

Few activities are as rewarding as research. In addition to the acquisition of invaluable research skills, students learn how knowledge is created and how that knowledge can be overturned with new evidence or new perspectives. They also learn how to work independently, how to overcome obstacles, and the importance of ethics and personal conduct in the research process. Undergraduate research takes place in every discipline – not only the life sciences and physical sciences but the humanities, social sciences, and creative and performing arts. Florida Atlantic University supports undergraduate research through a system of Undergraduate Research Grants, annual Undergraduate Research Symposium and the Undergraduate Research Journal.

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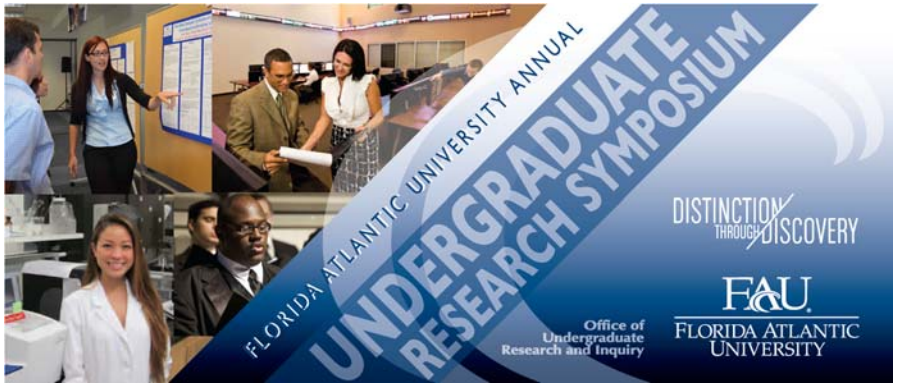

Friday, April 5, 2013

Third Annual Undergraduate Research Symposium

Live Oak Pavilion and
Grand Palm Room
Student Union
Boca Raton Campus

Agenda

Coffee & Pastries **8:30 - 9:00 AM**
Live Oak Pavilions C & D

Oral Presentation Session I **9:00 -12:00 PM**
Live Oak Pavilions A & B

Lunch **12:00 - 1:00 PM**
Live Oak Pavilions B –D

- *Welcoming Remarks:*
  Dr. Donna Chamely-Wiik, QEP Director
- *Keynote Speaker:*
  Daniel Cane, President, Modernizing Medicine

Oral Presentation Session II **1:00 -2:00 PM**
Live Oak Pavilion A

Oral Presentation Session III **2:35 - 3:55 PM**
Majestic Palm Room

Poster Presentations **1:00 - 3:00 PM**
Grand Palm Room

Awards Ceremony and Appetizers **4:00 - 5:00 PM**
Live Oak Pavilions B-D

University Libraries
Madelyn Lavigne

Division of Research
Janelle Petak

Division of Student Affairs
William Horstman

A *special thanks* to the following:

Daniel Cane, President of Modernizing Medicine

Faculty Mentors

Student, Staff and Faculty Volunteers

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Council of Scholarship and Inquiry

Distinction through Discovery Steering Committee

Acknowledgments

Judges

Dorothy A. Schmidt College of Arts and Letters
Mary Cameron; Wendy Hinshaw; Justin White; Mary Ann Gosser; Mirya Holman; Aimee Arias

College of Business
David Herst; Michael Miller; Barry Axe; Kyle Smitz

College for Design and Social Inquiry
Vladimir Kulic; Sheryl Muriente; Emmanouil Vermisso; Philippe d'Anjou

College of Education
Sue Graves; Donald Torok; María D. Vásquez-Colina; Keith Brazendale; Liz Pittinger; Philomena Susan Marinaccio

College of Engineering and Computer Science
Oscar Curet; Anthony Marcus; Joel Gibson; Sifat Islam; Louis Bradley

Christine E. Lynn College of Nursing
Marlaine Smith; Joy Longo

Charles E. Schmidt College of Science
Evonne Rezler; Caiyun Zhang; Markus Schmidmeier; Ryne A. Sherman; Bob Lubarsky; J. William Louda; Andrew Terentis; Daniel de Lill; Jerome Haky; Alena Rodriguez; Karin Machluf; Marissa Greif; Nicolas Brown; Ryan Moyer; Nancy Jones; Melannie Pineda; Sang Wook Hong; Patrick Sellers; Evelyn Frazier; Lindsay Bruce; Daniela Scheurle; James Kumi-Diaka; Joan Lora; Jessene Aquino-Thomas; Sergiu Neiconi; Kavita Balkaran; Ana Paula Delgado; Dianne Owen; Mickey Gaffney; Courtney Cocilova; David Serfass; Sara Milton; Ramon Garcia-Areas

Oral Presentation Session I

Pavilion A

9:00 - 10:00

Student	Topic	Supervising Faculty
Mauricio Feldsberg	Performative Parametric Design of Radiation Responsive Screens	Professor Mate Thitisawat
Emelia Fischer	A Chronology of Civic Architecture in Broward County	Professor Vladimir Kulic
Melanie Mayone	Low Self-Control and Curiosity: How Curiosity Might have Killed the Cat?	Professor Bruce J. Arneklev
Johnathan Johnston	iBicycled: GPS Data-driven Bicycle Infrastructure Plan for Shared Biking Programs	Professor Sherryl Muriente
Robert Modys	River Urbanism: A History of the Urban Development along the New River in Fort Lauderdale, Florida	Professor Sherryl Muriente

10:00 - 11:00

Student	Topic	Supervising Faculty
Sarah Cronell	The Role of Hatch Order on Wood Stork Nestling Diets	Professor Dale Gawlik
Alexandra Lolavar	An Experimental Study of the Effects of Moisture on Loggerhead Sex Ratios	Professor Jeanette Wyneken
Verneshia Persaud	Bacterial Diversity in the Oral Cavity - Comparing Metagenomic Approach and Culture Approaches	Professor Nwaduito Esiobu
John Mayfield	Current Modalities and the Implications of Cancer Stem Cell Manipulation in Oncological Treatment	Dr. Mirjana Pavlovic, (MD.)
David Rinaldi	Modeling the forces on Micron Sized Objects in an Optical Tweezer	Professor Grigoriy Kreymerman

Oral Presentation Session I

Pavilion A

11:00 - 12:00

Student	Topic	Supervising Faculty
Amanda Brahlek	Susan Howe's Evolution: The Artist as Poet	Professor Mark Scroggins
Rory Padgett	Exploring the New Jim Crow in America	Professor Joni Albrecht
Brianna Musielak	The Impact of Spanish Language Films	Professor Nancy P oulson
Ben Wiles	An Analysis of Florida's Sea Water Cooling Resources	Professor James H. VanZweiten Jr.
Natalie Harrison	Jumping the Gun: Was the Man Who Armed the Black Panthers an FBI Informant?	Professor Christopher Strain

1:00 - 2:00

Student	Topic	Supervising Faculty
Kaitlin Gallagher	Examining Seasonal Effects on Bonamia spp. in Bivalves from the Indian River Lagoon	Professor Jon Moore
Stephanie Lopez	Japanese Identity and Cultural Expressions in the Dominican Republic since the Mid-1950s	Professor Carmen Cañete-Quesada
Dawn Adolfson	Para El Sur: Analyzing Contemporary Mexican Return Migration with a Case Study of Jupiter, Florida Immigrants	Professor Timothy Steigenga
Ashlee Hawk	Singing All the Way to the Bank: An Examination of the Variables Influencing the Salaries of Popular Musicians	Professor Kanybek Nur-tegin

65. Ariel Zeiger, "Fecundity of the Gopher Tortoise (Gopherus polyphemus) in a Degraded and Fragmented Southeastern Florida Scrub Habitat"

Over the past decade gopher tortoise (Gopherus polyphemus) populations in Florida have been declining mostly due to habitat fragmentation, which has resulted in its listing as a threatened species. In this study we have surveyed the fecundity of the gopher tortoise population living in a fragmented, degraded scrub habitat consisting of 90 acres on Florida Atlantic University's Boca Raton campus. Using previously recorded GPS points of gopher tortoise burrows at the FAU conservation area, we surveyed burrow aprons for viable nests during the gopher tortoises' reproductive season. To date, we have not located any gopher tortoise nests at the study site nor have we found hatchlings <1 year of age. We hypothesize that this population may not currently be reproducing due to poor habitat conditions resulting in low reproductive rates.

66. Dan Zribi, "The Construction of Metal-Organic Hybrid Materials Based on Benzophenone-4,4'-Dicarboxylic Acid"

Metal-organic frameworks are crystalline compounds consisting of metal ions or clusters coordinated to organic molecules to form one-, two-, or three-dimensional structures. These materials have applications in a variety of fields ranging from catalysis to gas storage. Our interest lies in studying the luminescent and photoconductive properties of these types of materials. Herein we present our work with benzophenone-4,4'-dicarboxylic acid with a variety of metal ions (including Ni, Cu, Zn, and In) in order to produce these framework compounds via hydrothermal and solvothermal methods.

63. Alan Wilson, "LPS-Activated Obese Human PBMCs Produce A BDNF and IL-6 Associative Response"

Obesity is associated with an increased risk in neurodegenerative diseases that lead to neuronal damage. Furthermore, brain-derived neurotrophic factor (BDNF) increases and leads to neuronal survival and plasticity. Recently, peripheral blood mononuclear cells (PBMCs) have been found to release BDNF as a potential neuroprotective role of inflammation. Therefore, the purpose of this study was to examine whether lipopolysaccharide (LPS)-induced PBMC activation would lead to BDNF and inflammatory responses that differed between obese and non-obese subjects. PBMCs of 32 subjects (18 obese and 14 non-obese) were isolated and incubated with 10 ng/mL LPS. Supernatants were analyzed for BDNF, tumor necrosis factor-alpha, and interleukin-6 (IL-6). This study found that LPS-induced IL-6 was significantly higher in obese compared to non-obese subjects. Additionally, LPS-induced BDNF was positively correlated with this IL-6 response only in obese subjects. These findings suggest that PBMC produced BDNF and IL-6 may play a role in neuroprotection of obesity.

64. Nestor Yeyati, "Evaluating the Effectiveness of Seed Banks for the Recovery of Sawgrass in A.R.M Loxahatchee National Wildlife Refuge"

The preservation of sawgrass (Cladium jamaicense) communities is of great importance for maintaining the Everglades marsh ecosystem. Poor water management, nutrient pollution, and invasive species threaten sawgrass communities. Sawgrass recovery is primarily via belowground rhizomes, which can be destroyed by severe fires or herbicides. Alternatively, sawgrass can recruit from seeds. In this study, we are investigating the effectiveness of seedling recruitment for the recovery of sawgrass. We will observe the frequency of germination of sawgrass from soil seed banks of intact sawgrass communities. The size and composition of seed banks will be quantified, as will the degree of seedling germination and emergence. This study will provide insight into the recruitment potential of sawgrass from soil seed banks, which will help estimate the potential rate of habitat recovery following invasive species removal in the Everglades.

Oral Presentation Session II

Pavilion A

9:00 - 10:00

Student	Topic	Supervising Faculty
Erin Connolly	An Examination of Alterations in Center of Gravity Distribution During the Squat Exercise Between Skilled and Unskilled Weightlifters	Professor Michael C. Zourdos
Bradford Day	An Analysis of Differences in Muscle Activation and Force Production Between Skilled and Unskilled Weightlifters in the Squat Exercise	Professor Michael C. Zourdos
Tamara Estevez	Human Consumption of Dioxins	Professor Sue Graves
Nicolo Zaza	Vibration and Buckling of Functionally Graded Beam	Professor Isaac Elishakoff
William Nolan	Contra-Rotating Wind Turbines	Professor Oscar Curet

10:00 - 11:00

Student	Topic	Supervising Faculty
Donella Beckwith	Integration of a Novel Green Chemistry Experiment, Using a Visible Light Photocatalyst, Into the Organic Chemistry Lab at Florida Atlantic University	Professor Evonne M. Rezler
Amy Kloosterboer	Synthesis and Characterization of Cobalt(III) Compounds for Inorganic Chemistry Laboratory Manual	Professor Evonne M. Rezler
Lauren Dunnder	Role of Second-Order Facial Cues in Perceptual Narrowing in Infancy	Professor David Lewkowicz
Randy Ellis	The Influence of Social Context on Frequency Coordination in Virtual Partner Interaction	Professor Guillaume Dumas
Vadine Eugene	Misfit Layer Compound	Professor David Johnson

Oral Presentations Session II

Pavilion B

11:00 - 12:00

Student	Topic	Supervising Faculty
Alex Bruno	Mandela, Marley, Garvey and King: Four Different Voices, One Main Cause. African Philosophy: Philosophical Concepts of Equal Rights Which Transcends All Boarders	Professor Clevis Headley
Edward Mercer	Malcolm X: A Question Of Black Nationalism	Professor Clevis Headley
Andrew Pierce	Gender Equality as a Regulative Notion	Professor Clevis Headley
Roger Rosena	The Civil Rights Movement: A Philosophical Perspective	Professor Clevis Headley
Austin Parris	Calculating a Fair and Equitable Back Tax Payment Penalty For Undocumented Immigrants Seeking to Qualify for a Pathway to Citizenship	Professor Roy Clemons

61. Gonzalo Vizcardo, "A Regional Innovation System in the Swamp: The Case of the South Florida Life Sciences Industry Cluster"

Using regional innovation system (RIS) theory and practice as a guiding framework and examining the experiences and models from other regions, my research will seek to analyze and understand the South Florida life sciences industry cluster. The triple helix model posits that industry, academia, and the state network resources to develop and apply knowledge, resulting in innovation and economic development benefits such as new start-ups, job creation, and new products and services. However, some clusters are more successful that others, and the research will examine some of the differences in outcomes and their causes. Using these insights and analyzing the relevant institutions and developments, the research will look at possible pathways for greater regional competitiveness utilizing a comparative approach.

62. John Wilkins, "FAU Retention Rates"

College retention rate refers to the number of freshman who return to college for their sophomore year. In this project, research was conducted to analyze and compare the retention rate for students in the College of Design and Social Inquiry. The results were compared with the retention rate of one public university and one private university. The dependent variables were students receiving financial aid , women enrolled in programs, and minorities enrolled in college. To conduct the research we looked at the following data for first and second year students credit hours attempted versus credit hours earned. Student motivation how did student really feel about attending college. Did the students have social or family barriers that interfere with their success in college. The research also looked at common characteristics of students who persistently withdraw. If a common connection can be found in those characteristics it would be easier to understand what students should be targeted early in order to prevent them from withdraw from the school.

59. Elisa Velez, "Hippocampal Involvement in Object Recognition Memory"

The role of the rodent dorsal hippocampus in non-spatial object memory has been largely debated. We tested the hypothesis that the dorsal hippocampus of C57BL/6J male mice is crucial for object recognition (NOR) memory. In the sample session of the NOR task, mice implanted with bilateral dCA1 guide cannulae were exposed to two identical pictures of objects (2-dimensional). A GABAA agonist, muscimol, was microinfused to temporarily block hippocampal function after the sample session. During a 5 or 10 min test session, 24 hrs later, the mice were presented with the actual 3-dimensional (3D) object from the sample session and one novel 3D object. Memory was inferred if the mice preferentially explored the novel object over the familiar. Muscimol impaired novel object preference during the test session. This result indicates that the hippocampus is necessary for the consolidation of object memory when the object and context memories are further dissociated.

60. Raul Vidal, "Variable Pitch Propeller Control System"

The objective of this undergraduate research was to learn how to design and build a simple variable pitch propeller control system. The research was divided into three stages. Stage one and two were to research and learn about blade element theory and dynamic systems control and the third stage was to design build a simple control system model using an embedded system. I programmed a PIC18 microcontroller using C programming to control a dc motor through a motor controller using pulse width modulation. Using the microcontroller I was able to use a servo motor to actuate a variable pitch propeller system. A simple open loop program allowed the embedded system to control the motor and the variable pitch propeller system simultaneously. Through this inquiry I was able to meet my objectives of learning how to design and build a simple variable pitch propeller control system.

Oral Presentation Session III

Majestic Palm Room

2:35-3:55

Student	Topic
Leslie Williams	Where's the Protest? Cloud-Based Activism as Non-Violent Resistance
Peter A. Bui	What Truly is Peace? A Study of Bushido Versus Chivalry, Types of Violence, and the Theory of Anthropodicy
Robert Rusch	The Not So Noble Nobel Peace Prize: The Hypocrisy of Alfred Nobel and His Award
Nina Halty	"The Only Christian Left": Eugene Debs as Political and Religious Martyr
Jenny Rebecca Martin	The *Swadeshi* Movement as the Seminal Event for Indian Independence
Dyana Hagen	Slavery Has a New Brand: Gender Oppression in the Information Age

ABSTRACTS OF ORAL PRESENTATIONS
Pavilion A

57. Christina Tsai, "Visualization of Salt Fingers and Double Diffusive Convection"

Salt finger and double diffusive convection are phenomena in ocean mixing processes. The diffusion and convection across liquid interface are observed using a flow-visualization technique with high speed photography. A layer of frozen coconut oil separates two segments of water in an acrylic container. A warmer solution of NaOH and NaCl is added and since salt-water is heavier than water, it melts through the coconut oil. This signifies and occurrence of diffusion and convection across the interface. Bromothymol Blue, an indicator solution, helps change colors of fingers on both sides for clearer detection of transport routes. Both single finger and multiple fingers are investigated and the interactions between multiple fingers are revealed. By varying the height of salt-water column, various flow systems are obtained.

58. Leticia Vargas, "Characterization of Lis-1 Loss of Function at the Neuromuscular Junction of Drosophila melanogaster Larvae"

Lissencephaly (smooth brain) is a brain malformation caused by mutations in the Lissencephaly gene Lis-1, causing incomplete neuronal migration. Our lab has investigated Lis-1 in Drosophila melanogaster using mutant phenotypes that parallel human Lissencephaly. In this study, we used Drosophila to determine if DLis-1 Loss of Function (LOF) impacts the synapse formation and axonal growth at larval neuromuscular junctions (NMJ's). Given that it is thought that DLis-1 protein is affecting Nrg localization, we further investigate the affects of DLis-1 LOF on Nrg. We hypothesize that the DLis-1 LOF larvae will have an altered NMJ morphology with an accumulation of Nrg within the synapse that overall causes an interruption in synaptic function, such as crawling behavior. This study will allow for a better understanding of the peripheral synapse of the Drosophila larvae affected by DLis-1 in correlation with Nrg.

55. Cydney Tornopsky, "Effects of Technology on Math Testing"

Many public schools are now using computers as a testing medium for their students. The goal of this project was to determine whether students perform better on these computerized tests or on traditional written tests. This project will ascertain if there is a difference between these mediums and if the school district is justified in using computers for testing. It was expected that students will perform better on traditional tests due to transfer error, the distraction of scrolling, and computer glare that is associated with computer testing. We found that there were individual differences. Some students did drastically better on paper and some did drastically better on the computer. We need to conduct more research to be able to predict which students benefit from each type of testing.

56. Elizabeth Tranquil, "A Model of Calcium Channel Opening in Response to Action Potential Widening"

Action potential repolarization in cerebellar interneurons may be slower at axonal boutons if an action potential is preceded by subthreshold depolarization. We hypothesize that slower repolarization allows axons to change strength of neurotransmission by changing calcium channel open probability. This was explored with a Markov model comprised of multiple calcium channel subtypes. The model was solved for channel open probability, channel ionic current and charge from ionic current. A prerecorded stellate cell action potential was used as a command waveform. Modeled calcium charge was compared to experimental calcium imaging results in stellate cell axons. The results show enhanced calcium influx when the action potential is widened. This implies that action potential broadening may lead to selective recruitment of calcium channels that are tuned to the duration of the action potential waveform at axonal sites of release in stellate cells.

Pavilion A
9:00 - 10:00

Mauricio Feldsberg, "Performative Parametric Design of Radiation Responsive Screens"

Like human skin, building skin can function as a thermal regulator. Heat gain is a major concern for South Florida. Radiation contributes roughly 20% of total thermal load through glass façades. This study explores the use of parametric design that allows manipulation of geometry to generate exterior sun screen designs. Designs are developed in Rhino with Grasshopper, a visual programming platform where different plug-ins can be used to manipulate the designs and analyze the radiation through simulation. The project is an experimental model for applying expertise from academic and professional background as well as appropriate computational tools. The study uses curved buildings that receive solar exposure at various times throughout the day. This allows us to study how sun shade designs respond to radiation. Afterward, designs are developed for prototyping. In the future, the study will focus on applying theoretical results through manufacturing and hardware integration to achieve reactive operation.

Emelia Fischer, "A Chronology of Civic Architecture in Broward County"

The purpose of this project is to establish a chronology of the development of buildings designated for civic use within Broward County, with a particular focus on Fort Lauderdale. This research tracks and documents building implementation and urban growth in the area for past record and future research and analysis purposes. Extensive research was conducted using a large collection of archives at the Fort Lauderdale Historical Society. Important data was gathered regarding13 prominent buildings in the region. A small narrative explaining each building has been drawn up that highlights key points in the development of the building itself, the surrounding region, and the growth of the nearby communities. Future research can be conducted in this area as well as other fields relating to public use, such as infrastructure or education, which would create a strong and well-rounded knowledge base documenting multiple aspects of the public realm.

Melanie Mayone, "Low Self-Control and Curiosity: How Curiosity Might have Killed the Cat?"

"Gottfredson and Hirschi's (1990) A General Theory of Crime is one of the most widely tested and discussed theories in criminology. According to the theory, "Low Self-Control" is "the" cause of deviance. After taking Research Methods with my QEP advisor, I theorized that "Curiosity" may be an additional cause of certain types of deviance. To test this theory, I am developing an original multiple indicator measure to operationalize curiosity. I plan to ask subjects "retrospective" questions such as "when I was younger I considered myself a curious person." After IRB approval, a convenience sample will be used to test two hypotheses. Hypothesis #1: Curiosity will significantly predict involvement in Deviance (beyond the effect of Low Self-Control). Hypothesis #2: There will be a significant interaction between Low Self-Control and Curiosity on Deviance. Gottfredson and Hirschi would predict that neither of these hypotheses will be supported. I believe otherwise."

Johnathan Johnston, "iBicycled: GPS Data-driven Bicycle Infrastructure Plan for Shared Biking Programs"

Under the City of Fort Lauderdale's Comprehensive Plan the Florida Department of Highway Safety and Motor Vehicles (FDHSMV) states that in 2004 there were 672 bicycle/motor vehicle crash injuries and 6 fatalities. This data determines that for every 100,000 people there are on average 39 bicyclists injured. Although Broward County has 405 centerline miles and 2,143 lane miles of roads, it only has 67.7 miles of bikeways (FLSHMV 2004). In a collaborative effort between a local bike-sharing program and the use of GPS tracking devices as data collectors, this research will create a framework for a plan that utilizes GPS data to determine adequate bicycle infrastructure through the city. Currently, the GPS technology imbedded in smartphones has become part of everyday life. The research will build upon the acceptance of GPS systems in our lives as a means to build future bicycle infrastructure that responds to data-based findings.

53. Jacqueline Strivelli, "Small Molecule Regulators of DLK1 -DIO3 Cluster miRNAs as Novel Cancer Therapeutics"

MiRNAs are small noncoding RNA molecules that act as post-transcriptional regulators of 60% of all genes including those involved in development and disease. Recent studies have demonstrated the ubiquitous dysregulation of miRNA expression in cancer cells. Recently, we identified seven miRNAs within the DLK1-DIO3 cluster that regulate epithelial-mesenchymal transition in breast cancer. One miRNA was shown to upregulate ATM resulting in drastically reduced proliferation in a panel of cancer cell lines. We also found increased levels of miR-544 and ATM in cancer cells grown in hypoxia. Currently, the use of miRNAs as therapeutic reagents faces many problems in terms of systemic delivery systems. We identified NIH2, a small molecule compound inhibitor of miR-544, which we tested in several hypoxic breast cancer models. Here, we demonstrate that inhibition of miR-544 in hypoxic conditions by either miRNA antagomir or NIH2 leads to apoptosis by preventing cells from entering the hypoxic niche program.

54. Margaret Stuart, "Prey Selection of the Snowy Egret in Wetlands of Lake Okeechobee, a Heavily Managed Ecosystem"

The snowy egret (Egretta thula) is a protected Florida heron. Food availability limits egret populations, and is mediated by the hydrologic patterns that structure prey communities. Managed lake ecosystems, like Lake Okeechobee, are manipulated to suit human needs. Management affects hydrologic conditions, structuring the prey community and affecting egret populations to the degree to which they are dependent on a specifically structured prey community. This project aims to determine if egrets opportunistically take prey in proportion to availability, or if prey are selected based on size and species. In 2011 and 2012, prey availability was sampled at random GPS sites on Lake Okeechobee using throw-traps. Food boluses were also collected from egret chicks. Each specimen was quantified by weight, length and species. Samples were compared between and within nesting seasons. The resulting data can provide a key link between hydrologic prey management of Lake Okeechobee and egret populations.

51. Josuha Scholl, "Can Allometric Growth by Juvenile Marine Turtles Thwart Gape-Limited Predators? (A Morphological Test of that Hypothesis)"

Marine turtles lay thousands of eggs but only a fraction of their offspring survive to adulthood. Many predators of small turtles are "gape-limited" or must swallow their prey whole. We reared Loggerhead, Caretta caretta, and Green, Chelonia mydas, turtles for several months to determine if how they grew might shorten their susceptibility to gape-limited predators. We documented through weekly measurements that both species grow wider more rapidly than they grow longer. This disproportionate growth is known as allometric growth and might make turtles more difficult to swallow than an isometric or proportionate growth pattern. We tested that hypothesis by measuring the gape of a known oceanic predator of small turtles, the Dolphinfish, Coryphaena hippurus. We found that allometric growth shortened the time that the turtles remained vulnerable by as much as 2.5 weeks. These results support the hypothesis that allometric growth may be an important antipredator strategy in marine turtles.

52. Melissa Stiksma, "An Examination of Immediate Outcomes Following a Single-Session Mindfulness Meditation Training"

Mindfulness involves a strong cognitive focus on the present moment. Higher levels of mindfulness are positively associated with adaptive psychological outcomes, such as emotion regulation (Hill & Updegraff, 2012), and negatively associated with maladaptive outcomes, such as reduction of stress through mindfulness-based techniques (Chiesa & Seretti, 2009). The effects of a single 40-minute mindfulness meditation session comprised of psychoeducation and meditation were examined in an undergraduate population. Questionnaires to measure participants' levels of mindfulness, emotion regulation, perceived stress, and social relationships were administered pre-session, post-session, and at a one week follow-up. It is hypothesized that mindfulness reported during the session is expected to be positively correlated with reappraising emotion regulation and perceived quality of social relationships and negatively correlated with suppression emotion regulation and state anxiety at one-week follow-up. Statistical results and implications for mindfulness-based treatment will be discussed.

Robert Modys, "River Urbanism: A History of the Urban Development along the New River in Fort Lauderdale, Florida"

The New River in Fort Lauderdale, Florida has significantly impacted urban development and planning throughout the history of the city. As the original driver for development, the New River has been utilized for trade, transportation, defense, as a major agricultural base, and, in later years, as a means to advertise and brand the city "the Venice of America" to potential tourists and investors. Over the last century, the New River has seen a transition from these agricultural roots towards a focus on the marine industry to tourism. Given the current resurgence in urban agriculture, the New River has the potential to come full circle and reconnect residents to its past by generating a sense of cultural and civic pride among residents based on the attributes of caring for the land through agricultural uses.

Pavilion A
10:00 - 11:00

Sarah Cronell, "The Role of Hatch Order on Wood Stork Nestling Diets"

The Wood Stork is a major American wading bird species that was listed as endangered in 1984. Since these birds are food limited, nesting success depends on food abundance and availability during the breeding season. Understanding how much prey Wood Stork nestlings consume throughout the season, and whether sufficient prey is available for all offspring in a nest is an important step toward recovery. My research involves collecting and analyzing food regurgitation (boluses) from Wood Stork nestlings in two colonies located in Everglades National Park. This will allow me to observe the effects of hatch order on the amount of food consumed by the nestlings. I hypothesize that earlier-hatched nestlings will eat larger amounts than later-hatched nestlings due to competition. Also, if food availability decreases, the rate of food increase for the later-hatched nestlings will decrease while the rate will continue to increase in earlier-hatched nestlings.

Alexandra Lolavar, "An Experimental Study of the Effects of Moisture on Loggerhead Sex Ratios"

Marine turtles have temperature dependent sex determination: lower nest temperatures producing more males and higher nest temperatures producing more females. Nest sand temperature strongly influences sex differentiation; however other environmental factors such as moisture may play a role that has not been investigated. We studied the relationships among humidity, temperature, and loggerhead (Caretta caretta) sex ratios in an experimental study. Standardized containers of eggs in nest sand were incubated under different moisture treatments to test the role of humidity at a constant incubation temperature. Moisture was maintained by daily water treatments. All hatchlings were collected, their sex identified laparoscopically, and sex ratios were calculated for each treatment. The experimental treatments were designed to produce a slight female bias if moisture played no role. We found 87-93% males across the experimental treatments. Natural nests from the same time period produced 100% females. This study shows that high humidity influences sex differentiation.

Verneshia Persaud, "Bacterial Diversity in the Oral Cavity - Comparing Metagenomic Approach and Culture Approaches"

The oral cavity harbors about 700 bacterial species which fluctuates with the constant changes in the microhabitat. The taxonomic composition of the oral cavity however remains poorly defined due in part to the difficulty in culturing the various taxonomic units. In this study, 10 metagenomic DNA samples and cultured community DNA of bacteria in human mouth were analyzed by PCR, TOPO-TA gene cloning in E. coli DH10B, and sequencing of the 16S rDNA gene. Bacterial community sequences from direct extraction were compared to cultured community sequences after alignment and BLAST sequence matching at the RDPII and NCBI. The DNA concentration and purity of the samples ranged from 25.5 to 105.7 and 1.62 to 2.03, respectively. Gel electrophoresis of the PCR amplicons from all of the genomic samples showed bands of approximately 1300 bp with the F27 and R1492 primers. Analysis of recombinant clones of the 16S gene will be presented.

49. Mary C. Rudacille, "Attention Deficit Caused by MDMA ('Ecstasy')"

3,4-methylenedioxy-N-methamphetamine (MDMA; 'Ecstasy') is a recreational drug that likely causes its users mood changes and attention disorder. While mood changes have been well understood, little is known about attention deficit. In this study, laboratory rats were examined with the 5-choice serial reaction time task (5-CSRTT), an operant based behavioral apparatus, by measuring correct, incorrect, and premature and omission tasks in responses to MDMA injection. We found that premature and omission responses were increased by 135±59% (N=4, P = 0.02) and 500±108% (N=4, P=0.003), respectively, in response to 4 mg/kg MDMA. In addition, the incorrect response was elevated by 89±54% (N=4), compared to control. Furthermore, the correct response was reduced to 70±10% (N=4, P=0.001). In summary, this study suggests that MDMA may cause attention deficit in users.

50. Kyle Schau, "Ejection of a Rear Facing, Golf Cart Passenger"

This presentation details the findings of experiments and simulations performed on a commercially available, shuttle style golf cart during several maneuvers involving rapid accelerations of the vehicle. It is determined that the current set of passive restraints on these types of golf carts are not adequate in preventing ejection of a rear facing passenger during rapid accelerations in the forward and lateral directions. Experimental data and simulations show that the minimum height above the seat a hip restraint must be in order to secure a passenger during sharp turns is approximately 13 inches, compared to the current restraint height of 5 inches. Furthermore, it is determined that a restraint directly in front of the rear facing passenger is necessary to prevent ejection. In addressing these issues, golf cart manufacturers could greatly reduce the likelihood of injury due to ejection of a rear facing passenger from a golf cart.

47. Sabryna Raymond, "Facilitating Civic Engagement: Nonprofits as the Voice of the Community"

In our communities, civic engagement is the way the public can address their needs and concerns. However, with the drastic decline in public participation, the concept of community involvement is changing. Nonprofits First created the Now I Can Hear You project to bridge the gap between communities, the social sector, and individuals. Now I Can Hear You mentors nonprofits in engagement processes aimed at key community stakeholders. By becoming the voice of the community, social service agencies are empowered to foster dialogue between themselves, the community, and government officials. Uninformed stakeholders are unable to create meaningful dialogue. Therefore, organizations have become a means through which the underrepresented can speak. Now I Can Hear You provided social service practitioners the necessary tools to create a voice for the community.

48. Stephanie Rosendorf, "Motives Behind the Post-2008 State Voting Bills"

After the 2008 election, many state legislatures passed restrictive voting laws that made the voting process more difficult. Many different individuals and groups across the United States spoke out against these laws, claiming they were new forms of voter suppression with the intent of reducing voter turnout for specific minority populations, as well as for youth and seniors. I will complete a thorough analysis on all 50 states of the partisan composition of their legislatures as well as their statewide demographic compositions. With this information, I predict I will find that a significantly higher Republican composition in the legislature is what differentiates the voting bill states from the non-voting bill states the most. I also do a case study of six particular states with and without new voting bills in order to more thoroughly describe the passage of, and reactions to, the specific bills.

John Mayfield, "Current Modalities and the Implications of Cancer Stem Cell Manipulation in Oncological Treatment"

Through the identification of various research outcomes, it has become clear that two primary objectives lie ahead for the promulgation of the role of cancer stem cells in future treatment modalities: identification of protein surface markers on CSCs that uniquely identify them against normal cells in human tissue that thereby allow the development of therapeutic interventions that selectively target CSCs, and characterization of CSCs in their ability to adapt to current forms of treatment so as to limit the proliferation of more resistant and dangerous forms of previous cancers through the identification of mutational "hot spots" in the aforementioned CSC markers.

David Rinaldi, "Modeling the forces on Micron Sized Objects in an Optical Tweezer"

Optical Tweezers use the momentum of light to effectively 'trap' objects whose size is much larger than the wavelength of light being used. To date, there is no analytic solution describing the force excerpted on such an object which is at some radial distance away from the focused laser beam in an optical tweezer setup. Although such an analytic solution still does not exist, we present an experimentally based function and include upper limits for stable equilibrium (at r=0) and provide upper limits on the maximum distance at which an object is likely to succumb to the optical trap. We use this data to model all forces acting upon our sample, using results from statistical physics. The data compiled can be used as a reference when using laser tweezers to manipulate biological objects and in the formation of micro-structures.

Pavilion A
11:00 - 12:00

Amanda Brahlek, "Susan Howe's Evolution: The Artist as Poet"

Susan Howe is known as a poet who tests the boundaries of poetry's visual form. It is well known that Susan Howe began her career as a visual artist, earning a Master in Fine Arts degree from Boston Museum School of Fine Arts, but little has been explored of her work as a visual artist after her transition to "poet." Despite many critical assertions that Susan Howe changed from being a visual artist to being a poet, I contend that Susan Howe's resistance to this change has pushed her work to act as a hinge between poetry and visual arts. From Susan Howe's first chapbook "Hinge Picture" to her latest work "That This," Susan Howe's identity as artist and poet has shaped her work into the perfect hinge between the visual and textual.

Rory Padgett, "Exploring the New Jim Crow in America"

The increasing rates of incarceration in the United States, especially of marginalized groups like undocumented immigrants, African Americans, and the poor, has received increased scrutiny over the past few years from researchers, the media, and the public alike. These increases have been correlated to socio-political developments such as the war on drugs, the war on poverty, and the school-to-prison pipeline. The research will look at academic papers, books, as well as news media stories to better draw a full picture. In this study, our aim is to explore the underlying dynamics of these trends, identify their roots, and suggest possible solutions.

45. Giselle Perez, "Arithmetic and Language Proficiency in Bilinguals"

Language is a primary form of communication and while environments can vary due to culture and upbringing, many individuals become proficient in one language than other, or both. Research on language and its effect on arithmetic has concluded that some aspects of arithmetic can be language depended while others are language independent. This study will observe if degree of proficiency in one language perceived by the participants can be reflected on the processing speeds to complete verbal arithmetic tasks. We hypothesize that the perceived level of proficiency in one language will correlate with the processing speed of exact math tasks on that language. Results are expected to show significant correlations between level of language proficiency and performance on exact arithmetic tasks whereas no correlations between proficiency and approximation tasks scores are anticipated. Some implications of our results in the validation of the triple code model for math are discussed.

46. Anthony Planas, "Analysis of Cuban Treefrog (Osteopilus septentrionalis) Predation on Native Florida Treefrog Species"

Native amphibian and reptile populations have been declining globally, with Florida being the most severely impacted state within the continental U.S.A. due to its subtropical climate allowing exotic species to proliferate. The Cuban treefrog's high fecundity and ability to predate on insects and small animals has caused a negative impact on native treefrog species. The objective of this study is to determine the effects of predation on the native Florida treefrog's from the invasive Cuban treefrog. Moreover, we will investigate the habitat preference of the Cuban treefrog as it relates to available water sources within xeric and mesic habitats. Our preliminary results suggest that Cuban treefrogs are more abundant and show a preference for treefrogs as a prey item in areas of greater water availability. It is important to understand whether the Cuban treefrog is outcompeting the native Florida treefrogs for territory and food and/or significantly predating on native species.

43. Erika Nourishirazi, "The Impact of TLR Agonists on Nicotine Exposed Human Immune Cells"

Vaccines have been one of the most important contributions to public health. Our lab reported that the nicotine component of cigarette smoke considerably diminishes the host response to vaccines by affecting the dendritic cell (DC) system and ensuing DC-natural killer (NK) cross-talk. The lab also discovered that Toll-Like Receptor (TLR) 7/8 agonist improves vaccination outcome in nicotine-exposed mice. In this study, we investigated the effects of TLR agonists on human monocyte-derived DC and peripheral blood mononuclear cells (PBMCs) in order to translate our findings to humans. Our data suggests that while TLR 7/8 corrects the nicotine induced defect in DCs, it does not re-establish DC-NK cross-talk within PBMCs. Whether the inability for human DC-NK cross-talk restoration by TLR 7/8 is due to low frequency of DCs within PBMCs is currently under investigation. This study may aide in developing a vaccine formulation that works optimally in all vaccinated individuals.

44. Christopher Nunes, "Human Powered Propeller Testing"

In an effort to test and develop propellers for a human powered submarine, models and testing facilities have been hard to come by, so the most efficient and accurate means of testing the response of the propeller is to test it full scale under real operating conditions. Since several propellers already exist for the one man human powered submarine, we can use those along with a prospective propeller as data points, combined with CFD approximations, to draw accurate conclusion on the performance trends. So far this process has led to the addition of sensors to the one man submarine. Since this is human power, the input to the system has a large variation. This variation is not ideal for modeling, but it is an important factor when it comes to the actual application's performance. The sensor module is nearing completion and will report RPM data, speed determined by dynamic pressure, pilot torque as a function of vehicle roll, and vehicle acceleration. This data will be the key to quantizing the performance of the propellers as well as the actual pilot to draw sound conclusions.

Brianna Musielak, "The Impact of Spanish Language Films"

In my presentation I plan on synthesizing the research that I have done in my Advanced Spanish Conversation class over the cinematography of Spanish-speaking films. Over the course of the semester, we have had to watch several Spanish, Mexican, and Argentine films. In addition to the work that the other students have been doing, I have been researching the cinematography of Pan's Labyrinth, El hijo de la novia, Mujeres al borde de un ataque de nervios y El crimen de Padre Amaro, and I have been writing additional papers and presenting what I have learned to the class. In my presentation, at the Undergraduate Research Symposium, I would combine all that I have learned about film-making in those countries, compare them, and relate all of this back to the United States.

Ben Wiles, "An Analysis of Florida's Sea Water Cooling Resources"

An assessment of Sea Water Cooling feasibility in southeast Florida was conducted to quantify potential energy savings over conventional cooling systems. Numerous data sets collected near Fort Lauderdale/Miami are presented alongside historic data sets to enhance temperature resource information. A cold water resource with a mean temperature of 8-10°C is present off Fort Lauderdale in 160-220 m of water and 7-9°C is present off Miami in 200-300 m of water. Both cold water resources are located approximately 6 km from shore. A model is presented that predicts the electric power needed to operate a 10 MW SWAC system and is compared with a traditional AC system. The model predicted that in South Miami the chiller system will save 86.9% and the total cooling system can be save 58%, over a traditional AC system.

Natalie Harrison, "Jumping the Gun: Was the Man Who Armed the Black Panthers an FBI Informant?"

On August 20th 2012, Seth Rosenfeld, a reporter for the San Francisco Chronicle, released an article stating that Richard Aoki, an activist in the Bay Area during the 1960s and 70s best known for arming the Black Panther Party, had been an FBI informant. Immediately following the allegations, numerous Aoki supporters rose to his defense and accused Rosenfeld of snitch-jacketing – a term referring to the FBI practice of falsely labeling a prominent member of a threatening group as an informant to decrease their status and influence within the organization. This presentation is a historiographical examination of the FBI, COINTELPRO, snitch culture, Richard Aoki and those who accused/defended him.

Pavilion A
1:00 - 2:00

Kaitlin Gallagher, "Examining Seasonal Effects on Bonamia spp. in Bivalves from the Indian River Lagoon"

Bonamia spp., a haplosporidian protistan parasite, was first reported in Florida in 2007 in oyster species cultured at Harbor Branch Oceanographic Institute in water from the Indian River Lagoon. Previous research (summer 2010 and 2011) evaluated prevalence and intensity of infections in IRL bivalve species. This study seeks to examine the seasonal effect on parasite prevalence and infection intensity. Bivalves from three sites in the IRL were sampled summer, fall, and winter 2012. Prevalence (general and species specific) was evaluated using PCR. Intensity of infection was evaluated using fluorescent in situ hybridization. Highest prevalence (31.9-48.9%) was seen at all three sites in the fall. Lowest prevalence was seen in the winter at two sites and in the summer at the third site. Lowest prevalence was 3.57% (summer) and highest prevalence was 48.9% (winter). Evaluation of infection intensity by in situ hybridization is currently underway.

41. Michael Neal, "Electrical System in a Human Powered Submarine"

The purpose of integrating electronics into a human powered submarine is to enable better control and maneuverability while removing menial tasks from the pilot. The objectives and requirements of this design project was to make the system easy for anyone to use, modular so the system can be employed in future submarines, and it must fit inside the current submarine being built. The electronic system uses IMU and pressure sensors to allow the submarine to maintain a depth and correct its pitch. The IMU and pressure data are also recorded to assist with future design. The electronic design has been done using the schematic software P-CAD and the physical design was done using Solidworks to better visualize the layout. As of now, the data logging and motor control of the system is near completion and the pilot consoles are still in the design phase.

42. Hannah Norcini, "Memory for Criminal Events"

This study aimed to investigate the own-age bias within the context of criminal events. We hypothesized that older adults will more accurately recognize older adult faces, while younger adults will accurately recognize both younger and older adult faces. Thirty-two female undergraduates and 32 female older adults participated in this study during two sessions. Each participant viewed 17 brief films depicting benign criminal and neutral events in Session 1, and returned one week later to complete a line-up identification task and confidence ratings. Older adults showed more accurate recall for older adult actresses, while younger adults showed a similar proportion of correct responses for younger and older adult faces.

39. Bianca Mesa, "The Study of a Liquid Droplet Falling Through Two Immiscible Layers of Liquids"

We noticed the unusual behaviors of liquid droplets falling through layers of oil and water. A container was filled with an aqueous solution at the bottom and a layer of oil on top. Water was mixed with a small amount of chemical indicator to visualize the detailed flow processes. A droplet heavier than water and containing NaOH was released. Initially, the liquid droplet sank and was stopped at the oil/water interface, supported by surface tension and the buoyancy of oil between the droplet and the water below. Over time, the support weakened and the droplet would either collapse on the interface or fall quickly through the water and spontaneously explode. Experiments are being done to discover the underlying mechanisms of this occurrence and the reason behind the droplet's flow instability with a focus on the effects of diffusion on surface tension.

40. Michael Metzger, "General Mental Ability Tests to Show NFL Quarterback Performance"

The Wonderlic Personnel Test is a measure of general mental ability (GMA) (Bernardin & Russell, 2013). The National Football League (NFL) has been using the Wonderlic for many years as part of its "combine." Measures of GMA have proven to be strong indicators of work performance (Kuncel & Hezlet, 2007; Schmidt & Hunter, 1998). However, both Kuzmits and Adams (2008) and Lyons, Hoffman and Michel (2009) found no significant correlations between Wonderlic scores and QB performance. Using a more reliable and valid criterion measure known as QBR Rating (Stinson, 2011), I found that Wonderic scores of NFL QBs were statistically related to top levels of QB performance. Based on data from the 2008 through the 2012 seasons, and using an unpaired t-test comparison, QBs with high Wonderlic scores were more likely to be among the top 30 performers for those years ($t=2.48$ (132), $p < .01$).

Stephanie Lopez, "Japanese Identity and Cultural Expressions in the Dominican Republic since the Mid-1950s"

As a result of General Rafael L. Trujillo's desire to "whiten" the Dominican society during his years in power (1930-61), various immigration laws were placed into effect in order to attract political refugees and immigrants. In a period when Europe was ravaged by wars, numerous Europeans accepted the hospitality offered by the small country, particularly the Spaniards after the Spanish Civil War, and the Jewish community during the Holocaust. However, it was not until the mid-1950s when an important group of Japanese immigrants settled in this part of the Caribbean. Their presence contributed to Trujillo's intentions of repopulating the Dominican-Haitian border with people of non-African descent, and growing the agriculture sector with the perseverance of the new visitors. I explore the process of assimilation, acculturation and hybridization that takes places within this community.

Dawn Adolfson, "Para El Sur: Analyzing Contemporary Mexican Return Migration with a Case Study of Jupiter, Florida Immigrants"

Recent data show that migration from Mexico to the United States has significantly decreased while return migration to Mexico has increased, producing a net reduction in the total number of Mexican migrants in the U.S. Some argue that the increase in immigration enforcement within the United States is the cause for this change because it has altered the cost/benefit balance enough to make migration less appealing and to encourage people to self-deport. The "self-deportation" hypothesis is based on the neo-classical theory of immigration. This case study offers an alternate explanation. Interviews with migrants in Jupiter, FL and returned migrants in Mexico suggest that the reasons for return are more complex. Family reunification, access to networks, and changing demographics are all important reasons driving the recent change in Mexican immigration. These findings suggest that the "self-deportation" approach to U.S. immigration policy may be misguided.

Ashlee Hawk, "Singing All the Way to the Bank: An Examination of the Variables Influencing the Salaries of Popular Musicians"

Rosen (1981) claims top performing musicians and other superstars deserve the high paying salary they receive in his phenomenon called the "superstar effect." I will construct an econometric model using various income factors in order to determine which independent variables hold the most statistical significance in correlation to superstar salaries. Based on the salaries over the last five years from Forbes' "The World's Most Powerful Celebrities," I have compiled a list of 46 top ranking musicians. Some of the variables that contribute to a musician's salary are years in industry, number of albums sold, number of Grammy awards won, and number of top billboard hits. The purpose of my thesis is to see if a relationship exists between a musician's average salary and the fourteen independent variables, and if so, what kind.

37. James Martin, "The Role of Methionine Sulfoxide Reductase in an Organism's Thermal Stress Response"

Methionine sulfoxide reductase (Msr) is an enzyme that repairs oxidative damage to methionine and exists in two distinct, stereospecific forms: MsrA and MsrB. Hyperthermia has been observed to promote cell oxidative damage. In this study, we examined whether MsrA and MsrB play a role in tolerance to hyperthermia using Drosophila Melanogaster. Preliminary studies have demonstrated that organisms lacking both MsrA and MsrB are less efficient in their thermal stress response when compared to flies containing MsrA and MsrB. Given that heat shock proteins (HSPs) have also been found to counter the effects of hyperthermia, we tested if hyperthermia preconditioning improves the organism's response to thermal stress. Future studies include examining the biochemical mechanisms that governs the effect of Msr on hyperthermia tolerance. Determining the roles of MsrA and MsrB in hyperthermia tolerance should lend insight into the reductive capabilities of MsrA and MsrB.

38. Rebecca Mello, "The Bidirectional Interaction of Oxytocin and Cortisol Levels in Mother-Infant Dyads"

In the adult mouse brain, there are neuroblasts born in the forebrain subventricular zone (SVZ). These migrate to the olfactory bulb (OB), where they mature and replace older neurons that are eliminated by programmed cell death (PCD). Continuous neuronal turnover in the OB is important for mouse behaviors since they rely on odor signals to survive. What initiates PCD in the OB is unknown. Microglia participate in PCD by phagocytising apoptotic neurons. Microglia express the fractalkine receptor (CX3CR1) and neurons express fractalkine (CX3CL1), a known ligand protein from the chemokine family which functions in the immune system. However, its function in the adult brain is unclear. Our hypothesis is that dying olfactory neurons upregulate fractalkine during PCD, which then signals microglia to help eliminate that cell. If fractalkine is informing the microglia to eliminate pre-existing neurons, then it may have a role in olfactory neuron turnover in adult brain.

35. Hashna Manoharan, "Effects of PTEN Haploinsufficiency on ASD-relevant Behavioral Phenotypes"

Mutations of the PTEN gene may be a risk factor for autism spectrum disorders (ASD), as there is an increased frequency of PTEN haploinsufficiency (Pten+/-) in individuals with ASD in comparison to the general population. The objective of this project is to explore the role of PTEN mutations in ASD associated behaviors, such as increased aggression and social deficits. The experiment was designed using home cage and resident intruder testing paradigms. The social and aggressive behaviors of Pten+/- mice and non-mutant littermate controls are compared by evaluating the occurrence and duration of ASD relevant behavioral phenotypes and conducting behavioral analysis using observational scoring. A correlation (or lack thereof) between Pten haploinsufficiency and an increase in ASD relevant behavioral phenotypes may lead to determining the viability of the use of PTEN as a biomarker for ASD. Research may also lead to increased understanding of the genetic basis for ASD.

36. Marvin Marcia, "Comparing Comprehensive Plans"

South Florida is one of the most complex regions in our state. One cannot generalize or stereotype a particular location. Many tourists view South Florida as a wealthy hot spot for the rich and famous. However, this is far from the truth. Many cities in South Florida are dealing with economic and environmental issues. Every city has its own unique problems, adversities, and methods to solving these problems. As applicant for the FAU Undergraduate Research Symposium, my task is to research the Village of Wellington and the various cities surrounding it such as Lake Worth, West Palm Beach, Royal Palm Beach, Loxahatchee Groves and Village of Palm Beach. By doing this, I can compare and contrast the various problems and needs to each city.

ABSTRACTS OF ORAL PRESENTATIONS
Pavilion B

Pavilion B
9:00 - 10:00

Erin Connolly, "An Examination of Alterations in Center of Gravity Distribution During the Squat Exercise Between Skilled and Unskilled Weightlifters"

Commonly, athletes perform the squat exercise as part of their resistance training regimens due to its benefits (i.e. muscle growth and bone density). An examination of biomechanical differences in weightlifters of varying skill levels is necessary for appropriate training progression. Thus, the aim of this study is to examine center of gravity (COG) at specific joint angles between skilled weightlifters (SW) and unskilled weightlifters (UW). Thirty college-aged individuals will be recruited and assigned to one of two groups: SW (2 years structured resistance-training experience) or UW (<6 months structured resistance-training experience). Subjects will report to the laboratory on 2 occasions separated by one-week. On day 1 subjects will undergo baseline one-repetition maximum (1RM) testing. During day 2 subjects will perform single repetitions of the squat at 60, 75, and 90% 1RM, in which COG will be examined. We hypothesize that SW will maintain a more stable COG than UW.

Bradford Day, "An Analysis of Differences in Muscle Activation and Force Production Between Skilled and Unskilled Weightlifters in the Squat Exercise"

It is well established that the squat exercise provides benefit to muscle strength and performance. It is necessary to examine performance differences between skilled and unskilled weightlifters to recommend training progressions. Therefore, the purpose of this study is to compare muscle activation and force production between skilled weightlifters (SW) and unskilled weightlifters (UW). Thirty college-aged individuals will be assigned to one of two groups: SW (2 years resistance training experience) or UW (<6 months resistance training experience). Subjects will report to the laboratory on 2 occasions separated by one-week. On day 1 subjects will undergo one-repetition maximum (1RM) testing. During day 2 subjects will perform single repetitions of the squat exercise on a force platform at 60, 75, and 90% 1RM to measure force production and muscle activity via electromyography. We hypothesize that SW will have greater force production and EMG activity than UW.

33. Cynthia Maceda, "Plugging the School-to-Prison Pipeline: The Impacts of Culturally Responsive Practices"

The purpose of this research is to determine if culturally responsive practices (CRP) increase student engagement among incarcerated youth and youth living in neighborhoods with high incarceration rates. Through a review of the literature on zero-tolerance policies, school-to-prison pipeline, and the implementation of CRP, the researcher will compare her findings to studies showing the effectiveness of CRP to her personal experience with these populations. As part of a requirement for an undergraduate preservice teacher multicultural education course, the researcher volunteered to tutor incarcerated youth enrolled in the Palm Beach County School District while incarcerated at the Palm Beach County Jail. Additionally, the researcher participated in "Alternative Spring Break" by working with Miami youth identified as potentially being part of the school-to-prison pipeline. Qualitative methods, including field observation memos, observation protocols, and lesson plans, will be utilized and findings from the research will be presented.

34. Sherlyne Magny, "Investigation of Cell Stiffness and Cytoskeletal Remodeling in Response to Inflammatory Mediators Using Atomic Force Microscopy (AFM)"

Atomic force microscopy (AFM) is a novel technology with emerging potential for cancer detection based on cell stiffness measurements. Studies have shown that cancerous cells were recognized to be less stiff than normal epithelial cells. However, the mechanisms through which their biophysical properties are altered have not been fully elucidated. In this study, we investigated the role of transforming growth factor-β (TGF-β) as a potential mediator involved in altering the biophysical properties such as cell stiffness of mammary epithelial cells (MCF10A). We hypothesized that TGF-β will promote decreased cell stiffness through the disruption of f-actin using the AFM. To date, we determined that disrupting f-actin of MCF10A decreased measured cell stiffness. However, disrupting microtubules using colchicine did not alter cell stiffness. Additionally, our AFM measurements revealed that MCF10A treatment with TGF-β reduced the measured cell stiffness 3-fold, down to the level measured for MDA-MB-231 cancer cells in our previous studies.

31. Alberto Leal, "Mexican Drug War impact on U.S. Immigration Policy"

The Mexican drug war and the accompanying murders, trafficking of drugs and humans and abductions have forced the United States to implement changes in immigration policy. My research on this topic evaluates the effect the Mexican drug war has on U.S. federal and state immigration policy. I use a case study approach and look at public opinion, representative behavior, the implementation of policy and legislative history to determine that the drug war has a direct effect on federal policy and an indirect effect on state policy. I find that political ideologies of governing bodies and public opinion on the effects of the drug war and immigration were the main determinants of creating immigration policy at the state level, with little evidence that states created policies directly in response to the drug wars.

32. Morgan Levy, "Factors Affecting the Experience of Mindfulness During Meditation"

Mindfulness refers to the ability to think in the present moment and to be cognizant of one's own thoughts and physical state. We examined whether openness to experience and religiosity affected the experience of mindfulness. Undergraduate college students underwent a 40-minute session learning about mindfulness techniques and various meditations such as body relaxation mediation, a nature meditation, a guided imagery meditation, and a mindfulness meditation. After completing the session, participant's completed several post-treatment questionnaires and one week later they completed several follow-up questionnaires. We expect that mindfulness will increase immediately following the treatment session and will be maintained one week later. In addition, openness to experience and religiosity are expected to be positively correlated with dispositional mindfulness, mindfulness experienced during the session, and mindfulness experienced one week later. The findings and their implications for college student mental health will be discussed.

Tamara Estevez, "Human Consumption of Dioxins"

The purpose of this review is to present a summary of peer-reviewed research regarding the critical nature of dioxin consumption. Dioxins are in a class of a toxic chemical compounds that have a certain or similar chemical structure. Consequently, human consumption of dioxin has been related to major health issues including cancer, skin lesions, birth defects, infertility, and hormonal variations. Many foods, particularly those containing fat, have stored dioxin compounds in their structure. Therefore, the greater an animals' status in the food chain, the higher concentration of dioxin the animal contains. Additionally, humans receive most of their dioxins from dairy and meat products. Detailed information will also be presented in regards to environment, food consumption, exercise, and a comparison of dioxin intake between adults and children will be examined. Ultimately, the aim of this review is to provide clarity and recommendations for human dioxin consumption.

Nicolo Zara, "Vibration and Buckling of Functionally Graded Beam"

This research is centered on vibration and buckling of turbine blades made of functionally graded materials. Homogeneous and graded blades have constant modulus of elasticity (E) in contrast functionally graded materials are characterized by variable modulus of elasticity. The purpose of the investigation will be to find the distribution of elastic modulus that provides the desired characteristics of the system: natural frequency and buckling loads. This allows to "tailor" mechanical characteristics of the blade in a manner to obtain behavior that is desired from the point of view of safe and economic exploitation of the blades. For simplicity, in this study we analyze beams that are under rotation; because blades behave in the same manner. This study led to findings on how modulus of elasticity behaves along a rotating beam with different boundary conditions and conditions necessary for buckling.

William Nolan, "Contra-Rotating Wind Turbines"

A common method to improve the performance of wind turbines is to build them larger and larger. However, this solution poses multiple limitations including prohibitive manufacturing and transportation cost, increased noise and damage to environmental fauna in the immediate area. Counter rotating wind turbines, which are simply a pair of turbines mounted back-to-back on the same mast rotating in opposite directions, have the potential to improve the efficiency of wing energy extraction. Many helicopter and UAV designs utilize contra-rotating rotors, as this increases the efficiency and the control structure of the aircraft. In this project we will design, develop and test a counter-rotating wind turbine. We will characterize the energy extraction of the wind turbine as a function of multiple variables, including the distance between the rotors, the pitch of the turbine blades and the velocity of the airflow. In addition we will compare our results with a standard turbine. We will use smoke generators in order to visualize the airflow. Some benefits of energy extraction based counter-rotating turbines include: decrease in land space requirement, increase of performance in turbulent flow, and increase of power extraction per volume in an array of wind turbines .

29. Nicole LaRosa, "Presence of Antibiotic Resistance Genes in the Human Oral Microbiome"

The environment of the human mouth holds a wide variety of microorganisms; however, not all oral environments are the same. Individuals are consistently changing the environment of their mouth by consuming and ingesting various products. The use of antibiotics is on the rise as well as oral hygiene products such as mouthwash. It is my interest to determine the profile of antibiotic resistance in the human oral microbiome. To determine what types of antibiotic resistance genes are commonly found in the average human mouth, reverse and forward primers for the following groups will be used; Tetracyclin, Vancomycin and Meticillin. If samples of 10 different human oral metagenomes are subjected to PCR reactions with the use of primers that indicate antibiotic resistance, then it will be found that many resistant genes have formed in many of the oral microbial communities.

30. Marina Lauck, "Adapting the Pin-Intercept Method to Estimate Emergent Biomass in Sawgrass (Cladium jamaicense)-Dominated Regions of the Florida Everglades"

Sawgrass (*Cladium jamaicense*) communities of the Florida Everglades play a vital role in the ecosystem by providing habitat for a variety of flora and fauna as well as contributing to filtration of freshwater. As such, the preservation, restoration, and management of the Everglades require methods to quickly and non-destructively measure the health and performance of sawgrass communities. The pin-intercept method is a non-destructive tactic commonly used in grassland studies for obtaining an estimate of above ground biomass. In this study, we are calibrating an algorithm for emergent sawgrass communities using the pin-intercept method and harvested aboveground biomass A.R.M. Loxahatchee National Wildlife Refuge. We will also compare our pin-intercept algorithm with other published non-destructive techniques to evaluate the relative accuracy of methodologies. We hope the development of the pin-intercept method will serve as an effective, reliable tool for future management, research and conservation efforts in graminoid-dominated wetlands like the Florida Everglades.

27. Olga Kofman, "Cognitive Differences Between Professional Musicians and Non-Musicians"

Though the "Mozart Effect" is but a myth, researchers have found neuroanatomical and cognitive differences between musicians and non-musicians. This project seeks to replicate a 2011 study by Hanna-Pladdy and MacKay comparing cognition in expert musicians to non-musicians. Several aspects of cognition will be tested: processing speed, working memory, cognitive flexibility, verbal memory (immediate and delayed), non-verbal memory (immediate and delayed), working memory, and word confrontation naming. Adult musicians who began practicing at or before seven years of age—a critical learning period determined by Steele and colleagues in 2013--will be recruited alongside non-musician participants, to control for education, age, and gender. IQ will be used as a covariate. It is expected that musicians will significantly outperform non-musicians in nonverbal memory recall, word confrontation naming, and cognitive flexibility. This project explores whether musical activity at its uppermost level is correlated with improved cognition throughout the lifespan and in aging.

28. Nikolle Lambrinos, "The Regulation of Mitophagy in a Cellular Model of Huntington's Disease"

The accumulation of damaged mitochondria within neurons is one factor thought to play a role in HD pathogenesis, given that it leads to adverse effects on neuron physiology. In healthy individuals, the mitophagy, or "mitochondrial autophagy", pathway regularly degrades the damaged mitochondria. Recent studies indicate that the mitophagy pathway is impaired in HD. In the present study, we investigated the molecular mechanisms underlying impaired mitophagy in a cellular model of HD using plasmid transfection, Western blot, and immunofluorescence techniques. Our current data suggest that the mutant huntingtin protein (mHtt) may interfere with the proper ubiquitination of the damaged mitochondria, a vital process in the Parkin-mediated mitophagy pathway. An understanding of such molecular pathways that are altered by mHtt expression is important for the discovery of novel drug targets for HD treatment.

Pavilion B
10:00 - 11:00

Donella Beckwith: "Integration of a Novel Green Chemistry Experiment, Using a Visible Light Photocatalyst, Into the Organic Chemistry Lab at Florida Atlantic University"

Green chemistry initiatives aim to reduce human and environmental exposure to hazardous chemicals and can be achieved by reducing risk in the laboratory and decreasing the volume of chemicals used. Our research incorporates the principles of green chemistry through an efficient reaction utilizing blue light emitting diodes (L.E.D.) with use of tris (2,2'-bipyridyl)dichlororuthenium(II) hexahydrate photocatalyst to induce oxidation. Previous work has failed to address, how blue L.E.D.'s will optimally catalysis oxidation by molecular oxygen, using a photocatalyst. The new perspective on this research is that the photocatalyst will drive the reaction rapidly by accepting a photon from the blue L.E.D.'s and will be oxidized by oxygen resulting in the clean and efficient synthesis of the product (2-phenylbenzothiazole) and water. In summary, deriving a greener way to prepare a visible light induced oxidation reaction through use of blue L.E.D.'s is important to help the environment and reduce human exposure to unnecessary chemicals.

Amy Kloosterboer, "Synthesis and Characterization of Cobalt(III) Compounds for Inorganic Chemistry Laboratory Manual"

We have recently developed an Inorganic Chemistry Laboratory Manual at Florida Atlantic University to provide undergraduate chemistry students the opportunity to learn in a "hands-on" environment key concepts in coordination chemistry. This experiment will incorporate different synthetic and analytical techniques with a discovery-based focus on the study of coordination compounds, crystal field theory, the spectrochemical series, and the counter ion effect. The students will synthesize three related cobalt compounds and their respective geometrical or optical isomers. They will use these compounds to perform two different microscalecation exchange column chromatography experiments involving separation and purification based on charge and polarity. The last section of the experimental procedure will be devoted to the characterization of all compounds using IR, UV-Vis, and for the first time in the Inorganic Chemistry curriculum, Raman Spectroscopy.

Lauren Dunnder, "Role of Second-Order Facial Cues in Perceptual Narrowing in Infancy"

From a young age, infants are able to discriminate between individual faces. Previous studies have demonstrated that 4-month old infants are able to discriminate between faces of same and other race-faces but that 10-month olds can only discriminate same-race faces. To date, no studies have investigated which parts of the face infants use to discriminate between same- and other-races faces. Using an eye-tracker, we investigated which parts of same-race and other-race faces infants fixate on and whether discriminations might be based more on fixations to the eye region, nose region, or mouth region. Preliminary data will show which face region infants fixate upon, how the infants' patterns of attention may change across different ages, and how attention to specific face regions may alter their ability to distinguish between same and other-race faces.

Randy Ellis, "The Influence of Social Context on Frequency Coordination in Virtual Partner Interaction (VPI)"

This study investigates how humans coordinate frequency of movement in different social contexts. The Haken-Kelso-Bunz (HKB) model shows that basic rhythmic coordination behaviors can be modeled with nonlinearly coupled oscillators. Here, single subjects were engaged in a Virtual Partner Interaction (VPI) with an artificial agent embodying HKB dynamics. This virtual agent allows full reciprocity at the behavioral level while relinquishing control over cooperative/competitive behavior at the social level. Cooperative and competitive behaviors differently affect position coordination but it has remained unclear if these different behaviors influence frequency coordination. While motor behavior has been thus far approached from a single entity perspective, namely human or machine, the current study pursues a more holistic stance towards the study of motor coordination. This new VPI methodology yields further understanding of the relation of frequency and position to the multiple temporal scales at play in coordination dynamics.

25. William Kissner, "Halosulfites as Leaving Groups in Organic Synthesis"

My research entails developing new leaving groups for the synthesis of organic compounds. The goal of this research is to design leaving groups that can be replaced by weak nucleophiles, for this to happen a good leaving group is necessary. Alkyl chlorosulfinites in my experiments have been shown to perform as good leaving groups for producing the corresponding halide of the halogen salt used, with notable success when using ZnCl2 (which has ~90 yield of the chloride containing compound). I have also researched alkyl bromosulfinites and alkyl florosulfinites with limited success for producing the corresponding halide of the halogen salt used with alkyl bromosulfinites (~60% yield) and no success in producing the corresponding halide of the halogen salt used with alkyl florosulfinites.

26. Patrick Kobler, "Identification of C. elegans Ortholog of Spinster"

Autophagy, an evolutionarily conserved lysosomal degradation pathway, is critical for cell survival under starvation. Spinster is a putative lysosomal efflux permease that has been linked to autophagy function in mammalian cells but not in a multicellular organism. Both autophagy and Spinster are involved in the pathogenesis of lysosomal storage diseases. There are four predicted Spinster orthologs in C. elegans. Our goal is to identify the truly functional C. elegans Spinster and use C. elegans spinster mutants as a genetic model to understand the function of spinster and its role in autophagy in humans. By performing a starvation assay and examination of autophagy activity in candidate spinster mutants, we found all candidate spinsters are required for survival of C. elegans during starvation and three of them examined influence autophagy activities, suggesting these four candidate spinsters may function redundantly.

23. Autumn Jordan, "Molecular Modeling and Dynamics of Sphingomyelin phosphodiesterase D LlSicTox-alphaIII1i "

Molecular modeling is a part of the growing fields of both computational chemistry and drug design. Trading flasks and beakers for computers, molecular modeling programs have gained increasing popularity as computer technology continues to progress. The beauty of molecular modeling systems is that it integrates the visualization of compounds at the atomic level and the computation of various molecular properties based on established theoretical and computational methods to give valuable insight into the chemical nature of complex molecular systems. Here we have used the molecular modeling programs HyperChem Release 7 and GausView 5.0 to examine the hydrolase Spinomyelinase D, the principal toxin found in the venom of spiders belonging to the genus Loxosceles (Stock et al., 2012), and the chemical properties of its ligand chemical component 4-(2-hydroxyethyl)-1-piperazine ethanesulfonic acid. In this manner, molecular modeling is being applied to help illustrate the catalytic machinery of Spinomyelinase D.

24. Joseph Karram, "Crystallographic Studies of Lanthanide Coordination Polymers Based on 3,4-Furandicarboxylate"

Coordination Polymers are materials comprised of metal centers linked repeatedly by an organic molecule into a 1-, 2-, or 3-dimensional material. They have a variety of possible applications including gas storage and separation, catalysis, and sensing. Herein report the reaction of lanthanide ions with 3,4-furandicarboxlate to form five new compounds. These compounds were synthesized under hydrothermal conditions and structurally characterized via single-crystal X-ray diffraction. In some compounds, oxalate and/or formate formed in-situ to assist in compound formation. In another instance, Pr3+ was potentially reduced to Pr2+ to form the first known Pr2+ material of this kind. The syntheses and structures of these five coordination polymers will be presented.

Eugene Vadine, "Misfit Layer Compound (GeSe)(MoSe2)"

Misfit layer compounds (MLC) take advantage of the difference in lattice parameters to create a variety of physical properties that otherwise would be uncharacteristic of the rock salt or dichalcogenide layer alone. Physical properties such as superconductivity at a low Tc have been observed, and some may be highly anisotropic. The method by which these compounds are formed allows kinetic trapping of the metastable product desired, thereby giving the power to adjust the physical and chemical properties of this compound. The synthesis and calibration of (GeSe)m (MoSe2)n , one of several MLCs, has provided information about the mechanism by which these MLC are formed and a better understanding of the boundaries of formation of MLCs. The steps by which synthesis and calibration are achieved for the (GeSe)m (MoSe2)n thin film is analyzed in great detail to elude to the electrical properties this compound may have.

Pavilion B
11:00 - 12:00

Alex Bruno, "Mandela, Marley, Garvey and King: Four Different Voices, One Main Cause. African Philosophy: Philosophical Concepts of Equal Rights Which Transcends All Boarders"

The will of a people is determined by the might of its leaders, but when that might is compromised a special brand of leadership arises to fill the void and make amends for such deviation. Nelson Rolihlahla Mandela, Marcus Mosiah Garvey (1887 – 1940), Robert Nesta 'Bob' Marley (1945 – 1981) and Dr. Martin Luther King Jr. (1929 – 1968) represent that special cadre of activists who sprung into action to steer a world in moral turmoil; a world threatened by a rapidly eroding mountain of racial inequality. This was the state of affairs during the turn of the 20th century, an era that ushered in untold ills, mainly meted out against Africans and descendants of Africans, and affected the world. This moral and racial decadence warranted the kind of attention that those leaders, (Mandela, Marley, Garvey and King) gave and their actions, though guided by different philosophical reasoning, resulted in a unanimous crescendo of public awakening.

Edward Mercer, "Malcolm X: A Question Of Black Nationalism"

"What is African philosophy?" is a question that must be asked in our diverse philosophical world. My research is filling this abstract question with a focus on an individual philosopher in order to bring light to pan-African thought. This philosopher is Malcolm X, and the thought is his philosophical conception of Black Nationalism. I analyzed the question "What is Black Nationalism?" by looking at the public speeches of Malcolm X after his exodus from the Nation of Islam, in which he conceived an Economic, Social, and Political Philosophy, and I found that Malcolm X completely synthesized a complete ontological system. I believe this is essential to progressing Pan-African philosophy into a more powerful and cohesive whole and I believe this plays an integral part to formulating a normative universal philosophy as well.

Andrew Pierce, "Gender Equality as a Regulative Notion"

Feminism is chic, yet there is little agreement on its central tenets. This paper will outline varying views from the field to provide clarity and will situate feminism, however construed, as being part of a larger movement towards social justice. This framework will then be used to justify gender egalitarianism as a regulative notion.

21. Rowan Hughes, "Scientific Data Visualization Interface"

Southeast National Marine Renewable Energy (SNMREC) center is focused on working to help accelerate the implementation of marine renewables for a more sustainable energy future. Over the past several years, they have been working on compiling
offshore data to help the advancement this emerging alternative energy. With sample data of ocean temperatures and currents already complied, there needs to be a way to visualize and present this data in a human-readable format to decimate the scientific data and to guide the program to success full outcome. Successful
implantation of a data visualization interface via the web helps provide tangle deliverables and to share this data among peers for scientists, engineers, prospective scientists in grade school and members of the community. These deliverables will help present the efforts made by SNMREC, guide future research projections, as well as a viable tool for the aid of research facilities who are also working on a similar goal.

22. Ted Hutton, "Identifying Populations at High Risk for Diabetes in Palm Beach County"

Diabetes is on the rise, and currently 10.4 percent of Floridians have been diagnosed with the disease. Like heart disease, diabetes is a silent killer, but it is preventable through early detection. While there has been much research into diabetes, few studies go beyond the state level. The objective of this project is to explore the relationship between zip codes and social factors (poverty level, access to health care, race and ethnicity) and
diabetes risk among adults living in Palm Beach County by gathering county date and comparing findings to data collected by the Palm Beach County Diabetes Coalition. Preliminary findings indicate that zip codes at highest risk for diabetes correlate to areas with greater poverty levels, low education levels, situated in food deserts and lacking access to health care. This research will help identify high risk areas to target with interventions to slow the spread of diabetes.

19. Wiliam Hill, "Nutritonal Enhancement of Tomato Plants"

Lysine is one of the 9 essential amino acids for human life that cannot be synthesized natively and must be acquired from diet. Attempts to produce transgenic tomato plants over-expressing the KED gene that encodes a lysine rich protein were carried out utilizing Agrobacterium-mediated transformation of the nuclear genome. The KED gene was incorporated into the plasmid pBI121 of Agrobacterium tumefaciens and engineered to be driven separately by two promoters, CaMV 35S and fruit-specific E8 in addition to the NPTII gene for kanamycin resistance selection and NOS terminator. Kanamycin resistant tissues were selected and currently are growing into mature plants, where DNA will be isolated to test for the presence of KED gene using PCR and Southern blot hybridization, as well as testing for RNA-KED transcription by RT-PCR and KED protein and overall lysine content by western blot analysis.

20. Danielle Howard, "Effects of Anoxia on Methionine Sulfoxide Reductase (Msr) Deficient Drosophila"

Reintroduction of oxygen following a period of oxygen deprivation (anoxia) leads to a rapid production of reactive oxygen species (ROS), which cause damage by oxidizing key cell constituents. The oxidation of methionine is particularly damaging due to its importance in protein function. This oxidation is reversible by the genes methionine sulfoxide reductase (Msr) A and B, which reduce the S and R enantiomers of methionine sulfoxide, respectively, to methionine. In this study, flies lacking any known Msr activity were exposed to one hour of anoxic stress, and then their recovery times were recorded with the Drosophila Activity Monitoring (DAM) system. Our preliminary studies showed that Msr deficient flies have significant increase in recovery time when compared to wildtype flies. Understanding the role Msr plays in anoxia could lead to further work on the stroke model in humans.

Roger Rosena, "The Civil Rights Movement: A Philosophical Perspective"

Ever since the 1960s, there has been many different ways of looking at the American Civil Rights movement. Many academic disciplines have weighted in and gave analyses of the situation. This has resulted in various interdisciplinary interpretations of the causes and effects of the civil rights movement. With the exception of the work of African American philosophers, Philosophy, ironically, remains silent in this regards. This development is surprising because the civil rights movement contains some of the major questions of philosophy: what is justice? What is good? And what kind of rights do we have, if any at all? In this paper I will present a philosophical analysis of the civil rights movement as a reaction to the notion of personhood set by 17th and 18th century metaphysics. By doing this I will show that the American Civil Rights Movement philosophically changed the relationship between the state and citizens and between other people as well.

Austin Parris, "Calculating a Fair and Equitable Back Tax Payment Penalty For Undocumented Immigrants Seeking to Qualify for a Pathway to Citizenship"

This is from the summary of the proposal. I was asked by Florida Voices for Immigration Reform to compile research in the form of a proposal to be presented to Senator Rubio for discussion on the issue of comprehensive immigration reform. Tax and immigration policy are complex. This proposal attempts to come up with a simple method for both calculation and implementation. Simplicity allows for easier control, easier monitoring, and more efficient application, as well as for smoother integration into current policy. Calculating basic tax liability and then applying service hours or monetary payment in the method prescribed above is the simplest approach and the easiest to implement.

CONCURRENT ORAL PANEL PAPERS:

Approaches to Peace from the Middle Ages to the Age of the Internet

Majestic Palm Room

17. Georgianne Hallam, "Denial is Not Just a River: Relationships Between Experiential Avoidance, Personality, and Relevant Outcomes in Hospice Workers"

Is there a relationship between Experiential Avoidance and Five Factor Model personality traits? One hundred and one South Florida VITAS Hospice workers completed a survey packet measuring personality, experiential avoidance, burnout, interpersonal problems, religious preference, and death attitudes to test this hypothesis. A secondary goal consisted of constructing a model of experiential avoidance from the study variables. The data did not support a relationship between personality factors and experiential avoidance. However, relationships between EA and other relevant factors were supported. Significant correlations between EA and burnout, EA and interpersonal problems, EA and neutral acceptance of death and EA and years in position were found. Using multiple regression, Years in position and Emotional Exhaustion best predicted experiential avoidance.

18. Priscilla Hernandez, "Investigating Anoxia Tolerance Limitations in Adult Drosophila"

Human brain cells are highly sensitive to anoxic environments and exposure can lead to death and possible neurological damage. The fruit fly (Drosophila melanogaster), however, is anoxia tolerant and can reveal novel therapeutic targets for pathologies such as stroke. In this study we induced an "anoxic coma" while varying age (young 1-9 days and old 35-39 days), temperature (cold 3°C and room temperature 23°C) and differing durations of anoxia. We then measured recovery time and survival 24 hours after re-oxygenation. As expected, we found that older flies are less protected from the anoxic stress. Interestingly, lowering temperature showed increased neural protection at all ages. We also found that cold temperatures extended the duration of anoxia tolerance for both recovery and survival. From our studies we now have a foundation to screen for candidate genes capable of preserving neural function and survival under anoxic stress to discover novel targets for neuroprotection.

15. Aurora Gnad, "Kangaroo Care effects Brain Maturation and Levels of Oxytocin"

Kangaroo care (KC) leads to a release of oxytocin and the infants are at a more mature neurodevelopment level when they experience skin to skin contact during the newborn period (referred to as Kangaroo Care). KC has previously shown to increase the rate of autonomic processing and cognitive growth (Feldman, Eidelman, 2003). Oxytocin is released during KC precipitating a bond to form bewteen mother and her infant (Feldman, 2012). In this study, urinary oxytocin was collected from 15 women prenatally (GA =30- 38 weeks) and 5 newborns (age range= 1-2 weeks). Prenatal oxytocin collection showed a positive relationship between and fetal attachment in the KC group, r=.93. The relationship between KC, oxytocin and brain maturation too will also be presented.

16. Victoria Goordeen, "Atom Distance and the Interaction between DNA and Acetylated Histone Tails"

Transcription is the process in which a RNA polymerase enzyme copies DNA as RNA to eventually make new proteins. In order for transcription to start, DNA must be displaced from its nucleosome; this can happen via covalent modification of histone tails. N-acetylation decreases the electrostatic interaction between the DNA strand and basic histone tails so other protein machinery can enable transcription. Hyperchem is a molecular modeling program. Hyperchem can be used for theoretical calculations, visualization, and measurements, such as finding distance between atoms. The objective of this inquiry is to show that Hyperchem can be used to simulate the effects of n-acetylation to histone tales in a nucleosome by acetylating a basic amino acid chain that holds quantifiable electrostatic interactions with a DNA sequence. This effect will be investigated by measuring the distance between
atoms on the DNA and those on the amino acid sequence before and after acetylation.

Leslie Williams, "Where's the Protest? Cloud-Based Activism as Non-Violent Resistance "

Older people have called our generation apathetic. In reality, we just have different means and methods of resisting and protesting in the digital age. To express our beliefs collectively and as individuals, we gather in the 'cloud' of the Internet, an international and accessible egalitarian forum. Good ideas can be backed financially on Kickstarter. Petitions for social change are virtually generated and 'signed' on Change.org, and hacktivists like the online group Anonymous sometimes orchestrate or organize the virtual version of ' sit-ins'. From doxing (disclosing personal information) via Twitter to formally petitioning on an open forum for local and global issues, the Internet is a highly democratic and useful tool when it comes to making a stand and finding others who will do the same – regardless of location or other barriers. Peacemaking becomes more accessible to the masses when we consider cloud-based activism a form of non-violent confrontation and recognize the power of decentralized collective effort on the World Wide Web.

Through looking at both ends of the peacemaking spectrum, positive peace and negative peace, and aligning them with matching online tools, groups, and collective actions, we can see that protesting on the Internet instead of on the streets is not apathy or 'slacktivism,' but the effective use of a platform that is emerging as hugely influential, people-powered, and gets results without the threat or demand of physical confrontation or violence.

Peter A. Bui, "What Truly is Peace? A Study of Bushido Versus Chivalry, Types of Violence, and the Theory of Anthropodicy"

Cultural relativism is not a plausible means to describe the way all humans behave. This paper will showcase a comparison of several topics to answer the question, "What truly is 'Peace?" First is a comparison between two moral codes of the past that are known widely today, but only superficially. Both codes were taught and practiced by people whose center focus was war: from the East, the Bushido honor code of Japanese samurai, and from the West, the Medieval Knights' code of Chivalry. Both had guidelines for conduct in war, but they also provided rules for conduct in civil affairs. Overall the purpose behind these guidelines was to preserve their own form of peace. A related issue is a comparison between physical and mental violence. The former is quite obvious, harming another sentient being for a senseless reason. The latter is of higher interest. It is true that there exists times of 'peace' in history; that is, times of no war, but a lack of war is not the only signal for peaceful times. Factors such as paranoia, bigotry, and even provoked anger will be compared to warring times to decide which of the two is worthy of being considered 'peaceful,' if any. Finally, the paper will compare arguments from an old debate, to decide whether humans are intrinsically inclined to benevolence or maleficence, and if the latter, must be taught otherwise. It will draw from the initial topic about how the Medieval Knights and Samurai were raised in a culture to learn their respective codes of conduct, and yet will raise the question as to how two societies with hardly any contact with one another could have developed such similar codes.

13. Aya Gare, "Reduction of Urinary Tract Infections Caused By Urethral Catheter Through the Implementation of Hydrophobic Textile Coating"

Intermittent catheterization has been in use as a medical device to drain the bladder by the insertion of a catheter tube through the urethra. The purpose of the urethra-catheter is primarily to reduce infections for hospitalized patients and during post-operative care. This research focuses on improving the liquid flow to prevent reflux of bacteria-ridden urine into the body. The obstruction of urine caused by confined air bubbles result in the development of bacterial growth released during urination. Due to negative pressure, stagnant bacteria-ridden urine reverts backward through the tube, releasing the urine into the urinary tract and causes a UTI. Use of a hydrophobic textile coating has shown to improve the liquid flow in a closed-system tube so that it ceases to adhere to the inner surface. A parametric study is performed to develop a model between the backflow of urine and its associated bacterial growth within the intermittent catheter.

14. Julian Garzon, "Bernoulli Equation Experimentation"

I will conduct an experiment based on the Bernoulli Equation and well as the conservation of mass. Such experiment will show the existence of stream lines as they are flow through an object. The procedure will include but is not limited to a series of ping-pones being pushed to a point where they are levitating vertically and diagonally by an air pump. The air pump will be tested with several hoses all with different diameter ends in order to experiment with the conservation of mass. A fog machine will provide a visual representation of the stream lines as they flow through the air showing the work done by the pump and the conservation on mass. At the end of this experiment we will be able to determine the different velocities the pump can provide with different hoses, the force and work done by the pump on the subject and the maximum degree when the Ping-Pong is levitated diagonal with respect to the vertical axis.

11. Thomas Dombrowski, "Investigation of Diels-Alder Reactions in Fluorous Solvents"

Investigation of Diels-Alder reactions in fluorous solvents The purpose of this experiment is to develop a procedure for the isolation of either the exo or endo adduct produced in the Diels-Alder reaction between cyclopentadiene and maleic anhydride. Different hydrocarbon and fluorous solvents will be used in order to perform the reaction for stereoselectivity. FC-70 and mesitylene are examined extensively in order to illustrate the effects a fluorous solvent has on a Diels-Alder reaction. Either the thermodynamically favored adduct, endo, or the kinetically favored adduct, exo, is the desired product but not a racemization of the two. Isolation of either the exo or endo adduct is optimized by determining the preferred combination of temperature and amount of solvent used for the reaction.

12. Ryan Ebanks, "A Forensic Entomological and Anthropological Investigation into the Decomposition Rates: The Insecta that Colonize Sus scrofa"

Decomposition rates of human cadavers and carrions vary greatly with environmental factors. It is believed to increase in subtropical and tropical areas, such as South Florida. Decomposition rates in South Florida are expedited because of specific factors: including ambient temperature, precipitation/ humidity and colonization by insects and arthropods. Decomposition accelerates proportionally when there is an increase in these factors. Since the use of human cadavers is illegal in Florida; we will use wild boar carrions (Sus scrofa L.). They decompose at a similar rate to human cadavers. At the purposed site, Jonathan Dickinson State Park, a feral boar was euthanized by park rangers and placed in a cage for two weeks. Preliminary
results indicate decomposition was torpid (more than the expected two weeks), due to alkalized soil. This suggests that soil composition (i.e., the presence of microbial and protozoan habitation) is particularly important and affects the rate of decomposition.

Robert Rusch, "The Not So Noble Nobel Peace Prize: The Hypocrisy of Alfred Nobel and His Award "

Since 1901, five years after the death of Alfred Nobel, his Prize and its awarding commission has seen both praise and revulsion. The man who invented dynamite and patented many other uses for explosives was so concerned over his legacy that he had set aside his considerable fortune to be awarded for peace. This "peace prize" was almost immediately met with disdain; many people questioned how the "merchant of death" could accomplish anything but creating more means of destruction. Nobel rewrote his will several times, finally stating that the Prize should go to "the person who shall have done the most or best work for fraternity among nations, for the abolition or reduction of standing armies and for the holding and promotion of peace congresses" (Feldman 2000, 290). Few laureates of the Nobel Peace Prize, however, have been full pacifists; most have been more political activist than pacifist. Indeed, some believe it to be an activist award rather than a peace prize. Especially controversial awardees were the dual awards given to Henry Kissinger, United States Secretary of State, and Le Duc Tho, Foreign Minister of North Vietnam, in 1973 for arranging a ceasefire in Vietnam. Many do not believe the award should have been given to either recipient, due primarily to the fact that the ceasefire did not occur until 1976, three years later. Controversy also originated among the Nobel Peace Committee members themselves. Indeed, critics rightly accuse the Nobel Peace Prize of being an activist award when the committee strays from the original guidelines for the prize. Controversies about the founder, the prize committee, and its choice of recipients have tarnished the reputation of the Nobel Peace prize, ultimately hindering its goal of promoting peace.

Nina Halty, "'The Only Christian Left': Eugene Debs as Political and Religious Martyr "

In 1920, Eugene V. Debs ran for president under the Socialist Party and managed to receive 919,801 votes, roughly 3.5 percent of the popular vote. This result is notable for the fact that it represents the highest percentage of votes a socialist nominee has ever received, and because Debs ran the entire campaign while serving a ten year sentence in an Atlanta penitentiary. How was Debs able to garner such a substantive portion of the popular vote as a socialist nominee? What accounted for his ability to reach such a broad constituency despite his revolutionary beliefs and unconventional campaign? Some scholars have argued that an influx of new voters in the form of immigrants and women who were sympathetic to Debs' socioeconomic policies could account for his substantial showing in the 1920 election, yet these arguments fail to address the effect of Debs' opposition to the First World War and his new status as a political prisoner. Debs' humanitarian ideals and outright defiance of the 1917 Sedition Act frequently cast him as a martyr. In his essay on Debs' political rhetoric, Jacob H. Dorn examines Debs' frequent use of Christian symbolism and Christ-like portrayal, noting the similarities between Debs' socialism and Christian doctrine. Dorn's account, however, fails to connect this imagery to the 1920 election in any substantial way. Arguably, Debs' staunch opposition to World War I and his symbolic imprisonment were key factors in the 1920 presidential election and led to his greatest political showing in decades.

9. Hedson Desir, "In Search of Environmental Antibiotic Resistant Hotspots"

Purpose: Little is known about the natural resistome and their role in the emergence of drug resistance genes which eventually flow into the clinical circle. This study employs a metagenomic approach to determining environmental hot spots for drug resistance. Methods: Environmental samples were collected from contrasting environmental locations to scan for genes used in resisting antibiotics. Concurrent antibiotic susceptibility plating tests are used for further analysis/ verification. Results: Beach sand samples showed Nucleic Acid concentrations that ranged from 5.9-9.5 ug per ml. Garden and agricultural soils had concentrations from 22.4-184.3. Gel electrophoresis showed metagenomic DNA samples of high quality. Details of the results will be presented on the poster. Conclusions: Nanodrop and gel electrophoresis shows the strong presence of microbial genomes. Beach samples showed less microbial DNA concentrations than agricultural sites because of contrasting environments. It remains to be seen if the antibiotic resistance profiles will follow the same pattern.

10. Volen Dimitrov, "Cloud-Assisted Cross-Platform Reliable User Datagram Protocol"

The research project focuses on the ability of a reliable communication protocol built on top of UDP to achieve greater data transfer speeds than achievable with Transmission Control protocol (TCP). In addition the ability of existing highly available cloud infrastructure to establish a direct communication channel between connected devices (Desktop Computers, Laptops, smartphones, etc.) that are part of different networks. The reason for doing this is to avoid communication bottlenecks caused by Virtual Private Networks (VPN). The UDP is the protocol of choice due to its numerous advantages over TCP. Some of those advantages include less overhead and lower latency. The proposed solution includes an algorithm for ensuring reliability and adaptive packet transmission rate to achieve minimal packet loss and higher speed of data transfer by avoiding channel congestion.

7. Andrea Bonorandi, "Voices of Couples Affected by Alzheimer's Disease"

The purpose of this phenomenological qualitative research study was to analyze communication between patients with dementia and their spouses (who are also their caregivers) so that common verbal and nonverbal themes can be identified. Common theme identification provides insight so that interventions can be implemented and relationships can be improved through therapeutic communication and skills education. The primary goal is to improve the quality of life for couples experiencing dementia and increase their satisfaction in a healthy relationship with each other. Thirty transcribed videotaped ten-minute interviews between fifteen couples who consented to participate in a previous study (Principal Investigator: Williams) were analyzed to identify common themes. The analysis was conducted using qualitative research software to categorize communication topics and styles. Some of the most common themes identified were caregivers orienting spouses to their current situation, giving assurance, and bringing up the past. The results provide greater understanding of these relationships.

8. Silvia Calderon, "Sharing the Same Demons: The Venezuelan and Iranian Relationship"

The Venezuela—Iran duo has the power to stir up controversy and generate worrisome among the world. How can we account for the formation of this union that provokes adoration and revulsion in equal measure? In addressing this question, my research examines the ideological and the economic factors that bring both countries together. It poses that the relationship between Venezuela and Iran is the manifestation of the joint efforts toward a common enemy, the American empire. My research focuses on the economic leaderships and political discourses as sources to promote their anti-U.S. sentiment, sustain their popularity, and prevail in power. Venezuela and Iran are self-confessed enemies of the United States. As such, it is critical to gain insight on their current activities and to understand their anti-U.S. policies. By analyzing their opaque maneuvers and efforts to spread their ideology, it is possible to predict future actions and prevent potential threats.

Jenny Rebecca Martin, "The *Swadeshi* Movement as the Seminal Event for Indian Independence"

The *Swadeshi* movement had an important influence on subsequent nonviolent campaigns agitating against British rule and ultimately led to the independence of India in 1947. The *Swadeshi*, or "of one's own land," movement began in 1903 after the Indian public learned of a proposal by Viceroy Lord Curzon to partition the city of Bengal in order to stifle nationalist sentiment for which the city had become a hotbed. Indians immediately responded with spontaneous protests in the city and activism against the proposed partition which included the circulation of anti-partition pamphlets and petitions. Despite objections, Lord Curzon approved the partition of Bengal in 1905. The movement officially continued until 1908, organizing the economic boycott of British goods and encouraging the consumption of goods "of one's own land" in order to strengthen Indian nationalism. To what degree did the *Swadeshi* Movement inspire Indian independence? The *Swadeshi* movement itself may not have led to immediate independence for India, but it did re-ignite passions for home rule in the country and became a popularly supported movement, as well as laid a foundation for effective civil disobedience techniques that eventually brought independence.

Dyana Hagen, "Slavery has a New Brand: Gender Oppression in the Information Age"

Men and women leaders of the world are coming together with initiatives in the United Nations to aid in the fight against violence on women. Here in the 21st century, violence, rape, dowry murder, female genital mutilation, and human trafficking are issues that undermine basic human rights as slavery once did in the 19th century. Poverty, lack of education, and absence of economic opportunities all play a role in women's oppression. Over centuries of abuse, cultures have emerged that not just tolerate but indoctrinate young men and boys to be violent towards women. In communities across the globe, these behaviors have aggressively suppressed the voices and resources of women, hindered their healthy development, and forced them to live without sufficient education, nutrition, or health care, all whilst struggling to survive violence and war. Violations of the basic human rights of women have a direct effect on the stability and economic success of any country.

With the effects of the information age, all countries are becoming interdependent on each other's resources now. We also can see what is happening to each other across the globe. While many countries are benefiting and are becoming unified as a result of the technological revolution, patriarchal subjugation continues its inhumane practices. If economically advantaged countries demonstrate the advantages to an economy against gender oppression while setting the precedence of egalitarianism across genders, then gender oppression and inhumane cruelty will be moribund. Cohesive measures can eradicate the oppression of women bringing balance back to the world. Feminist activists argue that the time has come for the entire globe to adopt foreign policies together to promote the awareness and protection of human rights for women.

5. Arely Baugh & Michelle Strasberg, "Age-Related Differences in Unconscious Plagiarism"

Rates of unconscious plagiarism (UP) differ with age. McCabe, Smith, and Parks (2007) demonstrated that older adults were more likely than younger adults to provide [new]examplars that had already been presented to them. Kersten and Earles (2010) showed that a similar process results from binding errors in memory. We propose that age-related increases in UP are due to age-related decreases in ability to bind together event-features. In the first session, 32 young adults and 30 old adults saw 64 objects. For half the objects participants watched someone else perform actions with them. The other half and their actions were presented as sentences. A week later, participants were presented with the same 64 objects and asked to generate new actions (different than the first session). We expect that older adults will exhibit more UP than young adults and that this rate will relate to working memory and source monitoring errors.

6. Kristi Beroldi, "The elephant in the room: Why is it difficult for hospice workers to discuss death with their terminally ill patients? The effects of death anxiety, avoidance, and interpersonal issues."

Death is a large aspect of hospice workers' lives. They encounter it daily, and one would assume that they are comfortable with the topic given their chosen career. It is intriguing that some find it exceedingly difficult to discuss death with patients and their families. I was interested in seeing if this was due to workers' own death anxiety. I examined whether or not there are significant differences between hospice workers and their level of death anxiety based on occupation (chaplain, registered nurse, etc.). I hypothesized that hospice workers that have more direct contact with patients (i.e., those that provide patient care) would indicate a higher level of death anxiety than those who have less contact. I found statistically significant correlations between job type and death avoidance, as well as fear of death, and neutral acceptance of death. Fear of death and death avoidance were also highly correlated.

3. Wendy Arias, "Bulk Diffusion of Mature High Performance Concrete"

High performance concrete mixes were tested through bulk diffusion tests. The water to cement ratios were 0.35, 0.41, and 0.47, while the compositions consisted of Portland cement type II and admixtures as cement replacement by mass of 20% fly ash, 20% fly ash + 8% silica fume, and 50% slag. The tests utilized 180 day old cylinders of concrete with a diameter of 10cm and a length of 20cm. These cylinders were cured through various methods. The cylinders were then cut in half, coated, and exposed to the sodium chloride solution. The cylinders were exposed in this solution for 220 days then removed. Seven layers were marked (2-3 mm depth) on each cylinder and concrete powder was collected by milling. To obtain chloride concentrations, chloride titrations were performed to each layer. From these concentrations; chloride profiles were obtained and used to calculate the chloride diffusion coefficient through Fick's Second Law.

4. Arafat Bari, "Analysis of the Gopher Tortoise Tick (Amblyomma tuberculatum) and its Distribution in Southeastern Florida"

Gopher tortoise habitat quality has been declining due to intense development in South Florida. As a result, it is possible that tortoises are now more susceptible to disease and parasites such as the gopher tortoise tick, Amblyomma tuberculatum. To expand our limited knowledge, on the gopher tortoise tick, we conducted transect surveys and employed point capture techniques at the Conservation Area at Florida Atlantic University. To date, more than 80% of captured ticks were extracted from tortoises inhabiting areas with shrub cover and very few ticks were extracted from tortoises in grasslands and none in oak canopy. Additionally, we have found that all three stages of A. tuberculatum feed on the reptile and found larvae questing around shrub and grassland areas. In the future, we plan to screen the ticks for specific pathogens such as Rickettsia and assess the implications of A. tuberculatum.

Poster Presentations

Grand Palm Room

1:00 - 3:00

Poster No.	Student	Topic	Supervising Faculty
1	Samantha Amat	Exploring the Role of Semaphorin 7A in Monocyte Chemoattraction in a Breast Cancer Model	Professor Vijaya Iragavarapu
2	Harrison Ansley	Anhydrous Ruthenium Tetroxide Reactions	Professor Veljko Dragojlovic
3	Wendy Arias	Bulk Diffusion of Mature High Performance Concrete	Professor Francisco Presuel Moreno
4	Arafat Bari	Analysis of the Gopher Tortoise Tick (Amblyomma tuberculatum) and its Distribution in Southeastern Florida	Professor Evelyn Frazier
5	Arely Baugh & Michelle Strasberg	Age-Related Differences in Unconscious Plagiarism	Professor Julie Earles
6	Kristi Beroldi	The Elephant in the Room: Why is it Difficult for Hospice Workers to Discuss Death with Their Terminally Ill Patients? The Effects of Death Anxiety, Avoidance, and Interpersonal Issues.	Professor Julie Earles
7	Andrea Bonorandi	Voices of Couples Affected by Alzheimer's Disease	Professor Christine Williams
8	Silvia Calderon	Sharing the Same Demons: The Venezuelan and Iranian Relationship	Professor Robert Rabil
9	Hedson Desir	In Search of Environmental Antibiotic Resistant Hotspots	Professor Nwaduito Esiobu

1. Samantha Amat, "Exploring the Role of Semaphorin 7A in Monocyte Chemoattraction in a Breast Cancer Model"

Breast cancer is the most common diagnosed cancer among females. Increased inflammatory mediators have been correlated with a poor clinical outcome in breast cancer patients via enhanced tumor growth and increased metastasis. Monocytes, attracted to the tumor microenvironment in response to inflammatory mediators, differentiate into tumor-associated macrophages (TAMs). Since TAMs are the principal inflammatory cells that enhance tumor growth and metastasis, it is crucial to determine which tumor-derived mediators are playing a role in this process. Our laboratory has discovered that mammary tumor cells express high levels of the novel protein Semaphorin 7A, a monocyte chemoattractant. The role of Semaphorin in tumorigenesis is still largely unknown. We hypothesize that tumor-derived Semaphorin7A may play a role in attracting monocytes into the tumor and enhance tumor progression. The proposed studies may give insight into the role of Semaphorin 7A in breast cancer as a novel target for breast cancer therapy.

2. Harrison Ansley, "Anhydrous Ruthenium Tetroxide Reactions"

Catalytic ruthenium tetroxide oxidation of organic compounds is a common method for obtaining oxidized organic compounds quickly and in high yields.in aqueous solutions ruthenium tetroxide reactions typically cleave carbon-carbon double bonds leaving ketones or carboxylic acids. Ruthenium tetroxide has already been used as a reagent in oxidation reactions that yield aldehydes; in modest yields. In this project a method to perform the reaction under anhydrous conditions was developed. Under anhydrous conditions the oxidation is expected to yield aldehydes after the double bond has been cleaved. trials, providing evidence for the efficacy of the snak'n'trim for behavioral enrichment.

ABSTRACTS OF POSTER PRESENTATIONS

Poster No.	Student	Topic	Supervising Faculty
10	Volen Dimitrov	Cloud-Assisted Cross-Platform Reliable User Datagram Protocol	Professor Lofton Bullard
11	Thomas Dombrowski	Investigation of Diels-Alder Reactions in Fluorous Solvents	Professor Veljko Dragojlovic
12	Ryan Ebanks	A Forensic Entomological and Anthropological Investigation into the Decomposition Rates: The Insecta that Colonize Sus scrofa.	Professor Douglas Broadfield; Professor Evelyn Frazier
13	Aya Gare	Reduction of Urinary Tract Infections Caused By Urethral Catheter Through the Implementation of Hydrophobic Textile Coating	Professor Tsung-Chow Su
14	Julian Garzon	Bernoulli Equation Experimentation	Professor Oscar M. Curet
15	Aurora Gnad	Kangaroo Care Effects Brain Maturation and Levels of Oxytocin	Professor Nancy Jones
16	Victoria Goordeen	Atom Distance and the Interaction Between DNA and Acetylated Histone Tails	Professor Patricia Ann Snyder
17	Georgianne Hallam	Denial is Not Just a River: Relationships Between Experiential Avoidance, Personality, and Relevant Outcomes in Hospice Workers	Professor Julie Earls
18	Priscilla Hernandez	Investigating Anoxia Tolerance Limitations in Adult Drosophila	Professor Ken Dawson-Scully
19	William Hill	Nutritional Enhancement of Tomato Plants	Professor Xing-Hai Zhang
20	Danielle Howard	Effects of Anoxia on Methionine Sulfoxide Reductase (Msr) Deficient Drosophila	Professor David Binninger

Poster No.	Student	Topic	Supervising Faculty
21	Rowan Hughes	Scientific Data Visualization Interface	Professor Shihong Huang
22	Ted Hutton	Identifying Populations at High Risk for Diabetes in Palm Beach County	Professor Eugenia Millender
23	Autumn Jordan	Molecular Modeling and Dynamics of Sphingomyelin phosphodiesterase D LlSicTox-alphaIII1i	Professor Patricia Ann Snyder
24	Joseph Karram	Crystallographic Studies of Lanthanide Coordination Polymers Based on 3,4-Furandicarboxylate	Professor Daniel T. de Lill
25	William Kissner	Halosulfites as Leaving Groups in Organic Synthesis	Professor Veljko Dragojlovic
26	Patrick Kobler	Identification of C. elegans Ortholog of Spinster	Professor Kailiang Jia
27	Olga Kofman	Cognitive Differences Between Professional Musicians and Non-Musicians	Professor Monica Rosselli
28	Nikolle Lambrinos	The Regulation of Mitophagy in a Cellular Model of Huntington's Disease	Professor Jianning Wei
29	Nicole LaRosa	Presence of Antibiotic Resistance Genes in the Human Oral Microbiome	Professor Nwaduito Esiobu
30	Marina Lauck	Adapting the Pin-Intercept Method to Estimate Emergent Biomass in Sawgrass (Cladium jamaicense)-Dominated Regions of the Florida Everglades	Professor Brian Benscoter
31	Alberto Leal	Mexican Drug War Impact on U.S. Immigration Policy	Professor Anita Pritchard
32	Morgan Levy	Factors Affecting the Experience of Mindfulness During Meditation	Professor Lauren Vernon
33	Cynthia Maceda	Plugging the School-to-Prison Pipeline: The Impacts of Culturally Responsive Practices	Professor Traci P. Baxley
58	Leticia Vargas	Characterization of Lis-1 Loss of Function at the Neuromuscular Junction of Drosophila melanogaster Larvae	Professor Tanja Godenschwege
59	Elisa Velez	Hippocampal Involvement in Object Recognition Memory	Professor Robert Stackman
60	Raul Vidal	Variable Pitch Propeller Control System	Professor Edgar An
61	Gonzalo Vizcardo	A Regional Innovation System in the Swamp: The Case of the South Florida Life Sciences Industry Cluster	Professor Asli Ceylan Oner
62	John Wilkins	FAU Retention Rates	Professor Daniel G. Bauer
63	Alan Wilson	LPS-Activated Obese Human PBMCs Produce A BDNF and IL-6 Associative Response	Professor Chun-Jung Huang
64	Nestor Yeyati	Evaluating the Effectiveness of Seed Banks for the Recovery of Sawgrass in A.R.M Loxahatchee National Wildlife Refuge	Professor Brian Benscoter
65	Ariel Zeiger	Fecundity of the Gopher Tortoise (Gopherus polyphemus) in a Degraded and Fragmented Southeastern Florida Scrub Habitat	Professor Evelyn Frazier
66	Dan Zribi	The Construction of Metal-Organic Hybrid Materials Based on Benzophenone-4,4'-Dicarboxylic Acid	Professor Daniel de Lill

Poster No.	Student	Topic	Supervising Faculty
46	Anthony Planas	Analysis of Cuban Treefrog (Osteopilus septentrionalis) Predation on Native Florida Treefrog species	Professor Evelyn Frazier
47	Sabryn Raymond	Facilitating Civic Engagement: Nonprofits as the Voice of the Community	Professor Wendy Hinshaw
48	Stephanie Rosendorf	Motives Behind the Post-2008 State Voting Bills	Professor Dukhong Kim
49	Mary C. Rudacille	Attention Deficit Caused by MDMA ('Ecstasy')	Professor Rui Tao
50	Kyle Schau	Ejection of a Rear Facing, Golf Cart Passenger	Professor Oren Masory
51	Joshua Scholl	Can Allometric Growth by Juvenile Marine Turtles Thwart Gape-Limited Predators? (A Morphological Test of that Hypothesis)	Professor Michael Salmon
52	Melissa Stiksma	An Examination of Immediate Outcomes Following a Single-Session Mindfulness Meditation Training	Professor Laura Vernon
53	Jacqueline Strivelli	Small Molecule Regulators of DLK1-DIO3 Cluster miRNAs as Novel Cancer Therapeutics	Professor Donald Phinney
54	Margaret Stuart	Prey Selection of the Snowy Egret in Wetlands of Lake Okeechobee, a Heavily Managed Ecosystem	Professor Dale E. Gawlik
55	Cydney Tornopsky	Effects of Technology on Math Testing	Professor Julie Earles
56	Elizabeth Tranquil	A Model of Calcium Channel Opening in Response to Action Potential Widening	Professor Paul Kirchman
57	Christina Tsai	Visualization of Salt Fingers and Double Diffusive Convection	Professor Tsung-Chow Su

Poster No.	Student	Topic	Supervising Faculty
34	Sherlyne Magny	Investigation of Cell Stiffness and Cytoskeletal Remodeling in Response to Inflammatory Mediators Using Atomic Force Microscopy (AFM)	Professor Ewa P. Wojcikiewicz
35	Hashna Manoharan	Effects of PTEN Haploinsufficiency on ASD-relevant Behavioral Phenotypes	Professor Damon Page
36	Marvin Marcia	Comparing Comprehensive Plans	Professor Asli Ceylan Oner
37	James Martin	The Role of Methionine Sulfoxide Reductase in an Organism's Thermal Stress Response	Professor David Binninger
38	Rebecca Mello	Adult Olfactory Neuron Turnover and the Association Between Fractalkine and Microglia	Professor Kathleen Guthrie
39	Bianca Mesa	The Study of a Liquid Droplet Falling Through Two Immiscible Layers of Liquids	Professor Tsung-Chow Su
40	Michael Metzger	General Mental Ability Tests to Show NFL Quarterback Performance	Professor H. John Bernardin
41	Michael Neal	Electrical System in a Human Powered Submarine	Professor Edgar An
42	Hannah Norcini	Memory for Criminal Events	Professor Julie Earles
43	Erika Nourishirazi	The Impact of TLR Agonists on Nicotine Exposed Human Immune Cells	Professor Nouri-Shirazi
44	Christopher Nunes	Human Powered Propeller Testing	Professor Edgar An
45	Giselle Perez	Arithmetic and Language Proficiency in Bilinguals	Professor Monica Rosselli