



2015 Spring Fiat Lux

A showcase of Florida Southern College
student scholarship, creative works, and research.

Friday April 10, 2015

1:00 pm to 4:30 pm Christoverson Building

AGENDA

1:00pm – opening refreshments in lobby

1:30pm – sessions begin

3:00pm – mid-meeting refreshments in lobby

4:30pm – meeting concludes

Christoverson 206 – Oral Presentation Session 1

1:30	Renee	Houser	Phylogenetic Analysis of a Population of Gray-Throated <i>Anolis carolinensis</i> in Southwest Florida
1:45	Meghan	Cartafalsa	Oxidative Stress in HEK-293 cells
2:00	Jasmine	Childress	Reproductive plasticity in the nematode <i>Gyrinicola batrachiensis</i> : Is reproductive strategy dependent upon tadpole developmental time?
2:15	Rachel	Schomaker	The Impact of Waterfowl on Bacterial Water Quality of Lakes
Break			
2:45	Wei Pin	The	Methods towards the synthesis of Stachybotrin D
3:00	Kate	Stromberg	Multiple Linear Regression Predicting Methamphetamine Lab Prevalence
3:15	Grace	Beggs	Commonly ingested substances and disease pathways: Influence of high sugar concentrations, BPA, and phthalates on mitochondrial dysfunction and cell proliferation
3:30	Katherine	Brown	The Correlation Between Working Memory Capacity and Mental Rotation Ability
3:45	Steven	Spoto	Investigating the Underlying Genetics Behind Diterpene Production in the Genus <i>Salvia</i>
4:00	Melissa	Collier	A diet analysis of resident sharks in Tampa Bay using DNA barcoding for identification of prey

Christoverson 208 – Oral Presentation Session 2

1:30	Colton	Young	Quadcopter Flight Correction- Adjusting for Decreasing Battery
1:45	Kassandra	Galvez	How Do We Produce John Locke's Unbiased Adjudicator?
2:00	Taylor	Duwe	Do kids ever grow up? Or, do adults ever stop being kids?
2:15	Cassandra	Haynes	Your Brain on Graphic Novels....and What Your Body Says
Break			
2:45	Spencer	Brandon	Rubik's Cubes and Matrix Groups
3:00	Audrey	Waters	No Vacancy: The Untold Story Behind the Birth of Jesus
3:15	Brianna	Turbeville	Sex Trafficking in India: Diminishing a Reality of Horror
3:30	Carolyn	Mays	The College Admissions and Marriage Problem

Christoverson 209 – Oral Presentation Session 3

2:45	Steven	Bramley	Cooling Our Heels for the One Armed Bandit: Proposals for Alleviating the Wait to Vote
3:00	Jordan	Finney	Building a Multi-rotor
3:15	Richard	Chapman	Computer Vision for Drone Navigation
Break			
3:45	Wiresh	Punwasi	Strain and Our Youth: The Effect of Society's Goals and Stimuli on Our Children
4:00	Amy	Scroggin	Perceptions of Human Trafficking in the Media: A Qualitative Study
4:15	Zoe	Trout	Feeding Lakeland

Christoverson 210 – Oral Presentation Session 4

1:30	Ryan	Buckley	Sports media and its influence on public perception
1:45	Leah	Schwarting	Variations in Social Media Communications and Leadership in the FSC Communications Department
2:00	Cullen	O'Donnell	Status Frustration among College Students: The Effects of Socio-Economic Status
2:15	Allexis	Willcox	Luke 4 as the Programmatic Thesis for a Jubilee Mission in Luke's Gospel

Christoverson Lobby – Poster Sessions

1:30 to 2:30	Ellen	Cuppige	State Mood, Arousal, and Self-Esteem on Implicit Stereotyping of Women
1:30 to 2:30	Lauren	Dill	Aesthetic Preference, Attention, and Memory in Children with Dyslexia
1:30 to 2:30	Erica	Elkins	Can positive psychology exercises implemented as coursework make students happier?
1:30 to 2:30	Nicole	Maida	The gohasi Mobile Application
1:30 to 2:30	Erin	Phillips	Picture It: Artwork Likeability, Attention, and Recognition Accuracy in Children with Dyslexia
1:30 to 2:30	Sarah	Strauss	Integrate or segment? Perceptions of employee Family-Work Conflict
1:30 to 2:30	Kaitlyn	Willis	Impressions Regarding the Media
Break			
2:40 to 3:40	Kelsey	Bacharz	Missing the Cue: Video-Recorded Interviews and Self-Monitoring
2:40 to 3:40	Katie	Brown	The Effects of an Incentive on Level of Ego-Depletion
2:40 to 3:40	Raven	Leverett	Therapy Balls: Effect on Reading Comprehension of Children with Dyslexia
2:40 to 3:40	Alexander	Manjarres	Flying a Drone with Core Motion
2:40 to 3:40	Asiel	Mollinedo	The Great Dragon Zoo
2:40 to 3:40	Bontia	Tyes	Saliency of Visual and Auditory Cues in Anticipatory Labor Conditioning
2:40 to 3:40	Ashton	Williams	Who's watching me? Music, Anxiety, and Exercise Perceptions and Outcomes

Abstracts (by room and time)

Christoverson 206

Student: Houser, Renee

Major: Biology

Faculty mentor: Melanie Langford

Presentation type: Oral - 15 minutes

Presentation time: 1:30 to 1:45

Room: 206

Title: Phylogenetic Analysis of a Population of Gray-Throated Anolis carolinensis in Southwest Florida

Abstract: The green anole lizard (*Anolis carolinensis*) is the only anole native to North America and is commonly found in the southeast United States, ranging from Florida to Texas and northwards to North Carolina and Tennessee. Recently, the number of green anoles has been decreasing due to competition from the Cuban brown anole (*Anolis sagrei*). Males typically display a red or pink colored dewlap, or throat fan. However, in a population found in southwest Florida, males display a gray colored dewlap. Two hypotheses suggest that either the gray-dewlapped anoles evolved in more than one population, or the current map of major anole clades in Florida is incorrect. In order to see which of these hypotheses is correct, a DNA extraction was conducted on lizard tail snips from green anoles that were collected in Punta Gorda, 90 miles North of Everglades City in southwest Florida. Polymerase chain reaction was used to amplify the DNA, which was then sent to a lab to be sequenced. A thorough analysis of the mitochondrial DNA was used to conduct a phylogeny and determine the relatedness of the green anoles with gray dewlaps in comparison to the current population map.

Student: Cartafalsa, Meghan

Major: Athletic Training

Co-authors: Grace Beggs

Faculty mentor: Emily Bradshaw

Presentation type: Oral - 15 minutes
206

Presentation time: 1:45 to 2:00

Room:

Title: Oxidative Stress in HEK-293 cells

Abstract: Diabetes is a worldwide disease; it affects about 366 million people. Having diabetes mellitus can lead to long term complications; one of which is kidney disease. There is no real understanding of why diabetes will induce kidney failure. Recently, evidence points to mitochondrial dysfunction as the main reason for the kidney failure. Looking at models of diabetic nephropathy, researchers found an increase in mitochondrial stress, which then leads to kidney cell death. This study used HEK-293 cells that were treated with 25mM glucose and ATP production and oxidative stress was observed. This was done using an ATP assay and TBARS assay, respectively. The HEK-293 cells were again treated with 25mM glucose for 24 hours, ATP production as well lipid peroxidation increased when compared to the control. These data sets show a high glucose environment will affect the mitochondria. The next step was then to determine a molecular mechanism, to do so the mTOR pathway was chosen. Our early western blots had evidence that shows dextrose will increase phosphorylation of p70S6 kinase. We then 'turned off' the phosphorylation using rapamycin, an inhibitor of the pathway; this data may suggest a connection between mTOR, ATP production and oxidative stress

Student: Childress, Jasmine

Major: Biology

Co-authors: Sean Rogers

Faculty mentor: Gabe Langford

Presentation type: Oral - 15 minutes

Presentation time: 2:00 to 2:15

Room: 206

Title: Reproductive plasticity in the nematode *Gyrinicola batrachiensis*: Is reproductive strategy dependent upon tadpole developmental time?

Abstract: The nematode *Gyrinicola batrachiensis* (Oxyuroidea: Pharyngodonidae) infects the gastrointestinal tract of tadpoles, and female worms are known to have complex reproductive strategies. Females use either (1) didelphic haplodiploidy with thick-shelled eggs that are resistant to desiccation and thin-shelled eggs that are autoinfective, or (2) monodelphic parthenogenesis with only thick-shelled eggs, although it is unclear whether this system is genetically determined or phenotypically plastic. Previous studies suggest a haplodiploidy strategy is used only in long-developing tadpoles, such as ranids (true frogs), whereas a parthenogenetic strategy is only found in short-developing tadpoles, such as hylids and bufonids (treefrogs and toads); however, a recent study found an intermediate strategy with didelphic worms (but not haplodiploidy) in short-developing toad tadpoles collected in sympatry with long-developing tadpoles in nature. These data suggest that *G. batrachiensis* are developmentally plastic dependent on the host species infected and possibly the tadpole community in a pond. To elucidate this complex system, this project used outdoor mesocosms to conduct a multiple species cross-infection and development study. Hylid egg masses (two species) were exposed to infected ranid tadpoles, ranid egg masses to infected hylid tadpoles, and egg masses of all species, as a group, to infected tadpoles of both anuran families. A total of 525 experimental tadpoles were analyzed for this study, producing thousands of worms for developmental and morphological analysis. Preliminary results suggest that the nematodes are reproductively plastic – dependent on the species of tadpole infected, although some exceptions were found and will be discussed.

Student: Schomaker, Rachel

Major: Biology

Faculty mentor: Brittany Gasper

Presentation type: Oral - 15 minutes

Presentation time: 2:15 to 2:30

Room: 206

Title: The Impact of Waterfowl on Bacterial Water Quality of Lakes

Abstract: Bacteria are microorganisms found across a large range of environments. Many bacteria occur naturally and are beneficial to the ecosystems of which they are found via interactions with plants, animals, and the surrounding environment. However, some bacteria can be indicators of pathogens and pose human health risks. Coliform bacteria are bacterial indicators that can survive similar conditions as pathogenic bacteria and can originate from many of the same sources as pathogens. High coliform bacterial counts can be signs of contamination and pathogen presence. These bacterial counts can be influenced by many different environmental factors; this research plans to focus on the effects that waterfowl abundance can have on coliform counts and pathogen abundance. We plan on investigating this relationship by sampling multiple lakes of different waterfowl abundances and performing membrane filtration on each water sample. The bacterial samples will then be grown in the laboratory and bacterial counts and identifications will be conducted. Results will potentially display a relationship between the waterfowl abundance and pathogen abundance of each lake and assist in determining human health risks for each lake.

Student: Teh, Wei Pin **Major:** Chemistry
Faculty mentor: Deborah Bromfield Lee
Presentation type: Oral - 15 minutes **Presentation time:** 2:40 to 3:00 **Room:** 206

Title: Methods towards the synthesis of Stachybotrin D

Abstract: Stachybotrin D, a novel phenylspirodrimane that was extracted from sponge-derived fungus *Stachybotrys Chartarum* MXH-X73 has shown distinct anti-HIV properties. Furthermore, many other compounds in the family of Stachybotrin have shown medicinal purposes. Here we would like to propose a series of methods that could potentially lead to the total synthesis of Stachybotrin D, a potential new non-nucleoside reverse transcriptase inhibitor (NNRTI). Our key step in this synthesis is the formation of spirobenzofuran, utilizing an asymmetric Grignard reaction and follow by a condensation reaction. We also introduced the Vilsmeier-Haack (V-H) reaction in one of the steps to optimize green chemistry, potentially developing a novel "modified" V-H reaction by catalyzing the reaction with the presence of a Lewis acid.

Student: Stromberg, Kate **Major:** Mathematics
Faculty mentor: Susan Serrano
Presentation type: Oral - 15 minutes **Presentation time:** 3:00 to 3:15 **Room:** 206

Title: Multiple Linear Regression Predicting Methamphetamine Lab Prevalence

Abstract: Regression analysis is extremely important in nearly all scholastic fields, any place where predictions need to be made. Multiple linear regression is used to determine correlations between numerous factors and can be used to make predictions about future data. In this analysis, the aim is to find the potential source of increased methamphetamine lab prevalence based on factors such as population, county type, and amounts of Sudafed sold. Furthermore, the goal is to see how these variables interact with each other and effect the prediction. It is important to see how the presence or non-presence of one or more variables can cause a change in the regression model. JMP and SAS, a statistical software programs, were used to perform the analysis and produce the output.

Student: Beggs, Grace **Major:** Chemistry
Faculty mentor: Emily Bradshaw
Presentation type: Oral - 15 minutes **Presentation time:** 3:15 to 3:30 **Room:** 206

Title: Commonly ingested substances and disease pathways: Influence of high sugar concentrations, BPA, and phthalates on mitochondrial dysfunction and cell proliferation

Abstract: The obesity epidemic of the developed world is an increasing problem. The WHO reported that over 500 million people worldwide were obese in 2008. Many diseases are associated with obesity including cardiovascular disease, type II diabetes, and chronic kidney disease; therefore, there has been a rise in the prevalence of these diseases along with the rise in obesity. Molecular mechanisms that initiate these diseases include a dysregulated metabolism resulting in mitochondrial dysfunction and activation of various pathways such as mTOR and TGF- β . These mechanisms may be influenced by the substances individuals ingest including high amounts of sugar as well as chemicals commonly used in food packaging materials such as BPA and phthalates. In this study, we used human embryonic kidney (HEK-293) cells to model physiological conditions in patients with diabetic kidney disease and assess the effects of high glucose levels on cell proliferation and activation of the mTOR pathway. The effects of BPA and phthalates on oxidative stress, cell proliferation, and expression of TGF- β

were assessed in both HEK-293 and Chinese Hamster Ovarian (CHO) cells. This work has implications for better understanding the molecular mechanisms behind diabetic kidney disease as well as potential disease initiation by BPA and phthalates.

Student: Brown, Katherine **Major:** Psychology
Co-presenters: Tabitha Powell
Co-authors: Tabitha Powell
Faculty mentor: Leilani Goodmon-Riley
Presentation type: Oral - 15 minutes **Presentation time:** 3:30 to 3:45 **Room:** 206

Title: The Correlation Between Working Memory Capacity and Mental Rotation Ability

Abstract: I will be examining the correlation between working memory capacity and 3D and 2D mental rotation ability. Pardo-Vasquez and Fernandez-Rey (2012) have already found that greater verbal working-memory capacity is correlated with greater speed and accuracy in 2D mental rotation. Kaufman (2007) found that differences in spatial working memory capacity completely explained sex differences in 3D mental rotation ability, which further points to a connection between working memory capacity and mental rotation ability. Hyun and Luck (2007) found that when participants had to use their object working memory in conjunction with 2D mental rotation, it interfered with their ability to perform 2D mental rotations, but when they used their spatial working memory in conjunction with 2D mental rotation, performance on mental rotation was unaffected. These results further point to a relationship between working memory and mental rotation. The goal of the present study is to further investigate the correlation between working memory capacity and 2D and 3D mental rotation that has been found in previous studies. Additionally, no one study to date has simultaneously examined the relationship between working memory capacity and both 2D and 3D mental rotation in English speaking individuals, so my research will fill this gap.

Student: Spoto, Steven **Major:** Biology
Faculty mentor: Nancy Morvillo
Presentation type: Oral - 15 minutes **Presentation time:** 3:45 to 4:00 **Room:** 206

Title: Investigating the Underlying Genetics Behind Diterpene Production in the Genus Salvia

Abstract: Though modern medicine has provided many advancements in the treatment of infections, it has also ushered in increased levels of antibiotic resistance. For this reason scientists have begun to investigate possible new sources of antibiotics, such as plants. The plant genus Salvia has been used for thousands of years in traditional medicine, and produces a known class of antimicrobial compounds known as diterpenes. The plants in this genus produce different amounts of these compounds, and therefore have had different uses in traditional medicine. This study will examine four different species from this genus that produce different levels of diterpenes. This will be done by looking at the antimicrobial properties of crude extracts from the plant species, as well as the genetics behind diterpene production in these species. This study will attempt to show if extracts from these plants can inhibit bacterial growth, and will investigate if plants across the genus use the same genes to produce diterpenes.

Student: Collier, Melissa **Major:** Biochemistry and Molecular Biology
Faculty mentor: Nancy Morvillo
Presentation type: Oral - 15 minutes **Presentation time:** 4:00 to 4:15 **Room:** 206

Title: A diet analysis of resident sharks in Tampa Bay using DNA barcoding for identification of prey

Abstract: This study looks at the diet of the Atlantic sharpnose shark (*Rhizoprionodon terraenovae*) to determine whether or not these sharks are basing their migration patterns off that of their prey. This study aims to improve upon the current diet analysis technique of visual identification of prey in the stomach contents. This study used DNA barcoding technology to get a more accurate sampling of sharpnose stomach contents. Sharks were collected near Crystal River and stomach contents were collected by Florida Southern College students conducting ecological research. Genomic DNA was isolated and polymerase chain reaction (PCR) was performed to amplify specific regions of the DNA. The DNA was PCR products were then sequenced and used to identify the prey of isolated from 13 different sharks.

Christoverson 208

Student: Young, Colton **Major:** Computer Science
Co-authors: Tyler Guice
Faculty mentor: David Mathias
Presentation type: Oral - 15 minutes **Presentation time:** 1:30 to 1:45 **Room:** 208

Title: Quadcopter Flight Correction- Adjusting for Decreasing Battery

Abstract: This study aims to understand the relationship between the Crazyflie quadcopter's battery levels and the thrust needed to maintain altitude. Under default settings, the quadcopter will struggle to maintain altitude as battery level decreases. Therefore, by mapping a curve or line to this relationship, we are able to instruct the drone to give a certain thrust depending on its battery level. By adjusting certain values during the quadcopter's takeoff protocol, we can allow the drone to more smoothly and reliably ascend

Student: Galvez, Kassandra **Major:** Political Science
Faculty mentor: Bruce Anderson
Presentation type: Oral - 15 minutes **Presentation time:** 1:45 to 2:00 **Room:** 208

Title: How Do We Produce John Locke's Unbiased Adjudicator?

Abstract: The concept of the "unbiased adjudicator", conceived by John Locke and penned by John Rawls, describes "a person or institution of liberation without a stake in the outcome of a decision" (Anderson and Wrzenski, 2014, 673). The United States judicial system was built on the foundation of fairness; however with living in a political world, political decisions and consequence have been created. John Locke's concept was based on the idea that people could not be their own judges. Additionally, they could not enforce statutes that would not be biased towards their own personal advantage or goal. John Rawls elaborated this theory by adding his idea of the "veil of ignorance." Through this concept, the adjudicators would have to

assume that they could potentially receive the worst outcomes of their decisions. The implementation of these two ideas not only upholds the guidelines laid out in the Constitution but it also decreases any bias in the judiciary system. In order to evaluate my hypotheses and attempt to draw conclusions as to which judiciary implements John Locke's concept of the "unbiased adjudicator" most successfully, I will be analyzing case studies. Specifically, I will exam the French, British, and American judicial systems in order to evaluate how successfully and how unsuccessfully those concepts were implemented and utilized.

Student: Duwe, Taylor

Major: Business Administration

Faculty mentor: Cindy Hardin

Presentation type: Oral - 15 minutes

Presentation time: 2:00 to 2:15

Room: 208

Title: Do kids ever grow up? Or, do adults ever stop being kids?

Abstract: Recent laws passed in the state of Florida have left tourism companies questioning whether or not arcade games and other forms of entertainment are illegal. These laws were passed with the intention of giving authorities better tools to put an end to illegal gambling devices and Internet Cafes throughout the state. However, it has resulted in Disney and other companies questioning whether or not their arcade games constitute as "illegal gambling".

Student: Haynes, Cassandra

Major: Biology

Faculty mentor: Patrick Smith

Presentation type: Oral - 15 minutes

Presentation time: 2:15 to 2:30

Room: 208

Title: Your Brain on Graphic Novels....and What Your Body Says

Abstract: The use of ancillary materials as pedagogical supplements in psychology has often focused on text-driven content (with pictures and images that help "visualize" the material). However, with concepts that require retention of more dynamically-driven content (e.g., the development of neurons within the nervous system), text-based materials may be limited in effectiveness. Previous work has demonstrated graphic novelization in neuroscience promotes greater student engagement and enhanced memory retention (both in short- and long-term intervals), but electrocardiogram (ECG) data unexpectedly indicated greater physiological arousal when exposed to the text (rather than the graphic novel) material. If students truly are more engaged with graphic novel content, then it is likely that some form of physiological arousal elevates when processing such material. The current study attempts to examine another physiological measure, the electroencephalogram, or EEG, as an effective way to demonstrate differences in brain wave activity between text- based and graphic novel materials. Twenty undergraduate participants will be exposed to both forms of ancillary content, and EEG activity (measured by an iWorks electrophysiological device) will be recorded during exposure to each material. It is hypothesized that brain wave patterns will differ, depending on the type of material (and necessary cognitive material) that is presented.

Student: Brandon, Spencer **Major:** Mathematics
Faculty mentor: David Valdivia
Presentation type: Oral - 15 minutes **Presentation time:** 2:45 to 3:00 **Room:** 208

Title: Rubik's Cubes and Matrix Groups

Abstract: The mathematics of the popular puzzle-toy known as the Rubik's Cube have been well studied over the years; however, due to the inherent complexity of these puzzles it is difficult or virtually impossible to answer certain questions. By using some concepts from linear algebra as well as group theory it is possible to gain more clarity and precision to these matters. In this talk we will look at our rudimentary attempt at this as well as how our work may be used to generate solutions to a scrambled cube.

Student: Waters, Audrey **Major:** English
Faculty mentor: Erica Bernheim
Presentation type: Oral - 15 minutes **Presentation time:** 3:00 to 3:15 **Room:** 208

Title: No Vacancy: The Untold Story Behind the Birth of Jesus

Abstract: This honorization comes in the form of a historical fiction novel titled "No Vacancy" and was inspired by the Bible verse, Luke 2:7. "And she brought forth her firstborn son, and wrapped him in swaddling clothes, and laid him in a manger; because there was no room for them in the Inn." The novel tells the story and interactions of the Innkeeper's family during the week before Jesus' arrival. Set in Bethlehem at the time of Christ's birth, "No Vacancy" provides insight into the daily life of a working, middle-class family and the Jewish beliefs and culture. Familiar names and characters such as King Herod, Mary, Joseph, and Jesus, the Wise Men, the angels, and the shepherds are mentioned and make appearances throughout the story. The presentation will focus on the first three chapters of the novel and will include a reading from the finished section.

Student: Turbeville, Brianna **Major:** Political Science
Faculty mentor: Kelly McHugh
Presentation type: Oral - 15 minutes **Presentation time:** 3:15 to 3:30 **Room:** 208

Title: Sex Trafficking in India: Diminishing a Reality of Horror

Abstract: According to the UN, India is currently the most dangerous country for women and girls because of the rampant sex trafficking industry that exists. India is considered the number one "source and destination for human trafficking victims in the world," many of whom are women and children being sex trafficked. India does have laws that make sex trafficking illegal and the infrastructure for the strict enforcement of these laws. However, the enforcement of these laws has been very weak. Because of the lack of enforcement of the laws, sex trafficking is continuing to grow rather than shrink. (Martz, 2013) In this paper, I analyze the current the current policies that India has in place outlawing sex trafficking. I will look at the policies of the US and other countries to combat sex trafficking and apply them to India in order to decipher what are the most viable policy options for India. Finally, I will recommend the best overall policy approach to make India's anti-sex trafficking policies more effective. A long-term reduction goal of 7% to 10% of the overall number of trafficked persons within India should be considered a reasonable measure for the success of Indian anti-sex trafficking policy.

Student: Mays, Carolyn **Major:** Computer Science
Faculty mentor: H. David Mathias
Presentation type: Oral - 15 minutes **Presentation time:** 3:30 to 3:45 **Room:** 208

Title: The College Admissions and Marriage Problem

Abstract: The problem of matchmaking has been around for several hundred years, most notably in the form of the College Admissions Problem and it's relative the Stable Marriage Problem. Essentially, both problems - and the variations of them - require individuals to rank others, before pairing them off based on these rankings so that both parties are satisfied. Of course, this can be done in favor of one group. What about creating the best possible matches for both? While there are algorithms for the Stable Marriage problem, they were created in a time before the existence of Object-oriented programming languages like C++. How would creating an implementation of the Stable Marriage Problem work in a language like that? Could it be scaled to the College Admissions Problem?

Christoverson 209

Student: Bramley, Steven **Major:** Political Science
Faculty mentor: Bruce Anderson
Presentation type: Oral - 15 minutes **Presentation time:** 2:45 to 3:00 **Room:** 209

Title: Cooling Our Heels for the One Armed Bandit: Proposals for Alleviating the Wait to Vote

Abstract: Prior to the election that took place on November 7th 2000, Americans didn't think twice when they went to the polls to vote. There is no doubt that a fundamental shift took place after the hanging chad scandal of November 7, 2000. The very base of voting technology needed to be changed to accommodate the presence of new devices aimed at making voting easier. Americans realized for the first time, that a right granted to them by the Constitution had flaws. The right to vote has become so fundamental to the United States of America that it is almost taken for granted, the fact is these flaws lead to longer wait times in the United States, which consequently leads to many problems for the American electorate. In my presentation I intend to show that there is a distinct correlation between the county you vote in and how long you have to wait to vote. "The bizarre turn of events that followed the November 7, 2000 presidential election brought unprecedented attention to the use of different voting equipment in the United States." (Garner, 2005, 363)

Student: Finney, Jordan **Major:** Computer Science
Faculty mentor: David Mathias
Presentation type: Oral - 15 minutes **Presentation time:** 3:00 to 3:15 **Room:** 209
Title: Building a Multi-rotor

Abstract: Quadcopter, Drone, Multi-rotor. Whatever you call them they have grown in popularity over the past few years. I will be explaining the technology behind these intricate yet simple machines as well as why they have become so popular. I will also be covering how you can build one yourself. From sourcing parts to building and tuning. I will also be talking about some of the research conducted at Florida Southern including computer control and autonomous flight. I will be concluding with some of the possibilities for future research and development as

well as some of the collegiate competitions Florida Southern Colleges own AirMocs team hope to join in the coming years.

Student: Chapman, Richard **Major:** Computer Science
Faculty mentor: David Mathias
Presentation type: Oral - 15 minutes **Presentation time:** 3:15 to 3:30 **Room:** 209

Title: Computer Vision for Drone Navigation

Abstract: I have been working on undergraduate research into using Computer vision software to navigate an AR Drone around a room. Computer Vision is the concept of instructing a computer to interpret visual information from a camera or other input device. My research has been to create a system that will allow a drone to locate and follow an object around a room. It does this by focusing on one specific color on the RGB spectrum. The Video feed from a camera mounted on the drone can then be used to track an object of a certain color around an area. A computer is used to interpret the information from the camera, it can then process the data and generate Navigation Information that is relayed back to the drone. This process is then repeated several times a second in order to make the Drone seamlessly follow the object around a space.

Student: Punwasi, Wiresh **Major:** Mathematics
Faculty mentor: Lisa Carter
Presentation type: Oral - 15 minutes **Presentation time:** 3:45 to 4:00 **Room:** 208

Title: Strain and Our Youth: The Effect of Society's Goals and Stimuli on Our Children

Abstract: The purpose of this project is to apply theories from the Criminology 3340 course, specifically Social Bond Theory and Robert Agnew's General Strain Theory, to the behavior of some of the children that attend the Neighborhood Ministries after school program. This project is observational in nature. It will not intervene with the children in any way beyond the volunteering that the researcher of this project has been doing. In addition, for the paper and presentation associated with the project, no names will be used. The students will be given anonymous names and will only be described in ways that relate to the theories. This project will look at the personal situations of the children observed, without asking any direct, personal questions, and relate these circumstances to aspects of the previously stated theories in an attempt to analyze how applicable these theories are to young children.

Student: Scroggin, Amy **Major:** Communication- Advertising and Public Relations
Faculty mentor: Mary Beth Bradford
Presentation type: Oral - 15 minutes **Presentation time:** 4:00 to 4:15 **Room:** 209

Title: Perceptions of Human Trafficking in the Media: A Qualitative Study

Abstract: Human Trafficking is the second most profitable crime around the globe according to the Polaris Project. While there is substantial research on the impacts of human trafficking, little is found on the how media related advocacy efforts shape an audience's perception surrounding this social issue. This qualitative research aims to explore how 18-24 year old students view the relevancy of this topic and why. 4 focus groups were conducted at the Florida Southern College Communication Department, consisting of a total of 42 students. Students were asked 12 questions about their knowledge of the subject, their media consumption habits, and their reasoning behind participation or lack of participation in advocacy. There was a diverse range of

prior knowledge surrounding the topic. This study included a host of responses that led to several conclusions. Students who tended to know more about the topic were more inclined to get involved and very little were informed on the misconceptions about the nature of human trafficking, specifically because the lack of legitimate media representation.

Student: Trout, Zoe **Major:** English

Faculty mentor: Peter Schreffler

Presentation type: Oral - 15 minutes **Presentation time:** 4:15 to 4:30 **Room:** 209

Title: Feeding Lakeland

Abstract: For my honorization, I have been working on a mock grant proposal to serve a local community need and work with the international nonprofit organization, Feeding Children Everywhere. "Feeding Lakeland" is a cooperative Hunger Project between Agape Food Bank and Parker Street Ministries to conduct a day long awareness and food packing event for Feeding Children Everywhere and Parker Street Ministries. The day long event would provide 18,000 meals to be donated to the Agape Food Bank, provide community engagement and awareness for the children of the Parker Street neighborhood, a very low income area of Lakeland, and provide awareness and fundraising for both Feeding Children Everywhere and Parker Street Ministries. Feeding Children Everywhere is an Orlando based nonprofit that empowers and mobilizes people to assemble healthy meals for hungry children. Parker Street Ministries is an after-school and summer program which provides tutoring and a place to go for the children of the Parker Street neighborhood. The \$5,000 grant proposal would be used to fund 18,000 meals at .25 cents/meal (\$4,500) to fund the Hunger Project, plus \$500 to feed volunteers and fund the printing of advertising materials for the event.

Christoverson 210

Student: Buckley, Ryan **Major:** Communication- Broadcast, Print and Online Media

Faculty mentor: Beth Bradford

Presentation type: Oral - 15 minutes **Presentation time:** 1:30 to 1:45 **Room:** 210

Title: Sports media and its influence on public perception

Abstract: This study is based on a comparison to the recent FIFA World Cup Brazil 2014 and the media influence on the perception of the events. This presentation will overview the factors in how the media portray sports and how these factors affect public perception of said event. The negative effects felt by the country of Brazil before, during and after the World Cup will be used as a basis to explore a scenario that would impact the Florida Southern College community. This experiment focuses on students at the college reacting to varying articles regarding a sporting event within the community. The study is meant to illustrate how the media focus on a particular event and the medium through which the medium is presented will ultimately impact the public's final perception on the sporting event. Furthermore, some events display are so powerful that regardless of negative impacts that could result from the event, the implications of canceling or rescheduling the show could outweigh the negative effects in the eyes of the sports lover.

Student: Schwarting, Leah **Major:** Communication- Broadcast, Print and Online Media
Faculty mentor: William Allen
Presentation type: Oral - 15 minutes **Presentation time:** 1:45 to 2:00 **Room:** 210

Title: Variations in Social Media Communications and Leadership in the FSC Communications Department

Abstract: Platforms like Facebook and Twitter have simply become ways of life for millennials and others born after the social media revolution. As time goes on, more and more educators are integrating social media platforms into classrooms, such as Florida Southern College's Communication Department. However, it is yet to be seen whether or not this actually motivates students utilize these pages. Even less is known about those who traditionally are thought to be the most invested: the organizations' student leaders. The aim of the study was to see whether or not leaders in the department's different organizations would be the most active in multiple Facebook pages, regardless of whether or not they were leaders in the page's organization. In this study, five different Communication Department Facebook pages were monitored to see which individuals liked, posted, and commented the most. Students and faculty were involved, the only requirement being that they must belong to more than one of the five Facebook pages. The study was conducted over the course of the fall semester, during which the Communication Department was encouraging its students to cross into other platforms.

Student: O'Donnell, Cullen **Major:** Sociology
Faculty mentor: Chastity Blankenship
Presentation type: Oral - 15 minutes **Presentation time:** 2:00 to 2:15 **Room:** 210

Title: Status Frustration among College Students: The Effects of Socio-Economic Status

Abstract: Criminal activities and other deviant behaviors are much more common among lower social classes; however, the wealthier and more powerful people may be indirectly causing this behavior. Since any action that differs from the norms or accepted standards of society is considered to be deviant behavior, people of upper and middle classes are less likely to engage in such activities because they are typically the ones who determine society's norms. Albert Cohen's status frustration theory, a version of Robert Merton's anomie-strain theory, explains that even though everyone is encouraged to achieve a high status in society, people of lower social classes have a very small chance of successfully doing so. Cohen believes that since people of lower classes are much less likely to obtain power and prestige, they look to achieve higher status in other ways, usually through deviant behavior. Several studies have been conducted to determine the effects of a family's socio-economic status on an adolescent student's education, but no significant research has been done on the effects of status deprivation on post-secondary education and career goals. Furthermore, most studies have only included delinquent male youths, excluding women. Samples of students from both Valencia College and Florida Southern College will be given questionnaires asking about socio-economic statuses, college majors, career plans, grades, scholarships, and participation in delinquent activities. If Cohen's theory holds true, college students of lower social classes will not only have higher rates of deviant behavior but also choose less prestigious careers and place less value on their undergraduate studies.

Student: Willcox, Alexxis **Major:** Religion
Faculty mentor: Sara Harding
Presentation type: Oral - 15 minutes **Presentation time:** 2:15 to 2:30 **Room:** 210

Title: Luke 4 as the Programmatic Thesis for a Jubilee Mission in Luke's Gospel

Abstract: The author of the Gospel of Luke makes it clear that he takes a special interest in the marginalized, specifically in the plight of the poor. We find this evidenced especially within Luke 4, at Jesus' first preaching episode in the Gospel of Luke. Jesus quotes Isaiah 58 and 61, which are both texts that contain reference to a reversal of fortunes and the concept of biblical Jubilee. It is the goal of this paper to show that Luke uses this episode as the programmatic thesis for the rest of his gospel to proclaim Jesus as the eschatological figure who initiates Jubilee principles in a new age.

Poster Sessions (listed by time)

Student: Willis, Caitlin **Major:** Criminology
Co-authors: Alexa Cole and Christine Knudstrup
Faculty mentor: Deah Quinlivan
Presentation type: Poster **Presentation time:** 1:30 to 2:30 **Room:** Lobby

Title: Impressions Regarding the Media

Abstract: Reports of murder are published daily and tend to release personal information about victims that could bias potential jurors (Daftary-Kapur, Dumas, & Penrod, 2010). This study examines whether sentencing could be biased with exposure to publicity. By creating an environment where the victim's attributes are controlled, the theory of publicity's potential biases can be better understood.

Student: Elkins, Erica **Major:** Psychology
Co-presenters: Lindsay Hires, Victoria Lew, Cory Miller
Co-authors: Lindsay Hires, Victoria Lew, Cory Miller, Ali Frantzis
Faculty mentor: Leilani Goodmon-Riley
Presentation type: Poster **Presentation time:** 1:30 to 2:30 **Room:** Lobby

Title: Can positive psychology exercises implemented as coursework make students happier?

Abstract: Positive psychology is the empirical exploration of what makes life worth living (Seligman, 2011) with the aim of "making people lastingly happier" (Seligman & Steen, 2005). Seligman and Steen (2005) reported that participants who completed five web-based "happiness" or positive psychological exercises (PPE's) (e.g., "gratitude visit," "identifying signature strengths," "using signature strengths in a new way," "three good things in life," and "you at your best") reported significantly higher levels of happiness and lower levels of depression after treatment compared to control. We conducted a series of studies to determine if the well-being benefit found from the use of PPE's generalized to those included as coursework. We used the aforementioned PPE's as coursework in a positive psychology course and used a social psychology course (Experiment 1), as well as an introductory psychology

course (Experiment 2), as the non-equivalent controls. Only the positive psychology students reported higher levels of well-being and lower levels of depression from baseline to post-treatment. These results provide support that PPE's implemented as coursework improve students' mental health. Future studies hope to eliminate this selection threat by implementing PPE's as coursework within one of the two sections of an introductory psychology course taught by the same professor.

Student: Strauss, Sarah **Major:** Psychology

Co-authors: Julianna Forrest and Sydney Thomas

Faculty mentor: Kerry Newness

Presentation type: Poster **Presentation time:** 1:30 to 2:30

Room: Lobby

Title: Integrate or Segment? Perceptions of Employee Family-Work Conflict

Abstract: A total of 88 undergraduate students participated in the current study. Participants were randomly assigned to one of four experimental groups and asked to read a fictitious syllabus for an elementary statistics course. After reading the materials, participants were asked to complete a survey about the professor depicted in the syllabus. The syllabi were used to manipulate integration or segmentation and gender. Participants also completed a questionnaire regarding the professor's work-family and family-work conflict. Additionally, participants completed a teaching evaluation form with items related to office hours, availability, clarity of class materials, and assignment load. Results suggest that female professors were perceived as having more clearly written materials as compared to male professors and perceived as more available to students. Interestingly, male professors were perceived as having a lighter assignment load across all conditions. As expected, integrated professors were perceived as more flexible, open to meeting outside of class and less strict with office hours. Professors described as segmenting roles were perceived to have more family-work conflict specifically in terms of time-based, strain-based, and behavior-based family-work conflict. Collectively, the findings from the current study provide insight into perceptions of family-work conflict and gender biases within the post-secondary education system.

Student: Dill, Lauren **Major:** Psychology

Co-presenters: Alyssa Parisi

Co-authors: Alyssa Parisi

Faculty mentor: Leilani Goodmon-Riley

Presentation type: Poster **Presentation time:** 1:30 to 2:30

Room: Lobby

Title: Aesthetic Preference, Attention, and Memory in Children with Dyslexia

Abstract: Dyslexia is a specific learning disorder characterized by a pattern of difficulties with word recognition and spelling despite adequate intelligence (American Psychiatric Association, 2013). Because of their learning disabilities, and the fact that there is a link between environmental cues and memory (Godden & Baddeley, 1975), children with dyslexia could benefit from research discovering what visual stimuli, such as particular artwork, they find pleasing. One can then advise educators to use those particular artworks to create more engaging educational environments that might improve learning. People tend to like photographs of natural landscapes (e.g., forests) more than photographs of man-made, manufactured landscapes (e.g., city buildings) or photographs by an artist named Edward Burtynsky, whose unique artwork combines both man-made and natural components (e.g., pile of tires in a meadow) (Hester, Smith, Goodmon, & Darby, 2012; Miller, Dobson, Hester, Smith, Goodmon, & Darby, 2014). The purpose of the current experiment was to determine if the

Student: Maida, Nicole **Major:** Computer Science
Co-presenters: Yue Chen, Jinhang Gao
Co-authors: Yue Chen, Jinhang Gao
Faculty mentor: David Mathias
Presentation type: Poster **Presentation time:** 1:30 to 2:30 **Room:** Lobby

Title: The gohasi Mobile Application

Abstract: gohasi' is a mobile application that gives Apple and Android phone users the tools to learn Japanese quickly. The purpose of this application is to assist a person with no background in speaking Japanese to be able to gain the basic knowledge needed to fulfill their desires. This application was developed with the concept of a crash-course to learning the essential basics needed to speak Japanese by way of tutoring, quizzing, a providing a directory of two Japanese writing systems that work together, Hiragana and Katakana.

Student: Mollinedo, Asiel **Major:** Computer Science
Co-presenters: Manny Moreno, Ray Goldberg
Co-authors: Manny Moreno, Ray Goldberg
Faculty mentor: Dr. David Mathias
Presentation type: Poster **Presentation time:** 2:40 to 3:40 **Room:** Lobby

Title: The Great Dragon Zoo

Abstract: The Great Dragon Zoo (GDZ) is an Android mobile device application which accompanies a game that is currently in development in the Computer Game Design course which is also taught by Dr. David Mathias. GDZ was developed using Android Studio. Within the GDZ application a player will be able to research characters and weapons, view their game statistics, read the story of the game, and visit the developer website. Our poster outlines features of the application as well as the game. Future additions are currently being considered for the application.

Student: Williams, Ashton **Major:** Psychology
Faculty mentor: Leilani Goodmon
Presentation type: Poster **Presentation time:** 2:40 to 3:40 **Room:** Lobby

Title: Who's watching me? Music, Anxiety, and Exercise Perceptions and Outcomes

Abstract: There is a positive correlation between exercise and self-esteem (e.g., Ekeland, Heian, & Hagen, 2004), and a negative relationship between exercise and stress levels (e.g., Moljord, Moksnes, Eriksen, & Espnes, 2011). Hart, Leary, and Rejeski (1989) found that higher scores on their social exercise anxiety scale correlated with stress in physical evaluation situations. Based on research showing that music enhances the exercise experience, and that activating music increases walking stride, it was hypothesized that activating music would influence the participants to walk farther, enjoy it better, and be more motivated and in a better mood (from pre to post-test) while they exercised compared to those who listened to relaxing music or no music. The results partially supported the hypotheses. Activating music was associated with a longer walking distance compared to the relaxing and no music conditions, but it did not impact mood or enjoyment. Instead, participants indicated an increase in enjoyment when listening to relaxing music. Prior levels of social exercise anxiety did not interact with any of the variables, suggesting that exercise anxiety did not moderate the relationships.

Our results indicate that different types of music (fast versus slow tempo) can influence different exercise outcomes (e.g., walking distance, exercise enjoyment).

Student: Leverett, Raven

Major: Psychology

Co-authors: Ashleigh Desrosiers, Alexandria Smith

Faculty mentor: Leilani Goodmon

Presentation type: Poster

Presentation time: 2:40 to 3:40

Room: Lobby

Title: Therapy Balls: Effect on Reading Comprehension of Children with Dyslexia

Abstract: Dyslexia is a specific learning disorder characterized by a pattern of difficulties with word recognition and spelling despite adequate intelligence and educational instruction (American Psychiatric Association, 2013). Children with dyslexia also suffer from attention problems (Jaskowski & Rusiak, 2005), exhibit greater cognitive impulsivity (Donfrancesco et al., 2005), and are also often diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) (Willcutt & Pennington, 2000). The reported benefits of therapy balls in the classroom include improved focus (Fedewa & Erwin, 2011), engagement (Schilling & Schwartz, 2004), legible word productivity (Schilling et al., 2003), and listening comprehension (Kercood & Banda, 2012) in children with ADHD. Although there are some reported learning benefits from the use of therapy balls in children who have ADHD or autism, Goodmon, Leverett, Royer, Hilliard, Tedder, and Rakes (2014) failed to find an improvement in reading comprehension in two samples of fifth grade children with a formal diagnosis of dyslexia. Therefore the purpose of this study was to determine if the learning benefit found from the use of therapy balls on children with attention problems (Kercood & Banda, 2012; Schilling et al., 2003) could be replicated a younger sample lower reading comprehension abilities (reduce the chance of a ceiling effect).

Student: Bacharz, Kelsey

Major: Psychology

Co-authors: Nikki Burgess

Faculty mentor: Leilani Goodmon

Presentation type: Poster

Presentation time: 2:40 to 3:40

Room: Lobby

Title: Missing the Cue: Video-Recorded Interviews and Self-Monitoring

Abstract: Advancements in technology now allow organizations to record structured interviews where the applicant is guided through the process by an avatar. People often adjust their behavior to make favorable impressions (i.e. self-monitoring) and do so by judging cues from their environment. Applicants high on self-monitoring are likely to have an advantage in traditional interviews because they are better able to pick up on cues from the interviewer. The purpose of the current study was to examine structured interview performance as it relates to self-monitoring in the absence of interviewer cues and the relationship between self-monitoring and applicant reactions to video-recorded interviews.

Student: Manjarres, Alexander **Major:** Computer Science
Co-presenters: Justin Stricker, Ryan Sudlow, Nathan Egbert
Co-authors: Justin Stricker, Ryan Sudlow, Nathan Egbert
Faculty mentor: David Mathias
Presentation type: Poster **Presentation time:** 2:40 to 3:40 **Room:** Lobby

Title: Flying a Drone with Core Motion

Abstract: Our development team is modifying a free iOS application (an iPhone/iPad/iPod app) that allows the user to control a miniature helicopter drone using virtual joysticks displayed in the app. We are modifying it to utilize the iPhone's gyroscopic sensors (rather than the original virtual joysticks) to control the drone's direction. In essence, this means that the user can tilt his/her iPhone in any direction, and the drone will follow suit automatically, allowing for a much more natural way to direct the drone. We have also edited the app's code in such a way that the drone is much easier to maneuver than originally. Compounded with the new control scheme, this offers a more intuitive and more newbie-friendly way to fly. We are also implementing some new features not included in the original open-source app, such as a bias lock and hover mode. Team info: We are a group of four computer science students in the software engineering course, tasked with building a significant piece of software by the end of the semester. This is our semester project.

Student: Tyes, Bonita **Major:** Psychology
Co-presenters: Mindy Mauldin
Co-authors: Mindy Mauldin, Trudy Weber
Faculty mentor: Patrick Smith
Presentation type: Poster **Presentation time:** 2:40 to 3:40 **Room:** Lobby

Title: Saliency of visual and auditory cues in anticipatory flavor conditioning

Abstract: For years, the food industry has researched ways to make their products more desirable by associating visual and auditory qualities with product endorsements. Although vision and audition are not effective in direct, flavor-based learning, recent studies suggest that auditory and visual cues influence the perception of food prior to ingestion. If these indirect sensory cues serve a purpose in anticipation of flavor, then a proper mechanism needs to be characterized. Recent work by Smith and Stoltzfus (2012) demonstrated that auditory cues, when paired with a salivation-inducing agent, can eventually produce an anticipatory salivation response without the presence of the lemon juice. In a series of three experiments, 300 participants were exposed to a respective visual and/or auditory cue followed by exposure to a salivation-producing lemon juice. Results from these experiments demonstrated that auditory-based stimuli produced significantly higher salivation reports when compared to visual stimuli. These results suggest that visual and auditory properties of foods can be associated with flavor responses, however, flavor-based associations seem more prone to auditory (rather than visual) features. Thus, the use of these sensory cues seems applicable to the advertisement world, in which the sights and sounds of food products serve as anticipators for future consumption.

Student: Brown, Katie **Major:** Psychology
Co-presenters: Cristen Kelly and Cory Miller
Co-authors: Cristen Kelly and Cory Miller
Faculty mentor: Deah Quinlivan
Presentation type: Poster **Presentation time:** 2:40 to 3:40 **Room:** Lobby

Title: The Effects of an Incentive on Level of Ego-Depletion

Abstract: According to the self-regulatory model of motivation, continued application of self-regulation (or self-control) can decrease the availability of certain mental resources, causing people to perform worse on additional activities that involve self-regulation. This is referred to as being in a state of "ego-depletion." The purpose of the present study was to assess whether offering an incentive would counteract the effects of ego-depletion. It was hypothesized that an incentive would moderate the effects of ego-depletion, causing people to persist longer on a secondary task that required self-regulation. A 2 (low self-regulation, high self-regulation) by 2 (incentive, no incentive) between-participants factorial design was employed. Participants were given a primary self-regulatory task designed to put them in a state of ego-depletion, and then they were given a secondary task that also required self-regulation. The amount of time participants persisted on the secondary task was used as the dependent measure. Unfortunately, the proposed hypothesis was not supported by the experiment-- incentive had no effect on persistence. However, unexpectedly, gender differences in persistence were found as a function of level of ego-depletion.

Alphabetical Abstract Index

<u>Name</u>	<u>Page number</u>
Kelsey Bacharz	19
Grace Beggs	06
Steven Bramley	11
Spencer Brandon	10
Katherine Brown	07
Katie Brown	21
Ryan Buckley	13
Meghan Cartafalsa	04
Richard Chapman	12
Jasmine Childress	05
Melissa Collier	08
Ellen Cuppage	17
Lauren Dill	16
Taylor Duwe	09
Erica Elkins	15
Jordan Finney	11
Kassandra Galvez	08
Cassandra Haynes	09
Renee Houser	04
Raven Leverett	19
Nicole Maida	18
Alexander Manjarres	20
Carolyn Mays	11
Asiel Mollinedo	18
Cullen O'Donnell	14
Erin Phillips	17
Wiresh Punwasi	12
Rachel Schomaker	05
Leah Schwarting	14
Amy Scroggin	12
Steven Spoto	07
Sarah Strauss	16
Kate Stromberg	06
Wei Pin Teh	06
Zoe Trout	13
Brianna Turbeville	10
Bonita Tyes	20
Audrey Waters	10
Allexis Willcox	15
Ashton Williams	18
Caitlin Willis	15
Colton Young	08